Social Media Security

The First Unit: Course Introduction

At the end of the unit, the trainee should be able to:

- Identify social media

- Explain the history of social media

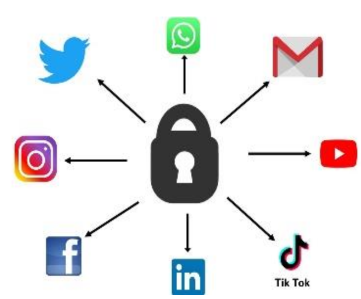
- Explain the theory of social media

- Show social media professions

- Identify social media users

Lesson1 : Social Media Overview

What is Social Media?



Social media refers to the means of interactions among people in which they create, share, and/or exchange information and ideas in virtual communities and networks. The Office of Communications and Marketing manages the main Facebook, X/Twitter, **Instagram**, LinkedIn, and YouTube accounts.

We offer an array of tools, including one-on-one consults with schools, departments and offices looking to form or maintain an existing social media presence to discuss social media goals and strategy, as well as offer insights and ideas. Before creating any social media account, you must submit the Account Request Form. Be sure to check with your school's communications office for any school specific regulations or branding guidelines.

Key Principles for Social Media Managers:

- Social media is about conversations, community, connecting with the audience and building relationships. It is not just a broadcast channel or a sales and marketing tool.

- Authenticity, honesty and open dialogue are key.

- Social media not only allows you to hear what people say about you, but enables you to respond. Listen first, speak second.
- Be compelling, useful, relevant and engaging. Don't be afraid to try new things, but think through your efforts before kicking them off.

Popular Social Media Tools and Platforms:

- **Blogs:** A platform for casual dialogue and discussions on a specific topic or opinion.
- **Facebook:** The world's largest social network, with more than 3.03 billion monthly active users (as of 2023). Users create a personal profile, add other users as friends, and exchange messages, including status updates. Brands create pages and Facebook users can "like" brands' pages.
- **X/Twitter:** A social networking/micro-blogging platform that allows groups and individuals to stay connected through the exchange of short status messages (280-character limit).
- **Instagram:** A free photo and video sharing app that allows users to apply digital filters, frames and special effects to their photos and then share them on a variety of social networking sites.
- **LinkedIn:** A place where groups of professionals with similar areas of interest can share information and participate in a conversation.
- **YouTube/Vimeo:** Video hosting and watching websites.

Learn how to best utilize these tools with our platform specific best practices.

University Social Media Policies:

Social networks and other online media are great tools for engagement and two-way communication, but given the nature of this two-way, real-time communication, there is the potential for significant risks associated with inappropriate use.

University Policies related to social media:

- Social Media Policy for Official Social Media Accounts
- Responsible Use
- Conflict of Interest
- Copyright, Fair Use and Open Access
- Name Use/Insignias
- Visual Identity [PDF]

General Social Media Best Practices:

While the tools of social media are easily accessible, the rules of the road are not necessarily intuitive. It’s a new communications landscape, with tremendous opportunities but also a lot to learn.

We developed these guidelines to provide everyone at the university—from communications professionals to department administrators—with basic guidance on how to best use social media toward communications goals, both as the owner of an account and as a

user/contributor. The suggestions and best practices outlined here can help you use these channels effectively, protect your personal and professional reputation, and follow university guidelines. We also hope that these guidelines spark conversations among social media practitioners on campus to learn from each other as we explore these emerging platforms.

Please review the university best practices and feel free to contact Communications and Marketing with any questions.

Requesting or Registering an Official Tufts Social Media Account:

If you are looking to create an account, you must meet with the Social Media Strategist in the Office of Communications and Marketing to discuss the social media policies at the university, as well as strategy, goals, messaging and best practices. Please fill out a request form and we will contact you to set up a meeting.

If you already have an account that was **created prior to September 2013**, please be sure to register your account with the Office of Communications and Marketing.

Lesson2 : Social Media Definitions

What is 'Social media'

Social media

Social media are websites and programs that help people talk to each other, get involved, share information, and work together. People use social media to stay in touch with their friends, family, and neighbors.

What parts do social media have?
social media is a computer technology that lets people share ideas, opinions, and information through online networks and communities. People use web-based software or apps on a computer, tablet, or phone to use social media. Social media on the Internet make it easy to quickly and electronically share personal information, documents, movies, and photos. Even though people use social media a lot in the U.S. and Europe, the countries that use it the most are in Asia, like Indonesia.

Recognizing social media
social media started to keep in touch with friends and family, but businesses soon saw it as a way to reach customers through a popular new way to talk. Social media is powerful because it lets you connect with and share information with anyone on Earth or many people at once.

About 3.8 billion people all over the world use social media. Social media is an area that changes all the time. Almost every year, big social networks like Facebook, YouTube, Twitter, and Instagram are joined by new apps like TikTok and Clubhouse. By 2023, about 257 million people in the United States are expected to use social media.

Different ways to use social media
With social media, there are many different ways to use technology. Governments and politicians use social media to talk to voters and people in their area. This includes sharing photos, blogging, social gaming, social networks, sharing videos, business networks, virtual worlds, and more.

People who live far away from their friends and family use social media to stay in touch. Some people use different social media platforms to network for job opportunities, find people worldwide who share their interests, and share their ideas, opinions, insights, and feelings. People who do these things are part of a social network online.

Social networking is the most important thing a business need. Companies use the platform to find and talk to customers, increase sales through advertising and promotion, keep an eye on consumer trends, and help or care for customers.

social media is very important when it comes to helping businesses. It makes it easier for customers to connect and lets e-commerce sites add social features. It makes it easier to focus on marketing and market research because it can gather data. It helps sell products and services by making it easier to give discounts and coupons to potential customers at the right time and in the right place. Loyalty programs that work with social media can also make it easier to build relationships with customers.

What are the pros of social media?
There are many good things about social networking, such as:

- Users' ability to get to it People can talk to each other and share ideas or content more easily on social platforms.
- Having a business and selling things. With these platforms, businesses can quickly tell many people about their products and services. You can also keep in touch with your fans and try out new markets with social media. In some cases, the product is the content shared on social media.
- Audience development social media can help business owners and artists find people interested in what they have to offer. In some situations, social media has made

distributors unnecessary because anyone can now post content and do business online. For example, a beginner musician can post a song on Facebook, get a lot of attention

- from their friends, and then have those friends share the song with their friends.

What obstacles are present on social media?
social media can also cause problems for individuals in the following ways:
Mind-related problems Too much use of social apps can make you tired, get you hooked on social media, and cause other problems.
Polarization. A filter bubble can trap someone. In reality, the user is alone in an online community that looks like an open dialogue but was built by an algorithm.
Disinformation. When situations are very divided, it is easier for people who want to spread false information.

What are the many social media types?
These are the four main types of social media platforms:
Social networking platforms -People use these networks to exchange information, opinions, and ideas. These networks typically focus on the user. User profiles facilitate the discovery of individuals who share similar interests or concerns. Facebook and LinkedIn are outstanding examples.

Media transmission systems -These networks emphasize content. On YouTube, for instance, user-created videos drive interaction. Additionally, TikTok and Instagram are media-sharing platforms. Streaming platforms such as Twitch are covered in the subset of this category.

Community-based networks. Similar to a blog forum, this social network emphasizes in-depth conversation. Users post conversation starters that evolve into complex comment threads. Communities often form around specific topics.
Review board networks. Typically, the purpose of these networks is to review a product or service.

What are social media, and why do we care about them?
social media are all about interaction, connection, and content made by users. In today's world, everyone needs to use social media every day. Most of the time, people use social media to connect with others, get news and information, and make decisions.

What are some good and bad things about social media?
social media could be a useful tool for businesses, helping to engage audiences and bring more people to a website. But there could be problems, such as the need for resources and bad feedback.

How do social media change the way we live?
Multiple studies have found that people who use social media are more likely to feel sad,

anxious, lonely, want to hurt themselves or even think about killing themselves. People might feel like their lives or looks aren't good enough because of social media.

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Lesson3 : History of Social Media

Social media has become an integral part of all of our lives. We use it to connect with friends and family, to catch up on current events, and, perhaps most importantly, to entertain ourselves. This is why just under 70 percent of Americans, and more than 2.6 billion active users globally, use social networking sites.

In addition, the average user spends around 2.5 hours on social media each day.

However, this wasn't always the case.

Back in just 2005, social media penetration in the U.S. was just 5 percent, and most of the rest of the internet didn't even know what it was. All of this means that the history of social media is a brief yet tumultuous one, and studying it can help us better understand just how much, and how quickly, the world around us is changing.

We'll answer the question of when did social media start in a second, but before we do, we need to define what is social media?

What is Social Media?

Before going too far into the history of social media, it's important we first discuss exactly what we mean by social media. For most of us, we can spot social media when we see it, but we should work to be a bit more specific. A quick Google search for "social media definition" will reveal countless results, but they will all reflect the following definition in one way or another:

Social media is understood as the different forms of online communication used by people to create networks, communities, and collectives to share information, ideas, messages, and other content, such as videos.

Two things stand out from this definition:

1. Social media must include online communication, meaning the history of social media cannot begin before the invention and widespread adoption of the internet; and

2. Social media depends on user-generated content. This is why typical websites and blogs do not get included in the world of social media. Only certain people can post to these sites, and there are significant restrictions on the types of content that get uploaded.
3. Using this definition, we can understand social media platforms to be a wide range of things, such as messaging apps like WhatsApp and Viber, profile-based platforms such as Facebook and LinkedIn, video portals such as YouTube, and also email clients such as G-
4. mail. However, there are many other social networking sites out there, especially once you start looking at how people use social media platforms around the world.
5. READ MORE: Who Invented Facebook? The Birth of a Social Media Revolution

History of Social Media

Many people like to link the history of social media to the growth in communications technology that has been occurring since the end of the 19th century. A common starting point is Samuel Morse's first telegraph, which he sent in 1844 between Washington, D.C. and Baltimore.

However, going off our definition from before, this type of communication does not qualify as social media. First, it did not take place "online," and second, telegrams do not contribute to any larger community or collective. Instead, they are used to send individual messages between two people. So, while it's interesting to think of social media history as being part of a much larger continuum, the real history of social media starts in the 1970s with the emergence of the internet.

The Rapid Growth of the Internet

The internet has its roots in the 1960s and 1970s when various private and public organizations were working to try and find ways to get computers to communicate with one another. In a sense, this can be considered as the beginning of social media. However, it wasn't until the 1980s, and really the 1990s, that personal computers became more normal, which set the stage for the emergence of social media.

Additionally, the emergence of blogging and the bulletin board system in the 1990s helped usher in the age of online social networking sites. The idea that an average person could log on to the internet and write about what they were thinking, feeling, and doing, and that these posts could be read by anyone at any time, and responded to, helped people begin to understand the full significance of the internet.

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Old Social Media Sites

Using our definition of social media above, the first two social media platforms were Six Degrees and Friendster, both of which are no longer around, despite playing an influential role in starting what has become a social media revolution.

Six Degrees

The website credited as being the "first online social media" site is Six Degrees. It's named after the "six degrees of separation" theory, which states that everyone in the world is connected to everyone else by no more than six degrees of separation. This is often called the "Six Degrees of Kevin Bacon" theory, although Kevin Bacon himself is irrelevant to the phenomenon.

The reason Six Degrees is considered to be the first of the social networks is because it allowed people to sign up with their email address, make individual profiles, and add friends to their personal network. It was officially launched in 1997, and it lasted until about 2001. It's number of users peaked at around 3.5 million. It was bought out by Youth Stream Media Networks in 1999 for $125 million, but it shut down just one year later.

Friendster

A few years later, in 2002, the site Friendster emerged to compete with Six Degrees. Like Six Degrees, it allowed users to sign up with their email address, make friends, and save them as part of a personal network. People could also share videos, photos, and messages with other users, and they were also able to leave comments on other people's profiles, so long as they were part of each other's personal network.

A few months after its launch, Friendster had over 3 million users, and this number continued to grow, eventually reaching over one hundred million.

In 2011, Friendster was rebranded as a social gaming site that was focused mainly on the gaming community. This helped it stay relevant alongside competition sites like Google, Yahoo!, and Facebook, but in the end, Friendster was doomed to fail. In 2015, it suspended all of its services, and on Jan. 1, 2019, it ceased all operations and officially closed its doors.

When Did LinkedIn Start?

LinkedIn was one of the first social media sites in history. It was founded on December 28, 2002 by Reid Hoffman, Allen Blue, Konstantin Guericke, Eric Ly, and Jean-Luc Valliant. Initially, it was a site focused on professional networking, allowing people to connect with business and school contacts, as well as companies. Today, this is still the primary purpose of LinkedIn. It has stayed true to that purpose to this day. Currently, LinkedIn has more than 575 million registered users, and it's ranked number 285 on the Alexa Ranking for most-visited sites.

When Was Myspace Created?

Of the original batch of social networking sites, Myspace was perhaps the most popular and influential. Launched on August 1, 2003, Myspace quickly became the largest social media site in the world, connecting millions of active users all over the world. It started as a file storage platform, but it quickly transitioned to an online social network, which contributed to its meteoric rise in popularity.

By 2005, it was clear to the world that Myspace was here to stay, so some larger companies began to show interest in acquiring it. This resulted in the sale of Myspace to News Corp., the U.K-based media conglomerate run by Rupert Murdoch, for $580 million. Shortly thereafter, in 2006, Myspace surpassed Google as the top visited website in world.

The Decline of Myspace

After the sale, Myspace continued to grow, and by 2009 it was generating around $800 million in revenue, making it one of the more profitable social networking sites out there. However, as Facebook began to expand beyond its initial audience of just college students, Myspace began to decline, and Facebook replaced it as the top visited site in 2008.

Another reason Myspace began to decline was its use of on-site ads to generate revenue. Many argue that its deal with Google 2010, which consisted of a $900 million, three-year advertising agreement, overloaded the site with ads and made it difficult to use. Its popularity was soon eclipsed by other sites like YouTube and Facebook that offered a more ad-free environment.

However, Myspace, despite its decline, continues to operate to this day. In 2016, it was bought out by Time Inc., and in 2018 it was bought again by the Meredith Corporation. Currently, it's still ranked 4,153 on the Alexa ranking of most visited sites in the world.

When Was Facebook Founded?

Facebook was founded on February 4, 2004 by Mark Zuckerberg, as well as Eduardo Saverin, Andrew McCollom, Dustin Moskovitz, and Chris Hughes. Facebook started as a social media site exclusive to Harvard students, although it quickly spread to the rest of the Ivy League, as well as Stanford and MIT. However, after 2006, Facebook was available to anyone claiming to be above the age of 13, regardless of whether or not they had an affiliation with a university.

After its launch and subsequent expansion, Facebook grew quickly, surpassing Myspace in 2008 as the most visited site in the world. Today, it ranks #3 on the Alexa traffic rankings, behind only Google and YouTube.

Facebook went public in 2012 and it received a valuation of $104 billion, making it one of the highest IPO valuations of all time. It currently generates over $40 billion a year in revenue, and it is considered as one of the most important tech companies in the entire world. Facebook has also acquired other sites like Giphy, Instagram and WhatsApp in a bid to propagate its reach.

Currently, Facebook has just over 2.6 billion active users, a number that has grown consistently since its launch. This amounts to just under 30 percent of the entire global population. Facebook is the most popular social media platform in the world.

When Did Twitter Start?

Twitter was created on March 21, 2006 by Jack Dorsey, Noah Glass, Biz Stone, and Evan Williams. It distinguished itself by limiting users to only 140 characters, a policy it held onto until 2017, when it doubled the character limits in all languages except Chinese, Japanese, and Korean. Twitter went public in 2013 and was valued at $14.2 billion. Today, it has around 335 million monthly active users.

READ MORE: Who Invented Twitter? The Origins of a Revolutionary Social Media Platform

In 2009 China launched a social media platform called Weibo. A Facebook and Twitter hybrid that has grown to be one of the largest social media sites with over 400 million active users.

When Did Instagram Start?

Instagram was launched on October 6, 2010 by Kevin Systrom and Mike Krieger. It separated itself from the becoming a smartphone-only app focusing exclusively on photos and video sharing, and by only allowing photos to be framed in a square (a restriction which was lifted in 2015). ‘

Instagram grew quickly after its launch, surpassing one million registered users in just two months. Currently, it has 1 billion active users, which makes it the sixth most popular social media platform in the world. In 2012, Facebook bought Instagram for approximately $1 billion in cash and stock.

When did Snapchat Start?

Snapchat was launched by Evan Spiegel, Bobby Murphy, and Reggie Brown in September 2011. Its distinguishing feature was that it allowed users to send photos to one another that would disappear shortly after being opened.

Today, in addition to this service, Snapchat also allows people to chat with one another as well as share a “24-hour story,” which gives users the chance to post photos and videos and save them for one full day. Currently, it has around 186 million active users, although it is particularly

popular among young people, leading many people to believe Snapchat’s influence will grow in the coming years.

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Social Media Today

Social media history is relatively short in terms of time, and while there’s no doubt about its positives and negatives (just ask Dean McCrae), this doesn’t make it any less exciting or influential. Today, social media is an integral part of how people connect with friends and family. Overall, there are some 2.62 billion social media users around the world, and this number is expected to grow to over 4 billion by 2025.

In general, today’s market is dominated by a handful of companies like Facebook, Twitter, and Instagram, but their pursuit of new users in an increasingly competitive market has ensured they continue to innovate their offerings. When you combine these innovations with the emergence of professional-quality online social media tools such as Initialize, the type and professionalism of posts on social media have changed dramatically since Facebook first entered the market.

If we can learn anything from the history of social media, it’s that this will continue to change. New companies will emerge, and, as people’s preferences change, old ones will die or merge into something else, rewriting the history of social media as they do.

Lesson4 :

Social media theory

We also developed a model for strategy creation. Confusion surrounds what a social media strategy looks like and how this differs from a general marketing strategy and how this differs from what we call ‘tactics.

The model for social media strategy development is built on the three contributing factors; the social media goals, the brand and the audience.

There is, of course, a number of factors determining and ways of deriving all three of these component parts. The combination of the goals, brand and audience give rise to three other vital elements of an effective social media strategy; your ‘hit list’, what your value-adding content looks like and what your interaction strategy should be.

Social selling and interaction theory

Social media is such a unique marketing channel because of the transparent, two-way potential of interaction. Rather than broadcasting corporate messages, brands have the opportunity to engage consumers on an individual basis as well as generate leads in a very targeted way.

Using social listening tactics can help you to locate potential consumers online. Beyond the concept of listening, however, social platforms like Twitter and, increasingly, Instagram give us the opportunity to sell to consumers quite directly. Furthermore, LinkedIn lead generation is a powerful tactic in the B2B world and very much utilizes social media to make sales.

Putting theory into practice

Putting all of this theory into practice is an entirely different challenge for marketers. How all this translates to the content and communication we see on Facebook, X, TikTok, Instagram, LinkedIn and more, is complex. That's why a social media agency like us has a role to play in bringing everything to life for some brands.

Social media theories in New Media broadly refer to the various theoretical frameworks used to explain how and why people engage in social media activities. These theories draw upon a range of backgrounds and influence other related fields, such as communication theory, psychology, sociology, marketing and discourse analysis.

Social media is the latest innovation in communication technology that has revolutionized the way people interact with each other. It has become a popular tool for businesses to reach out to their target audiences, to build relationships and to engage with their customers. As such, the study of social media theories has become increasingly important in the field of new media.

A Comprehensive Guide to Social Media Theories

Social media theories help us understand how people interact on social media platforms. They help us make sense of the complex relationships between users, content, networks, and technology. Some of the most common theories in social media include the Social Capital Theory, the Network Effects Theory, the Cultivation Theory, and the Spiral of Silence Theory.

Staying up to date with the latest social media theories can help businesses maximize their digital campaigns. This comprehensive guide will take you through an overview of major **social media theories**, how they can be applied in practical terms, and how they can be used to improve marketing efforts.

Uses and Gratification Theory (UGT)

One of the most prominent social media theories is Uses and Gratification Theory (UGT), which explains that individuals actively seek out specific functions from media content to fulfil their needs and desires. This means people are attracted by certain benefits offered by different types of media use including seeking entertainment, companionship or even obtaining knowledge.

UGT plays an important role in understanding consumer behavior for publishing firms as it indicates what users look for when engaging with online platforms like Instagram or Twitter.

Social Identity Theory (SIT)

Another influential social media theory is Social Identity Theory (SIT). SIT looks at how people identify themselves within particular social groups or cultures through self-categorization processes while engaging with others on social media platforms. This theory suggests that people's self-concept is derived from their perceptions of group identities and the roles they play within them. According to this theory, people use social media to construct and reinforce their identities and to define their relationships with other people.

Self-expression is seen as one of the key motivations behind using these channels but depending on specific circumstances, many users may define themselves according to their membership within certain digital communities instead of revealing personal information directly about themselves.

It also looks into why people feel a need to create virtual personas that they can share publicly without compromising on privacy issues facing them when compared to real life situations where control over personal identity may be lost due to physical interactions that cannot be easily moderated by technology alone; this highlights the importance placed upon customization features available through apps like Snapchat Stories or Facebook Messenger's augmented reality filters where users can further personalize their profile pictures with extra effects not possible via traditional photography methods.

These two popular concepts are just some examples among many others used in today's new age digital settings exploring topics from platform economics research analyzing the structural differences created between app developers versus consumers; game dynamics examining player engagement analytics in order gain better insights; artificial intelligence advances delving into image recognition capabilities advancements across automated bots – these types of ideas represent new era findings accentuating previous works bringing light into more complex networks born from connected societies within innovative web experience designs?

The Social Capital Theory

The Social Capital Theory suggests that social media users build relationships and networks that can be used to their advantage. This theory is based on the idea that people can use their networks to gain access to resources, knowledge, and opportunities that would otherwise not be available to them.

The Network Effects Theory

The Network Effects Theory states that the use of social media platforms increases the value of the network for its users. This theory is based on the idea that as more people join a network, the more valuable it becomes.

The Cultivation Theory

The Cultivation Theory suggests that individuals develop their attitudes, beliefs, and values through repeated exposure to media messages. This theory is based on the idea that individuals are influenced by the messages they encounter on social media.

Spiral of Silence Theory

The Spiral of Silence Theory suggests that people are less likely to express their opinions if they believe that their views are not shared by the majority of their peers. This theory is based on the idea that people tend to self-censor when they feel their views are not supported by the majority.

Networked Publics Theory

This theory suggests that social media networks act as a platform for public conversations and debates. It states that publics are formed when people come together in an online space to discuss topics of mutual interest.

Affordance Theory

This theory suggests that the affordances of a medium or technology determine how people interact with it. According to this theory, social media has the ability to enable new forms of communication and interactions that weren't possible before.

Attention Economy Theory

This theory suggests that people's attention is a valuable resource and that social media platforms are competing for it. It states that social media companies are constantly looking for ways to keep users engaged and that users are becoming more selective about what they pay attention to.

Connected Learning Theory

This theory suggests that social media can be used to facilitate learning and knowledge exchange

These are just a few of the many theories that are used to explain how people use and interact on social media. By understanding these theories, businesses can better utilize social media to engage with their customers and build relationships.

Business Leverage Theory.

Business Leverage Theory focuses on the idea that businesses can use tools like social media to acquire and leverage customers. This theory suggests that by connecting with customers through social media, businesses can gain insights into their behavior, preferences, and needs that they can then use to formulate more effective marketing strategies. This theory also focuses on how businesses are able to use the platform of the network itself to better target potential new customers.

Cognitive Dissonance Theory.

According to Cognitive Dissonance Theory, when faced with conflicting beliefs, attitudes, thoughts or behaviors, people tend to reduce the dissonance created by bringing them into alignment with each other. This theory argues that social media platforms provide an outlet for people to share their opinions and ideas on a large scale. As people are exposed to different perspectives, they may choose to modify their own beliefs in order to bring them into line with those of the majority.

Social Exchange Theory.

Social Exchange Theory was developed by sociologist George Homans to understand how people interact with each other and the value they gain or lose in social exchanges. The basic idea behind this theory is that individuals weigh the potential benefits of an interaction with another person against the effort and risks involved, in order to decide whether to engage or not. On social media platforms, exchanges can be based on likes, shares, comments, and follows; Each activity holds potential rewards that individuals weigh when deciding which content to consume or share.

Diffusion of Innovations Theory.

The Diffusion of Innovations Theory helps explain how social media users spread information. This theory was developed by Everett Rogers in 1962 and states that a new idea or product will be adopted by the population, but not all at once. Instead, people are more likely to adopt the idea or product if those in their network have done so first – this is because they will feel more secure and informed about the new concept if it has already been tested by someone they know. Diffusion of Innovations can help marketers create content that spreads faster and to a larger audience.

Social Comparison Theory.

The Social Comparison Theory suggests that people subconsciously make comparisons between themselves and others. It suggests that when people are uncertain of something, they use those around them to define their understanding of the topic. This is important to consider in social media marketing, as brands need to think about how their audience is likely to interpret the

message they're sending out. Creating content that appeals to people's standards and values can help increase engagement and build relationships with customers.

5 Life-Changing Social Media Theories Every Marketer Should Know

Get a leg up on the competition by understanding the cutting-edge theories driving social media today! Here you'll find seven life-changing social media theories every marketer should know.

Social media is constantly changing and evolving, offering dynamic new opportunities for marketers to engage with customers. To maximize the impact of your social media efforts, it's important to stay on top of the cutting-edge theories that are driving the industry today. Here, you'll find five transformational social media theories every marketer should know.

Social Networks as Knowledge Markets – Daniel Fletcher

According to Daniel Fletcher—former CMO of Crate and Barrel and speaker at the Social Media Forecast Conference—social networks are not just a platform for communicating with customers, they can also be used as knowledge markets. Fletcher states that you can use social media to gather valuable insight into customer needs, preferences and pain points. Additionally, you can use these platforms as a space to test out new ideas and initiatives. Gathering feedback from customers through polls, surveys, or other methods is an excellent way to gain a better understanding of how your target market thinks.

The Two-Step Flow of Communication – Paul Learfield and Elihu Katz

This theory proposes that people's attitudes and behaviors are largely influenced by their peers, particularly the opinion leaders in their social networks. This notion challenges the traditional one-step flow of communication model which assumes that after hearing a message, most consumers will directly act upon it. The two-step flow suggests that media influences first reach opinion leaders, who then discuss the topic and pass on their interpretations to regular individuals. Marketers should use this theory to understand how they can best target influencers—and also how they can shape conversations among users within groups or networks with similar interests.

Narcissism and Social Network Use – Larry Rosen

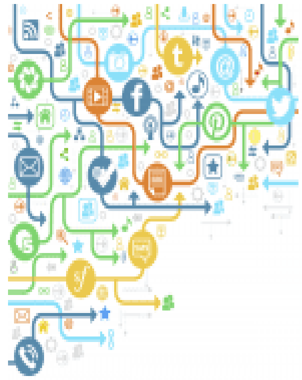
This social media theory was first developed by psychologist Larry Rosen to explain why some people are more active on social networks than others. The theory is based on the concept that social network use reflects individuals' levels of narcissism and self-esteem. According to the theory, people with high levels of narcissism tend to use social networks for increasing their popularity and ego—that is, they post primarily about themselves, highlight their successes, and react fiercely to criticism. Meanwhile, those with lower levels of narcissism may have different goals such as connecting with family members or sharing thoughtful content. Marketers should factor this in when targeting different customer segments on social media platforms.

Transformative Engagement on Social Media – Kristine DeLeon

Kristine DeLeon's theory of transformative engagement helps marketers engage with their customers in a meaningful way. She defines transformative engagement as when individuals use social media to become more connected and intimate, allowing them to explore different parts of themselves and make sense of their lives. Marketers should think about how they can use social networks as a tool to create meaningful connections with customers that can ultimately lead to improved customer loyalty.

Social Media as an Attention Economy – Tim O'Reilly

One of the biggest themes driving social media today is the idea that we are living in an "attention economy". This refers to the fact that our attention as consumers and users is becoming a valued commodity, with companies vying for our attention on social networks like never before. Tim O'Reilly, who coined this term, believed that one of the most important factors for survival in an internet-driven world is how well companies can harness and use their customer's attention. As such, marketers should be always thinking about how they can best capture and maintain user attention on social networks.



Lesson5 : These platforms have given rise to influencers and content creators who amass huge followings based on their creative output.

Messaging Apps

Popular social media messaging apps, such as WhatsApp and Messenger, provide private and group messaging capabilities. They have become indispensable for personal communication and have also been adopted by businesses for customer support.

Read on What Mobile Marketing Is

Discussion Forums

People use social media for discussions also. Reddit and Quora are among the many social media discussion forums.

These social media platforms also allow businesses to grow through trends and industries. For example, many content and SEO pros look for long tail keywords or topics on Quora to cover in topic clusters for improving rankings on pillar content.

Characteristics of Social Media

There are 5 core characteristics of social media, according to Mayfield (2008).

Participation

Due to its participatory nature, it allows interested parties to engage in interactions. It blurs the line between media and audience, as users are encouraged to contribute and provide feedback.

Conversationalist

As one of the essential social media characteristics, it is important to see how it is hugely different from traditional media. While the latter deals with one-directional communication, social media enables two-way conversations.

Connectedness

Social media helps maintain interpersonal ties through mediated interactions. By providing links to other sites, resources, and people, it offers connectedness to its users.

Community and Commonality

Social media enables individuals and organizations to communicate with like-minded people and quickly form communities based on common interests or goals.

Openness

Social media is characterized by its openness to user feedback and participation, with few barriers to accessing information or making comments. The networking philosophy and user-friendly content sharing mechanisms enhance this openness.

Advantages of Social Media

Here are some benefits of social media.

Enabling Communication Across Geography

Social media has revolutionized communication, allowing people to connect and stay in touch with loved ones, regardless of distance. Video calls and messaging have made virtual face-to-face interactions possible, bridging gaps between cultures and nations.

Democratizes Information Sharing

Social media is responsible for enabling anyone to become a content creator and share their knowledge and experiences with the world. This accessibility to information has empowered individuals and facilitated learning and awareness.

More Cost-Effective than Traditional Media

For businesses, social media has become a game-changer. It provides a cost-effective way to reach potential customers, build brand awareness, and engage with a targeted audience. Influencers, in particular, have emerged as powerful promoters for brands.

Privacy Concerns

The ease of sharing information on social media has led to privacy issues, with incidents of data breaches and identity theft becoming more prevalent.

Cyberbullying

The anonymity of social media has given rise to cyberbullying and online harassment, affecting individuals, especially young users. Social media platforms are continuously working to combat such behavior and ensure user safety.

Information Overload and Fake News

With the abundance of information available on social media, it's challenging to distinguish between credible sources and misinformation. Fake news and rumors can spread rapidly, impacting public perception and decision-making.

Lesson6 : Social Media Professions

14 Job Titles in Social Media (With Salaries)

As social media continues to be a prevalent part of everyday life, more companies are looking to incorporate these platforms into their marketing and business efforts. When working in a social media job, you need to have a solid understanding of Facebook, Twitter, Instagram, LinkedIn and other major social media platforms. Whether you are a creative or strategic person, there is sure to be a social media role that fits your skill set and interests. In this article, we share 14 different job titles in social media that you can explore.

Strengthen your profile

What are your desired job types?*

What are your desired job types?*Full-time Part-time Contract Temporary Internship

We'll use this to improve your job recommendations.

Job titles in social media are roles where social media is a part of your workday. Many roles that involve social media look quite different than one another. For instance, there are analytical jobs where you look at the outcomes and progress of social media campaigns. Someone in this role needs to be good with statistics, numbers and charts. There are other jobs in social media where your focus is content creation. Those in these roles need to be both creative and strategic when deciding what to share on their company's social media pages.

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14 job titles in social media

Here is a list of some of the most popular job titles in social media to explore. For the most up-to-date salary information from Indeed, click on the salary link for each job title below:

1. Social media intern

National average salary: $53,103 per year **Primary duties:** A social media intern's role is to learn the basics of social media in a business setting. Under the guidance of the intern manager, they will be responsible for basic social media tasks, such as writing statuses, scheduling posts and researching social media trends. Throughout the course of their internship, they will gain a better understanding of what a career in social media looks like. **Read more: Learn About Being a Social Media Intern**

2. Blogger

National average salary: $37,062 per year **Primary duties:** A blogger writes compelling content that they can share on social media. By writing articles that followers are interested in, bloggers can help brands improve their search engine optimization (SEO) and get more engagement on their posts. A blogger is responsible for brainstorming topics, doing research, writing, editing and sometimes even posting their blogs. Someone in this role needs to be able to write within a brand's style guide.

3. Content curator

National average salary: $50,845 per year **Primary duties:** A content curator is someone highly knowledgeable about the latest social media trends. It's their job to find compelling content to share on their company's feed. They often use content curation tools or software to find interesting articles, images and videos to share. It's their job to ensure what the company shares is appropriate and on-brand for the business.

4. Social media coordinator

National average salary:$45,353 per year **Primary duties:** A social media coordinator ensures that the operations of a social media campaign are running smoothly. They work to plan, implement and monitor a brand's social media presence. It's their goal to improve brand awareness and reputation while engaging with online followers. By creating an active social media presence, they can boost sales and brand recognition.

5. Social media specialist

National average salary: $53,255 per year **Primary duties:** A social media specialist is up-to-date on the latest social media trends and technologies. It's their job to strategize new social media campaigns and initiatives. Their primary duties may involve writing social media posts, producing content, analyzing data, scheduling posts and running paid advertisements. It's their responsibility to use social media to improve a brand's public appearance.

6. Social media manager

National average salary: $55,933 per year **Primary duties:** A social media manager oversees the entire social media department at a company. They make sure that everything a brand shares aligns with its aesthetic and messaging. They delegate work to copywriters and graphic designers who produce the content for the brand's social media pages. It's their responsibility to manage the operations of a social media campaign, working within the brand's guidelines. **Read more: Learn About Being a Social Media Manager**

7. Social media community manager

National average salary: $55,804 per year **Primary duties:** A social media community manager is responsible for overseeing the growth and maintenance of a brand's social media communities. They may work as a moderator, ensuring that users are only sharing appropriate comments. Their goal is to ensure community members feel like they belong and are valued by the brand. The purpose of this role is to build brand loyalty and connect with customers on a more personal basis. They may do this by responding to comments or answering users' questions.

8. Marketing associate

National average salary: $51,688 per year **Primary duties:** A marketing associate is responsible for planning and implementing a brand's marketing efforts. They may work with a wide variety of marketing channels, such as print, email, website content and social media. Someone in this role must know how to collect market data, predict trends and look at consumer behavior. They manage many of the daily administrative tasks of a marketing department as well.

9. Digital strategist

National average salary: $66,188 per year **Primary duties:** A digital strategist looks at all the digital marketing channels available to a brand and finds ways to launch a successful multi-channel campaign. They often use paid media, SEO and social media to build an online presence for their brand. They need to have a solid idea of consumer trends regarding digital platforms. They work to build an actionable digital marketing plan that can boost the sale of their products or services.

10. Brand manager

National average salary: $71,835 per year **Primary duties:** A brand manager is responsible for building a brand based on their company's target audience. They ensure that the content and messaging created by their marketing team aligns with the values, goals and style of the brand. It is their job to maintain a brand's integrity across all channels, including email, paid media, traditional marketing and social media. They help their brand tell a consistent story and maintain the same voice and imagery on all platforms. **Read more: Learn About Being a Brand Manager**

11. Digital project manager

National average salary: $68,794 per year **Primary duties:** A digital project manager ensures that their team prepares all the deliverables for a project on time and within budget. They work closely with clients to build trust, guide their decisions and boost their brand's reputation. They keep an eye on social media reviews to see if their clients are satisfied with the work they deliver. It's their job to make sure their team has an adequate amount of work and that their clients are happy. **Read more: Learn About Being a Project Manager**

12. Data analyst

National average salary: $74,377 per year **Primary duties:** A data analyst collects and looks at data from social media campaigns. They assess whether a brand's social media efforts are reaching the intended audience. They look at data, such as impressions, click-through-rates, engagement and likes. A data analyst also uses sales software to see if social media is leading to any meaningful conversions for the brand. **Learn more: Learn About Being a Data Analyst**

13. Content strategist

National average salary: $72,825 per year **Primary duties:** A content strategist plans all the content a brand is going to share. They keep track of current content marketing trends to help them plan which content to produce. Along with creating videos, blogs and infographics to post on the brand's website, they will also find compelling ways to share this content on social media.

They work to understand what types of content their target audience may be interesting in seeing.

14. Creative director

National average salary: $101,711 per year **Primary duties:** A creative director manages the entire creative department at a company. They delegate work to their team of copywriters and graphic designers. It's their job to create marketing campaigns that meet the company's goals. They work with a variety of marketing channels, including social media. Along with leading their team, they meet with clients to learn more about their wants and needs. It's their responsibility to make sure their team produces deliverables within the client's parameters.

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Unit Two : Social Media Typing

At the end of the unit, the trainee will be able to:

- Identify the types of social media

- Mention the applications of social media and their use cases

- Explain the technical composition of social media

Lesson1 : Identifying Different Types of Social Media

What Are the Different Types of Social Media? 10 Key Types

Social media consists of many types of networks for people who engage in a variety of different interests. Marketing and advertising on social media are economical and effective, helping you to connect with a wider audience. Learning about the popular types of social media can help you create more specific, meaningfully targeted marketing campaigns. In this article, we explain the reasons social media is important for promoting your brand's goods or services and discuss the different types of social media used today.

Brand awareness and social media

Social media platforms help you build brand awareness, communicate with customers, build a niche audience and increase sales without spending excessive amounts of your marketing budget. Useful content can attract more prospective customers, helping them to remember your brand. Building a consistent brand on multiple social media websites allows you to create a successful presence while engaging with customers. You can use social media to answer customers' questions, troubleshoot issues and inform them of any upcoming special events or sales.

10 types of social media

Knowing the differences between types of social media and how users interact with them can help you engage more effectively with prospective customers. Here are some of the most popular types of social media:

1. Social networks

Social networking sites help people connect with each other and offer a multitude of ways for different brands to attract individuals. Users can share their thoughts, form groups based on their interests, curate content, upload photos and videos and participate in group discussions. You can reach wide and diverse audiences with advertisements and persuade influential people with the right targeting metrics. You can also build connections between your brand and those individuals, research user preferences and monitor online conversations about your business. Learning what people post about your brand on social networks can help you use that information to create a positive presence and boost brand awareness. Examples of social networking platforms:

- Facebook
- Twitter
- Instagram
- LinkedIn
- TikTok

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2. Discussion forums

Discussion forums encourage people to answer each other's questions and share ideas and news. Many of these social media sites focus on posing questions to solicit the best answer. Answering them correctly and honestly can increase your credibility on the forum. That credibility and respect could lead to an increase in visits to your business or product website. You can also use discussion forums to do market research by asking people what they think of your products and brand. This can help you create more focused marketing campaigns. Examples of discussion forums:

- Reddit
- Digg
- Quora
- Clubhouse

Related: 14 Effective Ways to Grow Your Social Media Presence

3. Image-sharing networks

These social media sites let people share photos and related content. They offer a platform to start conversations, inspire creativity, make products seem more appealing and encourage customers to talk about your brand. For example, a clothing company could give everyone who posts a picture of their gear on the image-sharing network a chance to win a gift certificate. Examples of image-sharing networks:

- Instagram
- Flickr
- Photobucket

Related: 35 Social Media Manager Interview Questions (With Answers)

4. Bookmarking networks

Bookmarking networks are platforms where users save different ideas, articles, posts and other content for later use. Many people also share links to lists of online resources. The purpose of these websites is to discover new content based on shared interests and to discuss trends. You can use these networks to direct people to your website and engage with and influence their opinion by sharing your own content to bookmark. Examples of bookmarking networks:

- Feedly
- Flipboard
- Pocket
- StumbleUpon
- Pinterest

Related: What Is a Social Media Influencer? (Types and Marketing Tips)

5. Blogging and publishing networks

These social media networks give you a place to publish your thoughts on your job, current events, hobbies and more. You can enjoy many of the benefits of having your own blog without having to host it on your own website. You can also attract new readers from the pool of people who visit the network looking for interesting content. Consider writing blog posts about how to use your product in creative ways or post news about your industry to drive more traffic to your account. Examples of blogging and publishing networks:

- Medium
- WordPress
- Facebook
- Tumblr

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6. Consumer review networks

These sites display customers' reviews of businesses, giving users a full perspective of the type of services and products offered and the overall satisfaction rate. Customer reviews can help you identify any common problems that many people share and allow you to improve their experiences over time. Promoting positive reviews and thoughtfully handling negative ones can make your business more popular and boost brand awareness. Examples of consumer review networks:

- TripAdvisor
- Yelp
- OpenTable
- Google My Business

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7. Interest-based networks

Use these specialized networks to share your hobbies and unique interests with others. Sites and apps related to your industry can help you network by shared interest as well. For example, an interest-based site could allow people to discuss their favorite books and get recommendations about what to read next. Authors could create profile pages to promote their work and answer questions from readers. Examples of interest-based networks:

- Strava
- Peanut
- Goodreads

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8. Sharing economy networks

These sites give people access to resources by encouraging them to share goods and services. For example, a sharing economy site focused on pets could help a user find someone willing to take care of their dog while on vacation. It would be less costly than a kennel and more comfortable for the pet. If your company sells pet toys or food, you could gain new customers by advertising, perhaps by offering promotions of your products or services for users to try. Examples of sharing economy networks:

- Lending Club
- Couchsurfing
- Eat with

Related: 25 Do's and Don'ts of Social Media for Business

9. Social shopping networks

These networks help people spot trends, share great finds, make purchases and follow their favorite brands. They focus on e-commerce, and the social element makes it engaging and entertaining. These social shopping sites are ideal for building awareness about your brand and selling to a wider audience. Many of them let hobbyists and small business owners sell their art, jewelry, crafts and other items. Sellers are able to reach customers who are looking for unique, handmade products. Other social shopping networks offer home-related products along with content about home improvement, making them interest-based networks as well. Many social networks now also include social shopping elements. People can sell items to their friends, followers and other buyers near them, making it much easier to get rid of old appliances and furniture. Examples of social shopping networks:

- Instagram
- Postmark
- Etsy
- Facebook

Related: How To Market a Small Business: A Complete Guide

10. Video hosting platforms

Video hosting platforms give independent filmmakers, journalists and other creators a way for their audiences to stream videos quickly and easily. Brands can use paid ads to reach new customers, they can ask influencers to use and talk about their products or they can film their own video content. Examples of video hosting platforms:

- YouTube
- TikTok
- Snapchat
- Vimeo
- Instagram

Please note that none of the companies mentioned in this article are affiliated with Indeed.

Lesson2 : Identifying Usage of Social Media Types

What Are the Types of Social Media?

Social media isn't the one-size-fits-all type of service. There are different types of social media services that cater to different needs and accommodate various types of content. While some have overlap features, others are more specific in their use and the kind of services offered. As a brand or marketer, knowing the different types of social media is key to connecting with the right audience. It also influences the kind of content you use to connect with your audience.

Some social media platforms also have more active users daily and monthly than others. First, knowing what you want and the goals you hope to have through social media will help you in choosing the right type of social media platform. Also, engagement rates and means vary across all these platforms. To understand the types of social media, we must first understand what social media is in the first place.

Social media can be defined as any platform that allows you to share media such as pages, videos, or text in different formats. These platforms allow you to connect and communicate with people you know and even those you don't know. Social media sites are now being used by businesses and marketers to reach a wider audience and sell their brands, products, and services. Marketers and business owners can now advertise products and services to many different people online to maximize the full potential of social media. The main factor that distinguishes the different types of social media is the type of content. So, with this, we will dive into the various types of social media.

1. Social Networking Sites

These are sites mainly used for connecting with friends and family. They focus more on **person-to-person conversations**. Aside from personal conversations, these platforms encourage knowledge sharing. These platforms accommodate the different types of content formats from text to photos, videos, and other creative forms of content. They are considered the center of communication and a jack of all trades.

Users are able to create unique interesting content, share their thoughts, and create groups based on similar interests. These sites are user-centered and are built around the social needs of the users and everything that is important to them. Businesses and marketers can fully maximize these platforms because they provide an immense amount of data. Also, they are able to reach the right people through adverts with specific metrics and demographics. They also provide the opportunity to engage with users which helps people connect with your brand on a more personal level. Some of such platforms include Facebook, LinkedIn, and Twitter.

2. Image-based sites

Image-based types of content have gained more prominence in recent times. Content like infographics, illustrations, and images capture the attention of users more. Social media apps like Pinterest, Instagram, and Snapchat are designed to amplify the sharing of images. They say a picture is worth a thousand words, and using this can have lots of positive effects.

As a business, you can encourage your audience to generate unique content as a way of engaging with your brand. You can also use pictures to tell personal stories, inspire, and engage with your audience. Businesses can also use these platforms to boost sales through **shoppable posts** and images. Platforms like Instagram and Pinterest allow business accounts to post images that are linked to their shoppable items. Users are notified when they come across a post with a shopping link and can proceed to the merchant store to complete their transaction.

3. Video sharing/streaming platforms

Video content is one of the most captivating and engaging forms of content. Marketers and businesses have said that they have seen tremendous benefits in using videos. This form of content aids assimilation and understanding, hence why it is largely preferred by users. One major platform that reshaped how people interact with video content is YouTube. With over one billion active users monthly, the platform sometimes serves as a search engine for most users.

People often search for all kinds of things and find video content that answers their questions. As a business or brand, this kind of content can be used to engage with customers, promote a new product, answer questions, or shed light on features and packages. There are many ways businesses can benefit from such platforms. Aside from having a channel and putting out content, marketers can advertise on these platforms as well. Ads are placed in between videos and advertisements have said they have gotten higher click rates.

4. Discussion forums

Discussion forums are very essential because they allow users to ask questions and get answers from different people. These platforms are designed to spark conversations based on shared interests or out of curiosity. Some of such platforms include Quora and Reddit.

Although people are not as identifiable on these platforms as others, the knowledge and value provided are what makes such a platform relevant. Businesses can get a better understanding of how people feel about certain products, services, or topics pertaining to their niche. It is a way to get unfiltered thoughts and be part of everyday conversations your customers have around certain issues. These platforms can be used to conduct research or answer whatever questions people may have about your industry.

5. Blogs and community platforms

Blogs are a great way for businesses and marketers to reach and provide credible information to their target audience. Platforms like Tumblr and Medium allow users to create a community where people with similar interests can follow them and read all they have to say about certain topics.

Businesses can create blogs on these platforms or on their website to provide more information about the brand. Curating content that also answers questions and allows customers to freely express their views not only establishes you as an expert but also shows your brand is relatable.

Key Takeaways

There are different types of social media that serve various needs and social purposes. Tapping into all these platforms have to offer and making the most of them can enable businesses not only to reach their desired audience but achieve their business goals. There are no strict rules or ways for which some of these platforms can be used and so it is left to you to think up creative ways of connecting with your audience. Content can be used and repurposed across multiple platforms to save yourself the stress and ensure your brand is uniform across all platforms. Try out the different types of social media and find out which is best for your business.

Unit Three : Social Media Implementation & Use Cases

At the end of the unit, the trainee will be able to:

- Identify how to use social media in marketing and sales

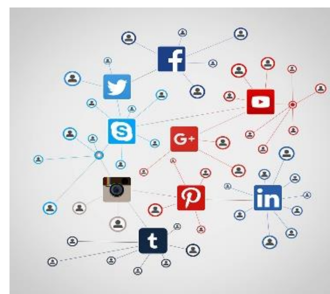
- Feel the risks of social media

- Determine security settings and incident response and management strategy

- Explain the importance of social media to society and its support for human resources

Lesson1 : Public Relations - Affairs & Outreach

Comparing Public Relations vs Public Affairs - A Comprehensive Guide



In today's fast-paced world, understanding the differences and similarities between public relations vs public affairs is essential for organizations looking to build a strong brand presence and navigate the complex landscape of public opinion and policymaking. In this comprehensive guide, we will delve into the distinct roles, objectives, and strategies involved in each field, allowing you to better comprehend their unique contributions to shaping public perception and influencing decision-making processes.

Key Takeaways

- Public Relations and Public Affairs are distinct yet interconnected disciplines that focus on maintaining an organization's positive image and influencing public policy.
- PR professionals manage brand image, produce promotional materials, and form relationships with the media. While PA professionals utilize lobbying & stakeholder engagement tactics to influence public opinion & shape policies.
- PR specialists typically have higher salaries than PA pros but both offer diverse career paths in office or government settings.

Understanding Public Relations and Public Affairs

Public relations and public affairs are distinct yet interrelated fields that play crucial roles in managing an organization's image and shaping public opinion. While public relations primarily focus on cultivating and maintaining a favorable public image for an organization through **media coverage**, events, and community involvement, public affairs zeroes in on influencing public policy, legislation, and generating support for an organization's objectives, with a stronger emphasis on political and legislative aspects.

Public Relations Defined

Public relations is a branch of marketing that aims to create and sustain a positive public image for a company, organization, or individual. Public relations professionals enhance an organization's reputation and visibility by fostering relationships with key stakeholders, including customers, investors, and the media. They achieve this through media outreach, social media management, and managing public outreach strategies.

Media coverage is a vital component of public relations strategies, as it increases visibility and reach, allowing organizations to share their message with a wider audience. Building relationships with media outlets is crucial for PR professionals, as it helps to establish credibility, authenticity, and brand awareness.

Public Affairs Defined

Public affairs, on the other hand, is primarily concerned with public policy and lawmaking. The field encompasses various elements, such as:

- Corporate communications
- Media relations
- Community relations
- Crisis management
- Government relations

In the field of public administration, public affairs professionals work closely with government regulators and elected officials to ensure compliance with relevant laws and regulations, as well as monitoring policy proceedings, and navigate the complex regulatory landscape.

Public affairs professionals, with a public affairs focus, strive to:

- Raise awareness
- Educate the public
- Shape public opinion on important issues
- Interact with lawmakers
- Advocate for specific policies
- Foster strong relationships with key stakeholders such as political advisors

They achieve this through strategic communication and lobbying efforts.

Key Differences Between Public Relations and Public Affairs

As we've seen, public relations and public affairs differ in their objectives, strategies, and target audiences. While public relations are primarily concerned with enhancing an organization's image and standing, public affairs focuses on influencing policy and decision-making processes, often involving interactions with public policy and government entities.

We shall probe further into these distinctions by examining the objectives, strategies, and target audiences pertinent to each field.

Objectives

The primary objective of public relations is to improve an organization's reputation by raising awareness, generating interest, building reputation, establishing authority, and increasing customer loyalty. With a clear public relations aim, campaigns commonly seek to drive traffic, enhance brand image, and manage crises.

On the other hand, public affairs have a more politically-oriented focus, aiming to effect policy and decision-making by engaging with elected officials and lawmakers. Public affairs campaigns may involve:

- Advocating for policy changes
- Legislative support
- Enhancing community relations
- Strengthening relationships with stakeholders and influencers.

Strategies and Tactics

Public relations employ media outreach and social media management as key strategies to promote a positive public image and engage with target audiences. Media outreach involves connecting with journalists, editors, bloggers, and social media influencers to increase public exposure and disseminate an organization's message.

In contrast, public affairs utilize lobbying and stakeholder engagement to influence public opinion and shape public policy. This involves:

- Mapping stakeholders
- Analyzing stakeholders
- Prioritizing stakeholders
- Engaging stakeholders
- Monitoring stakeholders
- Reviewing stakeholders

These activities are done to ensure effective communication and address the concerns and interests of stakeholders.

Target Audiences

Public relations are directed towards the general public and media outlets, as they are key stakeholders with a shared interest in or concern about an organization. By focusing on the general public, PR professionals can increase demand for a product, service, or idea and raise the organization's profile.

Conversely, public affairs is geared towards policymakers, legislators, and stakeholders, as these individuals have a direct impact on the development and implementation of public policies and legislation. Public affairs professionals work to:

- Develop support for their organization's agenda by disseminating information to stakeholders
- Influence public policy
- Establish and maintain strong relationships with elected officials and the public.

Roles and Responsibilities in Public Relations and Public Affairs

With a clearer understanding of the differences between public relations and public affairs, let's explore the distinct roles and responsibilities that professionals in each field undertake.

Public Relations Professionals

PR professionals are responsible for:

- Constructing and managing the brand image and spokespersons' reputation
- Managing crises
- Devising and executing PR strategies and campaigns
- Producing and circulating press releases, speeches, and promotional materials
- Forming and upholding ties with the media
- Answering media inquiries and requests for information
- Evaluating and creating PR strategies that align with the organization's objectives
- Working with the marketing department to ensure PR campaigns are in line with overall marketing strategies.

In addition to their core responsibilities, PR professionals need to be adept at storytelling to enhance brand reputation, capturing the attention of their target audience, and building lasting connections with media outlets.

Public Affairs Professionals

Public affairs professionals focus on communicating with government officials and media, fostering and developing the image of a brand or organization, constructing public affairs strategies, amalgamating government relations and media communications, and generating informative materials. This often involves advocating for policies, collaborating with legislators, and assessing the effects of political decisions on organizations.

Public affairs professionals must possess the following skills and knowledge to succeed in their roles:

- Knowledge of politics and policy-making
- Familiarity with the legislative process
- The capacity to effectively communicate with government representatives

Skills and Educational Backgrounds for PR and Public Affairs Specialists

Having delved into the unique roles and responsibilities of public relations and public affairs professionals, comprehending the specific skills and educational backgrounds needed for success in each field becomes vital.

Common Skills

Both public relations and public affairs professionals need strong communication, research, and analytical skills to excel in their respective fields. These skills enable them to evaluate the efficacy of their strategies, analyze intricate and contentious topics, and make informed choices, while effectively communicating with various stakeholders and conducting research to inform their strategies.

Unique Skills and Expertise

PR professionals require expertise in:

- Media relations
- Crisis management
- Crafting creative narratives about an organization and its personnel
- Capturing the attention of their target audience
- Building lasting connections with media outlets
- Employing storytelling to enhance brand reputation

Public affairs specialists, on the other hand, need knowledge of politics and policy-making, as well as a solid understanding of the legislative process to effectively communicate with government representatives and advocate for their clients' interests.

Educational Requirements

PR specialists often have degrees in PR, journalism, or marketing, which provide them with essential skills such as:

- research
- verbal communication
- writing
- strategic communication

In addition, some professionals pursue certifications from reputable organizations such as the Public Relations Society of America or the International Association of Business Communicators.

Public affairs specialists typically study political science, business, or economics, equipping them with the skills and qualifications needed to pursue a career in public affairs. A master's degree in a field under political science can further enhance career prospects in public affairs.

Career Opportunities and Salaries in Public Relations and Public Affairs

Career opportunities and salaries vary between public relations and public affairs, with PR specialists typically having higher earning potential than public affairs professionals, with average salaries of $65,060 and $59,534, respectively. However, both fields offer diverse and rewarding career paths, depending on one's interests and expertise.

Job Titles and Work Environments

Opportunities for public relations professionals abound in roles like:

- Communications
- Content manager
- Communications coordinator
- Public affairs specialist
- Technical writer
- Brand ambassador
- Marketing specialist
- Digital marketer
- Copywriter
- Content strategist

They often work in office settings within the marketing or PR division of an organization or at a PR agency, and may also work with agencies, companies, or independently.

Contrastingly, public affairs professionals can venture into roles such as:

- Event planner
- News reporter
- Advocacy manager
- Public relations manager
- Political consultant

They typically focus on government and policy-related roles, working in settings such as government agencies, nonprofits, and private companies.

Salary Comparison

PR specialists generally earn more than public affairs professionals, with average annual salaries of $65,060 and $59,534, respectively. Factors such as job responsibilities, experience level, and industry demand can influence salary differences between the two fields.

The entry-level salary for a public relations specialist is around $46,000 per year in the United States, while the entry-level salary for a public affairs specialist is typically around $46,000 per year as well.

Summary

In conclusion, understanding the distinctions between **public relations** and public affairs is crucial for navigating the complex world of shaping public opinion and influencing decision-making processes. While both fields share some similarities, their objectives, strategies, and target audiences differ significantly. By gaining a deeper understanding of these differences, one can better appreciate the unique contributions of public relations and public affairs professionals in their respective fields and explore the diverse career opportunities and educational paths available in each domain.

Frequently Asked Questions

What is the difference between public relations and public affairs specialist?

Public relations focus on creating positive publicity and building public loyalty, while public affairs involve matters that affect the public directly, such as legislation or public administration. Both professions interact with the public but serve different purposes.

What is the role of the public affairs?

Public affairs practitioners work to influence public policy, build and maintain a strong reputation, find common ground with stakeholders, manage media communications and strategic advice, and disseminate information.

What are the three components of public affairs?

Public affairs involve ethical leadership, cultural competence and community engagement, as well as communications, government relations, and public issues management.

What do public affairs do?

Public affairs professionals work to influence public policy, build strong reputations with stakeholders and manage media communications and information dissemination. They aim to find common ground and ensure corporate and social responsibility.

What are some common strategies used in public relations?

Common public relations strategies include media outreach, social media management, and public outreach initiatives. These help to promote positive public relations and communicate effectively with stakeholders.

Lesson2 : Marketing & Sales

What Is the Difference Between Sales and Marketing?

Written by - Indeed, Editorial Team

Although many people use the terms sales and marketing interchangeably, there is a subtle difference between the two. Both functions intend to grow the revenue of a business, but the way they try to do this differs. Understanding the difference between sales and marketing can help you integrate them better to achieve your company's revenue goals. In this article, we discuss some important differences between sales and marketing from various aspects like goals, process and strategy.

Key takeaways:

- Understanding the distinction between sales and marketing is necessary as it helps to better integrate these functions to meet a company's revenue goals. Sales involves direct selling of goods and services, while marketing aims to generate interest in a product through strategic positioning, pricing, and promotion.
- Both sales and marketing focus on generating revenue, but their approaches differ. Sales usually have short-term goals like increasing monthly revenue or closing sales, whereas marketing focuses on long-term objectives such as improving product awareness, maintaining customer relationships, or establishing the company as an industry leader.
- Marketing strategies aim to reach target customers and sales strategies focus on converting them. Examples include product-focused and price-focused marketing or cold calling and discount sales in sales strategies. Both functions yield the best results when aligned, as it ensures consistency between the marketing message and sales pitch.

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Why It Is Important to Understand the Difference Between Sales and Marketing

It is important to understand the difference between sales and marketing because you need to integrate both functions in your organization. Understanding the thin line between them helps you make them work in tandem to increase the revenue of your organization. While preparing an organization's budget, you need to make a proper allocation for each business function. A good understanding of differences helps you prepare a balanced and efficient budget. **Related: 33 Sales and Marketing Interview Questions (With Answers)**

What Are Sales?

Sales is the process of selling goods and services. It involves convincing potential customers to buy from your company. The convincing can be through various means such as explaining your product's benefits, offering discounts or making your product more attractive than that of your competitors. Some common sales generation methods include making cold calls, holding one-on-one meeting with business leads, participating in trade fairs and promotional events and cross selling (selling another product to an existing customer).Sales is the starting point of a contract between a business and its customers. A company often looks to retain its customer base by nurturing a positive relationship with its customers.

Inbound sales vs. outbound sales

Inbound sales is one in which the customer comes to an organization to buy a product. On the other hand, in outbound sales, a business reaches out to a prospect, usually through its sales department, and closes a deal. For example, if a customer visits a retail outlet and buys a product, it falls under inbound sales, whereas if your company's door-to-door sales executive sells a product, it's an example of outbound sales. Inbound leads are relatively easier to convert since the customer has an active interest in your organization's product. Although, some inbound enquiries may be exploratory and may require more efforts and follow-up by the sales team.

Related: What's the Difference Between Sales and Business Development?

What Is Marketing?

Marketing is the process of making people interested in your product through various strategies like pricing, packaging, positioning (creating a perception), placement and promotion. Marketing efforts of a company may or may not focus on generating direct sales leads, but they definitely intend to make sales easier and increase revenues over a longer period of time. For example, marketing teams often work on intangible strategies like creating a brand image and improving public relations. Having a good brand image may not generate direct sales leads, but it influences customers to make a purchase decision in favors of the company's products. Thus, marketing mainly focuses on analyzing customers' needs, interests and behaviors to make products more appealing to them.

Inbound vs. outbound marketing

An inbound marketing campaign follows an indirect approach instead of directly promoting a company's products. It makes customers come searching for them. Most of the inbound marketing campaigns take the form of digital marketing. For instance, companies often publish engaging content on their blogs with the intention to solve customers' problems and establish themselves as an authority in their industry. Other examples of inbound marketing include search engine optimization (getting ranked in search engines for relevant keywords), and social media marketing (networking on social media platforms).Outbound marketing refers to typical traditional marketing techniques like TV commercials, billboards and product mailers. It focuses on directly promoting a company's products to its target customers.

Difference Between Sales and Marketing Goals

Sales and marketing both focus on generating revenue for an organization. However, marketing mainly focuses on long-term goals, whereas sales have a relatively short-term perspective. Sales departments usually run on tight periodic targets, while marketing goals are often intangible in nature. Marketing campaigns may not have an immediate visible impact on a company's revenue, but they still help the company grow over a longer period of time.

Examples of marketing goals:

- Research customer needs and interests
- Build a brand
- Improve product awareness
- Increase customer satisfaction
- Maintain customer relationships
- Establish the company as a leader in its industry
- Generate qualified leads
- Launch a new product
- Reposition a brand or a product

Examples of sales goals:

- Increase monthly revenue
- Close sales
- Retain existing customers

- Increase profit margin
- Lower customer acquisition cost

Related: Your Guide to the Strategic Management Process

Difference Between Sales and Marketing Process

Here are the broad steps involved in typical sales and marketing processes:

Sales process:

1. **Prospecting:** Create a list of target customers and perform preliminary research on them.
2. **Connecting:** Connect with your prospects, often through cold emails or phone calls.
3. **Qualifying:** Qualify your leads based on their response, need and readiness to buy a product.
4. **Approaching:** Schedule an appointment and meet the qualified leads.
5. **Product demonstration:** Showcase the product and explain its features and benefits.
6. **Objection handling:** Listen to your prospects' objections, understand their perspective and address their concern.
7. **Closing a sale:** Negotiate the price, create a proposal and close a deal.
8. **Onboarding:** Deliver the product and help the customers get started with it.
9. **Following up:** Support customers with after-sales service, retain them and turn them into repeat buyers.

Marketing process:

1. **Research:** Study the market and your potential customers.
2. **Segment:** Divide your customers into different segments based on their characteristics.
3. **Strategy:** Build a marketing strategy for each segment you want to target.
4. **Position:** Define the distinguishing features of your product and highlight them in your marketing campaigns.
5. **Campaign:** Create and run marketing campaigns.
6. **Performance:** Measure the performance of your marketing campaigns.
7. **Fine-tune:** Modify and fine-tune your marketing campaigns based on their performance.

Difference Between Sales and Marketing Strategies

Marketing strategies focus on reaching your target customers while sales strategies focus on converting them. Following are some examples of sales and marketing strategies:

Sales strategy examples:

- **Cold calling:** Call up a pool of prospects and pitch your products.
- **Door-to-door sales:** Sales executives reach out to customers with the product and close deals on the spot.
- **Discount sales:** Companies offer a discount on a certain range of products for a limited period.
- **Discount coupon:** Companies issue discount coupons to certain sections of customers, for instance, those holding a credit card of a certain bank.
- **Trade fairs:** Companies exhibit and sell their products in trade fairs.
- **Cross-selling:** Companies pitch other products to their existing customers. For example, a bank may sell credit cards to its savings account customers.

Related: What Is Cold Calling? (Definition And Tips for Success)Marketing strategy examples:

- **Product-focused marketing:** Companies highlight various aspects of their product, such as quality, size and packaging.
- **Price-focused marketing:** Companies make buying attractive through various pricing strategies, such as low pricing, price matching (offering to beat competitors' price) and premium pricing (as a symbol of high quality).
- **Status marketing:** Companies position their product as a status symbol and reserve the right to decide who they sell it to. For example, a high-end car manufacturer may choose to sell its car only to a select group of high-net-worth individuals and influential people, giving them a sense of exclusiveness.
- **Online marketing:** Companies market their product through search engines, emails and social media platforms.

Related: Outbound Marketing Vs. Inbound Marketing: Pros and Cons
Other Differences Between Sales and Marketing

Here are some other differences between sales and marketing:

- The sales process takes an individualistic, customer-centric, one-to-one approach, while marketing is media-driven and targets the entire segment.
- Sales fulfil the demand, while marketing creates a new demand or fits a product into an existing demand.
- Marketing focuses on moving the product from the company to the market (through product launches and awareness campaigns), while sales focus on moving the product from the market to the customer.

- Sales focuses on the needs of the company, while marketing focuses on the needs of the market.
- Sales begin where marketing ends.
- Sales is relationship-driven, whereas marketing is image-driven.
- Sales requires convincing and conversational skills, while marketing requires analytical skills.
- Sales aims at maximizing profits, while marketing aims at increasing market share and customer satisfaction.
- Marketing attracts the customers towards the product, while sales push the product to the customers.

Related: What Are a Sales and Marketing Strategist? (Plus, Duties)

Why Align Sales and Marketing

Despite their differences, sales and marketing efforts give their best results when they are aligned with each other. For example, research from the marketing department can help the sales team process sales more efficiently. Avoiding contradiction between the marketing message and sales pitch reinforces customers' conviction in the product. Similarly, sales professionals can offer useful insights about customer behaviors to the marketing team for better positioning of the product. Integration and alignment of sales and marketing helps a company reduce cost and increase return on investment.

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At the end of the unit, the trainee will be able to:

- Identify the capabilities of social media

- Explain social media hosting platforms

- Define social media standards and protocols

- Show users' applications for social media

- Discover the vulnerabilities and threats of social media

- Mention the attack characteristics of social media and how to protect them

Lesson3 : Service Support

Social media customer service: What it is and how to improve it

Customers are telling brands what they need from them on social media. Great brands do their best to listen and respond, but socially sophisticated brands use social data to deliver personalized experiences that convert customers to life-long customers.

Social media customer service has become a consumer staple. Some 78% of people expect personalized responses from brands within 24 hours on social and are willing to jump to a competitor brand if they don't get a positive customer experience.

This means the stakes are high for brands to address customer needs with a level of personalized **customer care** that exceeds expectations.

Is your business ready to tackle high-volume service events across Facebook, X (formerly Twitter), Instagram and more? Are you prepared to manage the intricate workflows that come with handling different customer inquiries? If not, we've got the tips and tools you need to get it done.

This guide will give you what you need to convert your followers into fans with a seamless social media customer service strategy.

What is social media customer service?

Social media customer service is the support you offer your customers across social networks like Facebook and Instagram. Customers can request assistance via DM, a review site or through their social posts. The time it takes to triage that request and respond appropriately is what sets apart good from great social customer service. It involves not just answering queries, but actively listening and engaging with your audience.

Customer care is about proactively meeting your customers' needs. In terms of social media customer care, that means:

- Having a self-service help center
- Educating customers about your product via social content
- Interacting with customers consistently (even before they make a purchase)
- Having answers and information on hand before someone reaches out
- Offering personalized service that goes beyond automated responses

Responsiveness and resources make sure customers feel heard and valued, turning potential crises into opportunities for brand reinforcement.

Why is social media customer service important?

Social media is where your customers are. They're already chatting, sharing and asking questions on platforms like Facebook, Instagram and X. social media is central to top-quality customer care. Providing support there means meeting them on their turf, making interactions more convenient and immediate.

Social media customer service stats highlight how marketers are shifting their resources to scale social customer care via self-service tools, advanced social media tools, AI and automation. Here are three ways social customer care impacts your brand and makes it non-negotiable:

Boost customer loyalty

Social media creates a personal connection with customers. Based on a June 2023 survey of ~900 US and UK social marketers, our research shows that 63% of consumers agree that the quality of customer support they receive on social media significantly influences their loyalty to a brand.

This isn't surprising when you consider the real-time, conversational nature of social media platforms. They aren't just for complaints—they're for building relationships.

We continued the conversation publicly, showing not just that individual but also our wider audience how committed we are to customer satisfaction. It's not just about the initial response—it's about the ongoing dialogue, ensuring we resolve every issue to the customer's satisfaction.

This transparency builds trust and demonstrates our dedication—key ingredients in boosting customer loyalty. Every interaction is an opportunity to prove that we're listening and care, turning casual customers into loyal advocates.

Such proactive and attentive engagement transforms **customer interactions** into loyalty-building moments. It shows the company values every customer's voice and is committed to improving the user experience.

Increase brand awareness

When you engage positively with customers online, it's not just a private interaction. These exchanges are often public, meaning hundreds, if not thousands, of other users have the potential to see each one. It's a powerful form of indirect marketing that boosts **brand awareness**.

Social media usage stats show that the amount of time internet users spend on social media is 151 minutes per day. A viral post or reply can quickly spiral into a wide-reaching discussion, putting your brand in front of eyes that might never have seen it otherwise.

Take Notion, for example. When an X user posted this, many chimed in with feedback.

Metrics show that over 1,000 people viewed Notion's response. The post, along with the response, was likely discussed further, creating a ripple effect that significantly increased Notion's visibility and improved its brand image.

Enhance crisis management and response

Social customer care, when coupled with **social listening tools** that flag certain terms, improves your crisis management skills.

Here's the truth: news, especially bad news, travels fast. People are more likely to post about negative experiences than positive ones in hopes of attracting a brand's attention.

But a **study** also shows that nearly 9 out of 10 people (88%) are more likely to look past a negative review if they see that the business responded and appropriately addressed the issue. By being present and responsive on these platforms, you can address concerns before they escalate.

Haircare brand Prose, for example, faced backlash when an ad campaign used natural hair to depict a 'bad hair day.'

11 tips for providing good social customer service

Let's say you have a basic social media support strategy in place, but you want to increase your efficiency. Below are eleven ways to beef up your approach.

Bonus: Great customer service strategies aren't built in a vacuum. Use this free social media customer service training deck to align marketing and service teams around a defined set of shared goals.

Get the deck template

1. Use a social media customer service tool

A **social media customer service tool** allows you to monitor and engage with customer service inquiries across social media platforms from one central location.

Why is this important? It streamlines the process and ensures no customer queries slip through the cracks and allows for quicker, more efficient responses. Marketing, sales and customer service teams can track conversations, analyze sentiment and manage your team's workflow.

Take Sprout Social, for example. It enables you to monitor and respond to customer inquiries but also provides in-depth analytics to track your customer service performance.

It helps eliminate manual and menial tasks like checking notifications and switching between different social media platforms to free up your team to focus on more strategic initiatives. This means more time spent understanding customer needs, personalizing responses and building strategies that turn casual followers into loyal brand advocates.

You can use Sprout's **Suggestions by AI Assist** to get alternative replies to enhance tone of voice or build a more elaborate response, so you can respond faster to commonly asked questions and allocate your mental effort to where it really matters. Additionally, Salesforce users can use **Sprout's out-of-the-box integration with Salesforce** Service Cloud to connect social media interactions with more data and insights for a full 360 customer view.

2. Conduct a social customer service audit

There's no sense in making changes for the sake of it. For a truly effective process revamp, conduct a **social media audit** of what's currently working with your social media customer service strategy and what's not.

A **SWOT analysis** can provide meaningful insights into where and how you can improve. What about your process is going well? Where are there roadblocks or bottlenecks? A candid conversation with your team will reveal where changes can be made.

For example, if you're managing a high volume of messages split across multiple networks, it may be time to use **Case Management** within our Smart Inbox to consolidate social conversations across major social networks and review sites so you can efficiently manage customer inquiries, at scale.

3. Improve customer response time

To meet customer expectations effectively, it's crucial to understand your current performance levels. One key metric to track is your **social media response time**. By setting specific goals for improvement, you can make significant strides in customer satisfaction. If you're looking for tips on how to get this done, you're welcome to steal our strategy.

Back in 2022, **Sprout's social media team** took a close look at our **Inbox Activity Report** and identified a clear opportunity to improve our average time to action during our designated customer support hours.

By further analyzing our platform data and reflecting on our existing workflows, our team realized that strengthening the connection between our social media efforts and broader customer support processes could lead to major improvements.

By resetting expectations and establishing centralized ownership for social support, we achieved quick and dramatic results. From December 2022 to March 2023, we managed to reduce our average time to action by up to 55% during the periods we targeted for improvement.

4. Create an internal tracking system

Good customer service creates a feedback loop that improves processes and products.

You need a way to monitor common issues that should be addressed at a company level, such as correcting an ongoing problem in your shipping process or identifying a recurring product defect. You also need to generate reports to make sure your plan is succeeding. It can be as simple as a spreadsheet.

The **Tag feature in Sprout** allows you to tag incoming messages with any created tag, such as "feature request" or "product complaint." This way, you can quickly run a report on these tags to see what's trending

Any service report you generate should also include how quickly you can respond and, if enabled, how pleased someone is with your service. This feedback loop encourages you to continuously improve your quality of service.

This way, keep a pulse on customer experiences on social, eliminate stale data for good and empower stronger decision-making.

5. Personalize canned responses to increase customer engagement

The most important thing you can do as a brand is to make your customers feel like you're listening and addressing their unique needs and preferences.

Empathetic, personalized customer service builds trust, increases customer engagement and improves customer retention.

At the same time, crafting replies from scratch isn't sustainable especially when it's a balancing act between different channels. You have to create canned responses—saved messages support reps can roll out when responding to customers. These replies cover anything from general "thank you" to specific concerns.

Luckily, Sprout's multiple AI-enabled tools speed up social customer care while still infusing every response with your personality.

The Suggested Replies tool gives responses based on semantic search algorithms that enable the tool to automatically understand the context of an incoming message.

And, if you're using social customer service response templates based on your customers' frequently asked questions, you can use Sprout's Enhance by AI Assist feature to adjust the response's tone and length.

6. Standardize your brand's social customer service voice

Having multiple people **manage social media customer care** means there's more chance of your voice getting diluted.

You want your social approach to be cohesive across promotions, posts and service responses. It's possible to have a "pun-tactic" attitude for original posts and a more conciliatory tone for customer complaints. Alternatively, you could go the TGI Fridays' route and incorporate conversational cues directly from your audience.

7. Document an escalation management strategy

There may be times when you can't resolve a situation in the public sphere. Those instances call for a documented **escalation management strategy**.

Outline what types of situations should be escalated to a private channel like DMs or ticket support. For example, if a conversation gets contentious or personal information needs to be shared, it's probably time to take things off the feed, the way ticketing platform StubHub does.

This way, reps only handle challenges within their wheelhouse and teams solve customer issues quickly and efficiently.

8. Uncover crucial customer conversations with monitoring and listening

A social customer service strategy must include social listening.

With so many conversations happening via social, keeping track of every mention is often chaotic. That's why so many brands today rely on **monitoring and listening tools** to uncover:

- Brand mentions that aren't directly @tagged (or misspelled brand mentions)
- Competitor mentions related to your business, such as call-outs or comparisons
- Compliments and shout-outs that could result in more positive customer sentiment

Listening is also invaluable for uncovering your customers' frequently asked questions. Here's a word cloud from Sprout's Listening features that visualizes the top keywords, mentions, emoticons and hashtags found in a specified topic:

For example, **customer service metrics** may show an uptick in volume about a specific feature or bug. You may realize that customers are stuck on the same few product features or questions. Tracking these changes via listening and writing canned responses is a win-win for your social team.

Gathering **voice of customer** data gives you a more comprehensive understanding of what your customers want and need. A listening tool makes the process much easier.

9. Learn from negative feedback

Don't just use social customer service to resolve customer issues in the moment. Negative feedback is a goldmine of information that refines your product, service and customer interactions. Identify gaps in your service and pinpoint opportunities for improvement.

Consider WestJet. The airline received a post from a customer who complained that despite being promised priority service, they ended up waiting an extended period for their baggage.

This feedback wasn't just a complaint but highlighted a broader issue in the baggage handling process for priority and platinum customers. WestJet took this feedback seriously and promised to investigate the root cause and make necessary changes to ensure it upheld the promise of priority service. It shows its dedication to improving the experience for high-tier customers but also shows its commitment to listening and responding to customer feedback.

View negative feedback as an opportunity. Take insights from social media interactions and translate them into actionable changes that improve customer satisfaction.

10. Use AI

AI in customer service refers to using tools powered by machine learning (ML), sentiment analysis and natural language processing (NLP) to provide support to customers.

Customer service teams use these technologies to draw patterns between customer service interactions and use GPT technologies to respond. An AI-backed customer service team can then scale customer service functions, deliver more proactive customer service and improve the quality of customer support.

But how exactly do you use AI? Three areas to focus on:

- **Set up customer service chatbots:** Implement chatbots powered by GPT and NLP to handle routine inquiries. These bots understand and respond to customer queries in a human-like manner to provide quick and accurate support.
- **Personalize customer interactions:** AI analyzes previous interactions to suggest replies that are tailored to individual customer needs and preferences. For example, the Enhance by AI Assist feature in Sprout suggests response length and tone, making each interaction more personal and effective.
- **Analyze customer sentiment:** AI tools assess the tone and intent behind customer messages, determining whether they're happy, frustrated or anything in between. This insight allows customer service teams to prioritize responses and tailor their approach to improve the overall customer experience.

11. Provide support in multiple languages

Offering support in multiple languages means communicating with customers in their native or preferred language to make your service accessible to a wider audience.

Without language inclusivity and multilingual support, brands risk alienating a significant portion of potential customers who may feel misunderstood or undervalued due to language barriers.

By ensuring language isn't a barrier, Booking.com provides a truly global service.

Four tips to improve multilingual support:

- **Understand cultural nuances:** Language is deeply tied to culture. Train your team to understand cultural nuances, expressions and etiquette to avoid misunderstandings and provide respectful service.
- **Employ multilingual staff:** Hire customer service representatives who are fluent in the languages your customers speak. This ensures clear, accurate and culturally relevant communications.

- **Use translation tools:** Leverage technology such as AI-powered translation tools to provide accurate and instant translations. Ensure you regularly update these tools for quality and context.
- **Create localized content:** Provide FAQs, guides and support content in multiple languages. This provides a way to preempt common questions and offer self-service options to customers worldwide.

Social media customer service examples that inspire

Now that you know the basics of providing stellar social media customer service, let's check out some examples. Here are five brands that have mastered the art of creating lasting customer connections on social:

1. Marks and Spencer

Marks and Spencer's social customer service stands out for its conversational and personable approach. The brand lets its personality shine by using language that friends might use in a natural setting. For example, in a complaint regarding one of their pizzas, M&S starts with "Oh no!" and adds emojis to express empathy and lighten the mood.

This tone of voice humanizes the brand and might even result in a chuckle or two from their customers.

An approach like this addresses its customers' immediate needs and reinforces a positive approach to brand image.

2. PNC Bank

Businesses operating within highly regulated industries face unique challenges when providing customer service on social media. A rogue response can lead to more than just a frustrated customer—it can also cause problems with regulatory agencies.

That said, these organizations can still innovate to meet audience expectations. Just look to **PNC Bank's** social media customer service strategy.

PNC Bank is so dedicated to social media service that they regularly reach out to customers to see how they can assist. This approach makes PNC Bank's customer care on social media stand out in the financial services industry. They make it easy for users to escalate issues as needed, and do their best to fully resolve issues without sending customers to a different channel.

According to Sprout Social Listening data from January 13 to February 12, 2024, PNC Bank boasts a 64% positive sentiment rate, which is 8% and 12% higher than its biggest competitors.

3. Selfridges

Luxury department store Selfridge makes social customer support by clearly stating support hours and maintaining a helpful FAQ section.

Modernize your approach to social media customer service

Social media is the most accessible touchpoint for customers today. It's a suggestion box, customer service desk and call center—all in one. Modernize and automate your social media customer service to meet consumers' evolving expectations.

Sprout Social uses AI to analyze customer sentiment, predict service needs and personalize interactions, significantly enhancing response quality and speed. With advanced tools like this, your team can focus on strategy and building stronger customer relationships.

Try out our **social customer service tool** today and give your teams the resources to provide quality customer care.

Lesson4 : Innovation

The Most Innovative Social Media Content Ideas 2024

Content is still king in social media management. It provides the foundation for your social media strategy beyond coupons, ad videos, and sales pitches. Content is what makes your brand look and sound real and positions you as a leader in your field.

That said, we're well past the days when a brand could create content for the sake of content and expect it to "work." It's not really about the content itself, but rather the personality and intentions behind it.

Today, effective content is all about purpose and strategy. Your content should not be self-serving. but rather able to leave your audience a little better than you found them.

What does it take to create innovative social media content in 2024? Here are our top insights, suggestions, and favorite examples.

Table of Contents:

How to Create Content for Social Media

4 Ways to Build Your Social Media Content Strategy

Tools for Social Media Content Marketing

Innovative Ideas for Social Media Content to Try Today

What Is Social Media Content?

Let's start with a definition. Social media content is any content (e.g. blogs, images, videos, quizzes, infographics, etc.) created specifically for social media. Content can take a wide range of forms and be used for various purposes.

For example, a brand might create a meme to form an emotional connection with its audience. Or, you might share a behind-the-scenes video of how you create a fan-favorite product.

While social media content can be repurposed for other channels, the primary characteristic is that it's designed to target social audiences.

What Is Social Media Content Marketing?

Social media content marketing can be described as the intersection where social media and content marketing meet. Brands can optimize their content created for content marketing and share it on their social media channels.

This is a great way to get even more mileage out of every content idea you create. Your target audience has a greater chance of seeing your content, which in turn can drive higher social media engagement.

Though social media content and content marketing have a lot of overlap, the two aren't quite synonymous.

At its heart, content marketing is all about providing value to the target audience. This usually takes the form of blogs, white papers, infographics, and how-to guides and videos, for example.

Your social media content can be these things, too. But they can also be user-generated content, memes, GIFs, creative videos and images, and many other types of digital marketing content that only make sense for social media marketing.

Why Do You Need Social Media Content?

Every social media marketing strategy depends on content, whether it's interactive media, user-generated content, your take on industry news, or repurposed content from other digital marketing campaigns.

Without content, your target audience has less reason to engage with you on social media. They have nothing to share on their newsfeeds with their own audience. There's very little for them to remember you by as they're scrolling through their friends' pictures, funny videos, and even advertisements.

But when you have social media content, your brand starts to develop a presence beyond status updates.

Content plays an important role in achieving your digital marketing objectives. It helps to position you as a thought leader. It boosts brand recognition and audience engagement.

Eventually, you can start to build long-term relationships with your audience by constantly engaging with them. This can translate into greater brand equity, higher revenue, and an edge over your competition.

How to Create Content for Social Media

Creating content for social media can take many forms: immersive experiences, content series, contests, Q&As, and more. These content formats usually follow a social-first approach, but can often be repurposed for other channels.

A popular format is Ask Me Anything (AMA), where brands schedule real-time Q&As from the audience. This gives brands a chance to show off a personal side, plus you can raise awareness about your brand without coming off as salesy. In addition, this is a great opportunity to flex your expertise in your field.

If you're aiming for high value, turn your customers' most frequently asked questions into social media post ideas or even social media campaign ideas. You'll have content ideas for weeks, plus you'll be telling your audience things they actually want to know.

Social media takeovers are fun for brands and audiences alike. A brand can hand over access to its social media account to one of its marketers or an influencer or fan. That person controls the account for 24 hours and documents fun experiences, kind of like a Day in the Life of that person.

If there's a holiday coming up, you might create holiday social media content to capitalize on current audience sentiments.

And sometimes, creating on-brand content for social media means letting your audience do all the work for you. This is called user-generated content, where your audience creates their own images, videos, and other content specifically for your brand. UGC might be part of a planned brand campaign, or it could happen organically.

Start by exploring the content possibilities for each platform. For example, LinkedIn has its own tool to create a blog post, while Instagram offers Instagram Stories, Reels, and videos as well as still images. Also, think about your social media followers on each channel and what they might be interested to see.

No matter which social media platforms you're using, make sure you check out our guide on what not to share on social media.

4 Ways to Build Your Social Media Content Strategy

Now that you know more about the nuts and bolts of social media content, it's time to use them to build a full-blown social media content strategy.

Your strategy is a game plan that gives you a map to follow. And like any map, you need to know where you're going with your strategy so you can achieve your goals and get the most click-throughs from your efforts.

Let's look at some ways you can build a social media content strategy:

Go deep on one social media platform

One content marketing strategy is to put all your digital eggs in one social media basket. You can focus your efforts on creating the best content for just one channel instead of spreading your resources thinner across multiple channels.

There are big benefits to this: for starters, you can get to know that social platform's audience better and more deeply. In turn, this helps you create more content that caters to them.

The downside, of course, is that you're only reaching people on that channel unless they cross-promote or re-share your content on other platforms (e.g. sharing a TikTok video to Facebook). And if that platform changes its algorithm, well, then you might have a hard time reaching your audience in the same way that you are used to.

Spread out on multiple platforms

The opposite strategy is to create a content strategy for multiple social media platforms. For example, instead of sticking with just Facebook, you can also include Pinterest, Snapchat, and Twitter. You can expand your reach and don't necessarily have to start from scratch with all of your content.

However, more platforms mean more work. You still need enough social media ideas to fill up all of your channels. Decide if your marketing resources will allow you to create high-quality content for multiple channels and multiple social media campaigns.

Let your goals guide your content development

Social media content marketing doesn't start with content. You first need to figure out what you want your content to accomplish, then work backward from there.

For example, do you want to raise brand awareness? If so, then you might want to try your hand at creating viral content. If you want to grow your email list, then you'll need some top-of-the-funnel content to encourage sign-ups and followers. Figure out your goals, then create content to support those goals.

Plan your content mix

Planning ahead isn't always an option for social media content marketers, especially when they want to capitalize on something new or trendy. But what you can plan for is the type of content in your social content mix.

Explore the different content options and formats for each channel (e.g. interviews, behind-the-scenes, Q&As, social media takeovers, live video, etc.) and create guidelines on how to use each of them. When opportunities arise to share something timely on social media, you can jump right into action.

Tools for Social Media Content Marketing

Using tools like a social media planner can make the life of a content marketer more organized and less time-consuming. Social media planners analyze your metrics, streamline the process of social media publishing, and can even post on your behalf.

This way, you have more time to spend on content creation to generate a product that's shareable, relevant, well-rounded, and lives up to your high brand standards.

Meltwater

Naturally, our favorite solution is Meltwater's all-in-one platform that lets you create, manage, and optimize your social media content calendar. Monitor your brand's social presence across multiple platforms, gain insights into your social analytics, and watch for branded PR coverage, all within the same interface.

Hootsuite

If you're looking for a more basic social media content tool, Hootsuite has you covered with an easy-to-use interface and low monthly pricing. You can schedule posts ahead of time and combine all of your social channels into a single tool. Hootsuite also includes an image asset library for easier asset management so you can visualize your content strategy at a glance.

Meet Edgar

If you like the idea of done-for-your social content, Meet Edgar is an indispensable social scheduling tool. Connect it to your blog to automatically scrape new posts and write social media captions on your behalf. You can also override the automation features to tweak your own copy or make your own posts from scratch.

Tip: For more inspiration check out the best content marketing tools & services for your company.

Innovative Ideas for Social Media Content to Try Today

Ready to start standing out on social? Remember, it's not just about creating content for the sake of content. You want to make sure that what you're posting is something your target customer needs, wants, or likes. Be valuable to them, and do it in a way that also lets your brand's personality shine through.

Try these fun social media content ideas to start growing (and impressing!) your audience.

1. Helpful facts

Help people get to know your products and things related to your industry. Bite-sized pieces of information tend to stay with users longer and ensures they take something away from your post. 23andMe has mastered this with its genetics-related snippets on IG.

2. Company culture

Who knows your brand better than fellow employees? Put willing employees in the spotlight, especially those who usually work behind the scenes and don't often get a chance to connect directly with customers. HubSpot's "Day in the Life" series on Instagram is all too relatable and shows off the struggles of the job in a humorous way.

3. Brand news

Partnering with a high-profile client? Busting sales record after sales record? Launching a new product? Don't be afraid to celebrate your wins with your audience. This helps establish credibility and social proof, and can show people why you're the real deal.

Google shares brand news all the time, like its recent donation of $1.25M to the National Congress of American Indians to support Native American-owned small businesses. In their post, they also highlighted one of the recipients of some of the funding.

4. Inspirational content

The most engaging content is the kind that moves people to do something with what they've just seen or heard. Try highlighting your product in a different way to show off its potential. Oreo does an excellent job of this on IG with its collection of inspiring recipes and even videos on where you can hide your cookie stash!

Ready to start creating your social media content strategy? Reach out today to see how Meltwater empowers you to be social!

Lesson5 : Community Building - Collaboration

The Value of Building a Social Media Community

What is a social media community?

Communities are social units that create a feeling of fellowship with others as a result of sharing common interests, goals, and attitudes.

Social media marketers are responsible for fostering thriving communities. It's not enough just to have a huge social following. You must also have an engaged community.

The value of social media communities

Why are communities important?

- Communities are important because they promote engagement.
- Every active engagement brings users closer to your brand.

- They increase your brand visibility on the platform.
- They attract more potential customers to your profiles.
- They create a welcoming, engaged environment.
- They foster brand affinity and loyalty, as community members will reference your brand as the entity responsible for their positive experience and growth.
- Communities are incubators of inspiration because they encourage members to share their own stories, which can create connections and inspire others to action.
- They foster trust. If you can get your followers to function as a community, it will be a sign that your brand is trustworthy.
- They attract more followers and earn higher retention rates as a result.

How do you build a community?

Invite your friends

Invite people in your life, people who may be generally interested in your business, to like or follow your account. They can support you by interacting with your posts and sharing your content. This initial audience helps establish your credibility, build your reputation, and spread the word about your business right away.

Welcome your customers

Invite people you currently do business with to like or follow your account. Facebook allows you to upload their email addresses or import your contacts from popular email services like iCloud, Outlook, and Yahoo. Be sure to leverage this as an easy, quick way to get your current customers involved on your platforms.

Use social interaction CTAs

Consider adding a social interaction CTA to your company website. For example, using the Facebook Like button allows visitors to like your page without leaving your website. You can also add the Facebook Like button to Thank You pages that appear after someone signs up for your mailing list, submits a lead form, or makes a purchase. Since those visitors have already connected with your business in one manner, they will likely connect with you on Facebook or other platforms as well.

Use social employer pages

A rule of thumb on social channels is to keep work and personal activity separate, but you can add social employer pages to your profile to help build your community. Ideally, you should add your company as your current employer in your personal profiles' work section on Facebook and on LinkedIn. When you do, you'll be linking directly to the company's page, so others can click over at will. To do this, go to your personal About page and edit your work and education information.

Click Add a Workplace, select your Facebook page as the company. After you enter details about your position, check the "I currently work here" box and choose the dates as applicable. Make sure the visibility is set to public and click Save Changes.

Use hashtags

Another great way to build your community organically is by using hashtags in posts. Hashtags are a great way to expose your content to new audiences. If your content is compelling and engaging, people searching on your posts' hashtags may be inspired to follow you for more.

Cross-promote

You should always cross-promote your social networks across the other platforms. If you share the links to your Facebook page on your Twitter account, and your Twitter account on your LinkedIn account, it will maximize your reach across all platforms. Be sure to join interest groups that are relevant to your business and then share the link to your business page or page content within the group. Lastly, include a link to your profile pages in your email signature when you send emails to customers, colleagues, vendors, and other contacts. This will help gain exposure for your pages and hopefully increase followership.

Use events

Another way to build your community would be to encourage followership in-store or at events. Consider offering discounts for new fans and followers too.

Create goodwill

Creating goodwill amongst other users is important on these social media platforms, so follow other relevant accounts and it may inspire them to follow you in return. A consistent posting schedule will demonstrate that you're reliable and foster trust within your community, which in turn creates loyalty. Retention is a very important aspect of community growth. If you don't have a strategy for keeping the followers you gain, all your work will be for nothing.

Be sure to use emojis and colloquial terms when relevant; this shows that you speak the language of the community, and that you understand them and want to communicate in a way that is relatable and comfortable. This will also foster affinity for your brand.

Respond to your community

It's imperative to respond to your community. If your followers feel like they're only being spoken at and not engaged with in a conversation, they will assume that your business is self-serving and doesn't really care about their customers' needs. Responding to your followers also humanizes your brand and increases affinity.

Use GIFs, emojis, quote images, and memes

An often-overlooked way of building a community would be to use GIFs, emojis, quote images, and memes, all of which comprise the language of the social media space. When used in a relevant way, your content becomes more engaging, relatable, and shareable, and your brand becomes more likable.

Lastly, when you offer special promotions to followers, they feel just that – special. You're demonstrating that you care about this community and you want to reward them for their loyalty and engagement. This is a classic example of positive reinforcement and will almost always guarantee their continued loyalty and increased brand affinity.

Invest in paid methods

Even though you can build a community organically, the best way to build a community is to spend some cash. Take note of the following paid methods for building a community on each platform.

You can use Facebook Custom Audiences to target paid ads, website videos, and more. You can also use Facebook Ads Manager to promote updates from your page and links to your website.

Link Instagram and Twitter

Cross-platform activity is made easier between Facebook and Instagram. It's best practice to link your Instagram account to Facebook Business Manager to create Instagram ads with your handle overlaid on the image and a clear CTA to follow. Set up a followers' campaign on Twitter ads to generate growth. Launch follower ads on LinkedIn too.

Work with influencers

Lastly, you can pay influencers to help increase awareness of your account to help build your community, either by allowing them to take over your page for a set period of time, or creating content with the CTA to follow your brand's account.

Best practices

Now that you've built this fantastic, thriving, engaged community, here are some best practices for managing it.

- Develop consistent voice: First, be sure to develop an authentic, consistent brand voice and tone. Communities appreciate honesty and dependability.
- Be responsive: As mentioned previously, responsiveness is key. Your followers should know that you care about their comments, and aren't only there to promote your brand.
- Engage with followers: Plus, the more you engage with your followers, the more they feel appreciated and compelled to continue participating. Engagement begets more engagement.
- Share strategically: In actuality, 80% of the content you share in the community should be helpful to and cater for the interests of your audience; only 20% should be about promoting your business. The 80% should still support ideas and insights that your brand believes in. Again, all content should be authentic. However, the 20% can promote your business, but also provide value to your audience by including a discount or a special offer.
- Use CTAs: It could also just include a persuasive CTA that inspires your audience to learn more about your company, so it possibly leads to conversion in the future.

- Have recurring topics: Consider having recurring topics or a post series that fans and followers can look forward to participating in. This also encourages more recurring engagement.
- Use a personal identifier: Think about using a personal identifier, such as initials or a first name, with your responses. This makes the interaction more human and increases affinity, especially with social customer service.
- Monitor reaction: Lastly, pay attention to what posts and content are resonating with your audience, on your own channels, and on competitor channels. Then, optimize your post content strategy accordingly. Again, posts should always provide value to your followers and not just be in service of the business.

Lesson6 : Human Resources – Recruiting

What Is Social Media Recruiting?

Social media recruiting is the process of using social media platforms, like LinkedIn, Twitter, Facebook, and Instagram, to share job postings, network with professionals, and research potential job candidates.

Why Is Social Media Important for Recruiting?

Social media channels make the recruitment process significantly easier. Here are three reasons why.

1. Millennials Are Already Looking for Jobs on Social Media

A study from Aberdeen Group found that 73 percent of millennials have successfully used social media to look for job openings. Since millennials are already looking for jobs on these platforms, companies only benefit from posting their job openings on social media.

2. Social Posts Increase Your Job Listing's Visibility

Billions of people use social media. Between people passively looking through their social media feed to those actively looking for jobs, your job postings are bound to come across interested and qualified candidates.

3. Candidate Interaction on Social Channels Improves Your Brand Awareness

It's possible some candidates simply haven't heard of your company before. Posting on social media and networking with those candidates can improve your brand's visibility and reputation.

Create a Seamless Experience, From Application to Offer Letter.

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How Is Social Media Used in Recruiting?

Social media can help recruiters with several otherwise difficult aspects of job recruitment:

Reaching Passive Candidates

are those who are not actively looking for a new job and are more or less content with their current job. However, they are interested in other roles and might check the latest job posts on social media out of curiosity.

Posting frequently can help you be visible to these passive candidates as they browse their feed. Consider also using videos to connect with these candidates' videos are highly engaging and can quickly inform passive candidates about your company, its culture, and the job you’re offering.

Interacting with Interested Candidates

Interested candidates are more likely to apply, but it helps to nurture their interest and give them an extra push.

For example, some interested candidates may have some hesitations or questions about the open position. With social media, they can also send direct messages and comment on your posts. If you interact with their questions, you can start building professional relationships before you even get an application.

Finding Niche Networks

While you can find thousands of qualified candidates on social media, you may want to find candidates who qualify for an incredibly niche role. Social media pages and forums can help you find these candidates. For example, your ideal candidate may have just left an insightful comment on a Reddit post or Quora question.

It’s also important for you to establish your brand in these niche places on the internet so candidates can find you as easily as you can find them.

When Should You Use Social Media for Recruitment?

Social media recruiting should always be a part of your recruitment strategy. Using it will help you reach a wider audience.

Which Social Media Site Is Most Commonly Used for Recruitment?

The majority of popular social media platforms can be used for social media recruiting.

LinkedIn

LinkedIn is the most popular social media platform for job recruitment. Because the website is designed with professional networking in mind, it has tools that make posting jobs and accepting resumes incredibly easy. LinkedIn also offers post boosting, which lets you promote your job postings.

Facebook, Twitter, and Instagram

Facebook, Twitter, and Instagram are also viable options for social media recruiting. These platforms allow you to boost posts using specific demographic information. And because these platforms are more casual than LinkedIn, you can also get an idea of your candidate's personality.

YouTube

Certain industries may want to look at a candidate's YouTube account as well, especially if the job requires video skills. Seeing what the candidate posts on their channel gives you a good idea of their skill level.

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What Are the Advantages of Using Social Media for Recruitment?

Companies that use social media recruiting enjoy a range of advantages:

- Cost per hire is significantly reduced.
- You can screen candidates more easily.
- Jobs can be filled more quickly.
- You can access more qualified candidates.
- Recruiters can find more candidates through referrals, followers, and networking.
- You can find candidates to fill ultra-specific roles.

What Are the Disadvantages of Using Social Media for Recruitment?

While there are significant advantages to using social media for recruitment, it can be quite difficult to find the right candidates.

- You need a specific recruitment and targeting strategy.
- You need to invest a good amount of creativity to stand out from other companies.
- Boosting posts can get expensive.
- Your audience may not be on a certain social media platform.
- It's hard to escape bias (like seeing a candidate's picture).
- Candidate profiles may be inconsistent with who they are and how they will perform as an employee.

The Power of Social Media in Modern Recruitment

Social media, in the modern world, serves as a ubiquitous and dynamic force that has fundamentally reshaped how people communicate, access information, and interact with the world around them. Platforms such as Facebook, LinkedIn, Twitter, Instagram, and many others have become an integral part of daily life for billions of people. Whether it's sharing personal experiences, seeking entertainment, or building professional connections, social media platforms have become central to our contemporary existence.

These platforms have created a virtual environment where individuals and organizations can engage, share, and collaborate on a global scale. The power of social media lies in its ability to break down geographical barriers, enabling instant, real-time communication and access to a vast network of individuals and resources.

The Emergence of Social Media as a Recruitment Tool

Social media platforms have redefined the recruitment landscape by overcoming many of the limitations associated with traditional methods. They have introduced a level of connectivity and immediacy that was previously unimaginable.

Global Reach: Social media enables employers to reach a worldwide audience with job postings, breaking down geographical barriers. Job seekers can explore opportunities across borders with ease.

Efficiency and Speed: Digital platforms facilitate rapid communication, allowing employers to streamline the hiring process, conduct virtual interviews, and make quicker decisions. Job seekers can receive instant updates on job openings and application statuses.

Real-Time Updates: Job seekers can maintain up-to-date online profiles, including their work history, skills, and endorsements. This real-time information empowers employers to identify and contact candidates with current qualifications.

Networking Opportunities: Social media provides a fertile ground for professional networking, enabling job seekers to connect with peers, industry leaders, and potential employers. Employers can use their online presence to build strong employer brands and engage with top talent.

According to a survey by the Society for Human Resource Management (SHRM), 84% of organizations use social media for recruitment in some capacity, recognizing its potential for sourcing and engaging candidates. Moreover, job seekers increasingly prefer online job searching. According to Glassdoor, 79% of job applicants use social media in their job search, demonstrating the importance of a strong digital presence for employers.

The data clearly illustrates the increasing reliance on social media as a job discovery tool among younger generations, with Gen Z and Millennials leading the way. These findings highlight the need for companies and recruiters to adapt their hiring strategies to meet the preferences and habits of different generations. Employers may need to consider diverse recruitment channels to reach candidates from different age groups effectively.

Benefits of Using Social Media in Recruitment

In the modern era of recruitment, the integration of social media platforms offers a plethora of advantages for both employers and job seekers. These benefits not only streamline the recruitment process but also enhance the quality of matches between companies and potential employees.

Wider Talent Pool and Increased Visibility

Incorporating social media in recruitment broadens the talent pool, connecting employers with diverse candidates globally, increasing the chances of finding qualified individuals. Job seekers also discover more opportunities from various organizations.

Cost-Effectiveness

According to data from the Society for Human Resource Management (SHRM), the average cost of hiring a new employee stands at approximately $4,683. However, the integration of social media into recruitment significantly mitigates these expenses due to its extensive reach. Through the power of social sharing, employees and individuals within your network can effortlessly amplify the reach of job postings.

Improved Employer Branding and Company Culture Representation

In the digital age, a company's online presence shapes its ability to attract top talent. Social media helps build employer branding by showcasing culture, values, and vision, aiding job seekers in making informed career choices.

Real-Time Engagement with Candidates

Social media enables real-time communication and engagement, enhancing the candidate experience. Employers can interact, provide updates, and build relationships with candidates, while job seekers get quicker responses and feel more connected to the hiring process.

Enhanced Diversity and Inclusion Efforts

Social media promotes diversity and inclusion by providing an inclusive platform for job seekers. Companies can reach out to underrepresented groups and demonstrate their commitment, leading to a diverse candidate pool and an inclusive workplace.

The benefits of using social media in recruitment extend beyond the convenience of digital platforms; they contribute to a more dynamic, responsive, and inclusive recruitment process.

Popular Social Media Platforms for Recruitment

In the realm of modern recruitment, social media platforms have become instrumental in connecting job seekers with prospective employers. While several platforms cater to different aspects of the recruitment process, LinkedIn stands out as the most popular social media site for recruiters, followed by Facebook and Twitter.

LinkedIn: The Premier Professional Networking Platform

LinkedIn serves as the go-to platform for professional networking and job postings, with an extensive user base comprising both job seekers and recruiters. Notably, more than 90% of recruiters actively use LinkedIn to search for suitable candidates to fill their company's job openings. With over 50 million companies having a presence on the platform, LinkedIn has evolved into a thriving ecosystem for professional interactions and career development. Moreover, LinkedIn's data reveals that 46 million students and recent graduates are active on the platform, underscoring its significance in catering to the evolving needs of the emerging workforce. Additionally, with 40 million people per week actively seeking job opportunities on the platform, LinkedIn remains a cornerstone for job hunters and recruiters alike.

Twitter: Real-Time Recruitment and Engagement

While Twitter serves as a real-time update and engagement platform, it has also garnered attention as a space where job seekers and recruiters can connect. Statistics indicate that Twitter is particularly active among marketing and public relations professionals looking for employment. Furthermore, it's noteworthy that male recruiters tend to utilize social media, including Twitter, more frequently than their female counterparts. Approximately 55% of male recruiters actively use Twitter, compared to only 28% of female recruiters, showcasing a gender disparity in the adoption of social media for recruitment purposes.

Facebook: Connecting Job Seekers and Employers

Facebook, with its wide user base and diverse functionalities, offers a multifaceted approach to recruitment. With 83% of job candidates being active on the platform, it presents a valuable opportunity for companies to engage with potential employees through company pages and job groups. Notably, 81% of job seekers express an interest in seeing career-related posts on Facebook, indicating the platform's potential for effective talent acquisition. Industries such as hospitality and retail find significant representation among job seekers on Facebook. With 44.8 million users in the UK, Facebook remains a prominent hub for recruitment activities, with the added benefit of allowing free job postings for employers.

Other Platforms (Instagram, YouTube, TikTok, Snapchat)

While LinkedIn, Twitter, and Facebook remain dominant players in the realm of social media recruitment, other platforms are gaining traction and proving to be valuable resources for reaching a wider audience and engaging potential candidates. Instagram, YouTube, TikTok, and Snapchat offer distinct features, catering to specific demographics and enabling innovative strategies to attract a diverse pool of candidates.

Instagram: Instagram's visual appeal and storytelling capabilities make it ideal for showcasing company culture and values. Through engaging visual content, companies can offer insights into their workplace environment, making it particularly effective for attracting creative professionals.

YouTube: YouTube enables recruiters to create in-depth, engaging content that goes beyond traditional job postings. Video testimonials, office tours, and industry insights can provide valuable information and enhance an organization's employer brand.

TikTok: TikTok's short-form video format is perfect for creating fun and engaging content around workplace culture. Recruiters can leverage trending challenges and user-generated content to connect with a younger demographic.

Snapchat: Snapchat's ephemeral nature and interactive features allow recruiters to create personalized and time-sensitive content. Real-time updates, behind-the-scenes glimpses, and Q&A sessions can help establish a dynamic connection with potential candidates.

Best Practices for Social Media Recruitment

Effectively harnessing the power of social media for recruitment requires a strategic approach that goes beyond simply posting job vacancies. Employers must understand the nuances of each platform and implement best practices to ensure maximum engagement and successful talent acquisition.

Creating Engaging Job Postings

Crafting compelling and engaging job postings is essential to capture the attention of potential candidates. Use visually appealing content, including videos, images, and infographics, to make your posts stand out. Clearly outline the job responsibilities, requirements, and benefits, and highlight what makes your company an attractive place to work. Incorporate relevant keywords to enhance the visibility of your posts in search results, ensuring they reach the right audience.

Building and Maintaining an Employer Brand

Your employer brand serves as a powerful tool for attracting top talent. Use social media to showcase your company’s culture, values, and mission. Share stories of employee experiences, achievements, and career growth within the organization. Encourage current employees to share their perspectives and insights, as this can humanize your brand and create a sense of authenticity that resonates with potential candidates.

Leveraging Employee Advocacy

Encourage your employees to become brand advocates by sharing job openings and positive experiences within the company. Employee advocacy can significantly expand the reach of your recruitment efforts, as people are more likely to trust the recommendations and experiences of current employees. Implement employee referral programs to incentivize employees to actively participate in the recruitment process and refer qualified candidates from their networks.

Monitoring and Responding to Online Feedback

Active monitoring of social media channels is crucial for understanding how your brand is perceived by the public and potential candidates. Regularly monitor comments, reviews, and messages to stay informed about any issues or concerns raised by users. Promptly respond to feedback, whether positive or negative, demonstrating your commitment to transparency and open communication. Addressing concerns in a timely and respectful manner can help build trust and credibility within the online community.

The benefits of incorporating social media into recruitment extend far beyond the immediate convenience of digital platforms. The wider talent pool, increased visibility, and cost-effectiveness make for compelling short-term advantages. However, it’s crucial to recognize the enduring, long-term benefits and opportunities that arise from a robust social media recruitment strategy. Employers can foster a positive employer brand, attract top talent, and maintain a diverse and inclusive workplace, all of which contribute to sustained success and growth. Are you ready to explore the future of work and discover how the evolving trends in HR are shaping the recruitment landscape? Join us at HR Vision, where the top HR leaders come together to discuss the transformative time we’re in.

Unit Four : Social Media Technical Composition& Social Media Risks

At the end of the unit, the trainee will be able to:

- Identify the capabilities of social media

- Explain social media hosting platforms

- Define social media standards and protocols

- Show users' applications for social media

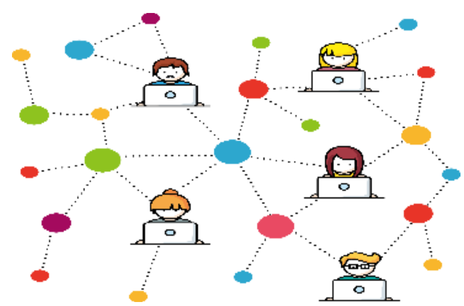
- Discover the vulnerabilities and threats of social media

- Mention the attack characteristics of social media and how to protect them

Lesson1 : Social Media Capabilities

What are the capabilities of social media?

Features of social media



User-generated content such as text, posts, comments, digital photos, videos, and data generated through all online interactions is the lifeblood of social media. Social media helps increase online social networks by connecting a user's profile with those of other individuals or groups.

Different Forms of Social Media

There are many forms of social media which include blogs, micro-blogs, wikis, social networking sites, photo sharing sites, instant messaging, video-sharing sites, podcasts, virtual worlds and more.

There are vast range of networks for people of diverse interests, of which, the popular ones are mentioned below:

Social networks

Social networking sites help people connect with each other. On social networks users can share their thoughts, form groups based on their interests, curate content, upload photos/videos etc.,

Examples of social networking platforms : Facebook, Twitter, Instagram, LinkedIn etc.,

Discussion forums

Discussion forums are like hangout places where people exchange ideas and answer the questions posted.

Examples of discussion forums : Reddit, Digg, Quora, Clubhouse etc.,

Image sharing networks

These are the social media sites where people share photos and related content.

Examples of image sharing networks : Instagram, Flickr, Photobucket

Bookmarking networks

Bookmarking networks are platforms where users save different ideas, articles, posts and other content for later use.

Examples of bookmarking networks : Feedly, Flipboard, Pinterest etc.,

Blogging and publishing networks

These networks are a medium to publish your thoughts based on your job, current events, hobbies and more.

Examples of blogging and publishing networks: WordPress, Facebook, Tumblr etc.,

Consumer review networks

These sites display customers' reviews of businesses.

Examples of consumer review networks : TripAdvisor, Yelp, Google My Business etc.,

Video hosting platforms

Video hosting platforms give independent filmmakers, journalists and other creators a way for their audiences to stream videos quickly and easily

Examples of video hosting platforms: YouTube, TikTok, Snapchat, Vimeo etc.,

Social networking platforms

A **social networking service** or a social networking site is an online platform to build social networks or social relationships with people who share similar personal or career interests, activities, backgrounds and real-life connections. They help create, sustain and develop new social and professional relationships.

Some of the popular social networking platforms include

Facebook

Facebook is an American online social networking service owned by Meta Platforms. It was founded in 2004. Initially its membership was limited to Harvard students gradually expanding to other North American universities and since 2006 to anyone over 13 years. As of 2020, Facebook claimed 2.8 billion monthly active users, and ranked seventh in global internet usage. Facebook can be accessed on devices with internet connectivity such as personal computers, tablets and smartphones.

After registering on Facebook, users can create profiles with information about themselves. They can post text, photos and multimedia which can be shared with any other user who has agreed to be their "friend" or, with different privacy settings, publicly. Users can also communicate directly with each other via Facebook Messenger, join common-interest groups, and receive notifications on the activities of their Facebook friends and the pages they follow.

Social networking platforms

Twitter

Twitter is service is provided by Twitter Inc., a corporation based in San Francisco, California which has more than 25 offices around the world. It is an American microblogging and social networking service on which users post and interact with messages known as "tweets".

Registered users can post, like, and retweet, but unregistered users can only read those tweets that are publicly visible. Users interact with Twitter through browser, mobile frontend software or programmatically via its APIs.

Instagram

Instagram is an American photo and video sharing social networking service founded by Kevin Systrom and Mike Krieger. In April 2012, Facebook Inc. acquired the service.

The app allows users to upload media that can be edited with filters and organized by hashtags and geographical tagging. Posts can be shared publicly or with pre-approved followers. Users can browse other users' content by tags and locations and view trending content. Users can like photos and follow other users to add their content to a personal feed.

LinkedIn

LinkedIn is an American business- and employment-oriented online service that operates via websites and mobile apps. It was launched on May 5, 2003.

Since December 2016, it has been a wholly owned subsidiary of Microsoft. As of September 2021, LinkedIn has 774+ million registered members from over 200 countries and territories.

The platform is primarily used for professional networking and career development, and allows job seekers to post their CVs and employers to post jobs.

WhatsApp Messenger

WhatsApp Messenger, or simply **WhatsApp**, is an internationally available American freeware, cross-platform centralized instant messaging (IM) and voice-over-IP (VoIP) service owned by Meta Platforms. The service requires a cellular mobile telephone number to sign up. In January 2018, WhatsApp released a standalone business app targeted at small business owners, called WhatsApp Business, to allow companies to communicate with customers who use the standard WhatsApp client.

It became the world's most popular messaging application by 2015, and had more than 2 billion users worldwide by February 2020. By 2016 it had become the primary means of Internet communication in regions including Latin America, the Indian subcontinent, and large parts of Europe and Africa.

It allows users to send text messages and voice messages, make voice and video calls, and share images, documents, user locations, and other content. WhatsApp's client application runs on mobile devices but is also accessible from desktop computers, as long as the user's mobile device remains connected to the Internet while they use the desktop app.

Advantages of Social media usage

Like most things, using social media also has its positives and negatives as well, mentioned below are the list of good and bad aspects of social media usage:

Positive aspects of social media

Social media and technology offer us greater convenience and connectivity:

- Staying connected with family and friends worldwide via email, text, FaceTime, etc.
- Quick access to information and content
- Provides opportunities for online learning showcase job skills and seek better avenues.
- Helps involve in civic engagement (fundraising, social awareness, provides a voice)
- Helps in brand creation and marketing
- Provides opportunities to build interests, hobbies and connect with common minded people around the globe.
- Provides opportunities to share talent and skills etc.,

Disadvantages of Social media usage

The nature of social media presents a range of potential issues and challenges with the way it is being used/ misused

- It is often observed that what is seen online may not actually be what it seems. Many times, the danger of strangers and predators lurking online in disguise may pose a huge threat.
- Usage of social media may lead to exposure to cyber stalking, cyber bullying, trolling, which may in turn lead to stress, anxiety, and depression.
- Social media may be addictive, with every emerging news, content, online games, excitement and the entertainment. The continual usage for prolonged hours leads to physical and psychological health issues.

- FOMO or Fear of Missing Out is another issue, which often leads to continual checking of social media sites. The idea that you might miss out on something if you're not online can affect your mental health.
- Social media has become a platform where people share personal images and information and look for public approval and appreciation, leading to self-image issues.
- It is observed that social media usage has also affected digital users' wellbeing if used in an unregulated and unchecked way leading to sleep issues, stress, anxiety, mood swings and other related issues.

It is therefore a must that the digital users become digital aware citizens and follow hygienic digital usage practices limiting their digital footprint to safeguard themselves and their families against possible online dangers, damages, threats and issues.

Vulnerabilities/Limitations of Social media platforms

Anonymity: Ability to communicate anonymously on social media makes it possible for most cyber criminals to be untraceable after defrauding unsuspecting victims.

Lack of geographical restrictions or authentication mechanisms: Lack of geographical limitations or other authentication restrictions, make it easy for cyber criminals to create fake identity on social media to communicate with anyone across the globe.

Social media platforms are used by online fraudsters to create as many social media accounts as possible with different identities and use it for criminal purposes.

Possibility of faster spread of misinformation: Misinformation is false or fake or inaccurate information. In social media fake news has wider coverage, easy access and faster spread of information, which enable fraudsters to spread fake news over the social media.

Also, Malicious software's and websites that look legitimate can easily be shared over social media with as many people as possible within a very short time.

Privacy and security issues: As digital users use these platforms to share their private and sensitive information, plenty of privacy and security issues are being noticed, most of sensitive information that are supposed to be private is now being shared publicly on social media with little awareness of its negative effects or vulnerabilities.

Fertile ground for online scammers and cyber miscreants: The criminal community on the dark web where cyber criminals buy and sell stolen sensitive information is getting bigger because the social media platform has become a fertile ground for online scammers.

Availability of many social networking websites makes it easier for cyber criminals to use their multiple social media accounts to send fraudulent and unsolicited messages to unsuspecting victims.

Cyber Threats related to social media platforms

The sharing of information and coming together of people, with easy access to personal data has brought in new threats for digital users operating on these platforms.

Cyber offences like Fake profiles, Cyber stalking, Morphing, Cyber bullying, Trolling, Cyber grooming etc., are few among them which are targeting the social media users especially women and children with grave and dangerous consequences.

Fake Social Media Profiles: The culprit creates profiles with the name & identity of victim, also he may create a fake profile with a false randomly selected picture and details. The fake profile may be used to spread false or fake information to damage the reputation of the victim, and may also send add friend requests to other friends of victim.

Cyber Stalking: A cyber stalker makes use of internet and electronic means to monitor victim's online activities and tracks whereabouts to harass, intimidate, embarrass, accuse, threaten, commit identity theft or malware attack. The cyber stalker intrudes on user's privacy and may harass victim anonymously using online means like email, social networks, Instant messaging etc.,

Online Trolling: Trolling is posting inflammatory, abusive, controversial, offensive, irrelevant messages against a user to upset / provoke/ lash out or display emotional responses.

Morphing: Morphing is altering or changing the pictures of the person using morphing tools available online.

It is usually seen that online criminals, use the pictures posted by young girls and women and change them for misuse. The altered pictures are then used by perpetrators for blackmailing, creating fake online profile, sexting, sex chats, pornographic content, nude pictures etc.,

Cyber Bullying: Cyber bullying is intimidating online behavior, wherein a person can be targeted on an online public platform with threatening, humiliating, embarrassing and harassing posts or acts.

Online Grooming: Grooming is the process of befriending and establishing an emotional connect in slow, methodical and intentional process of manipulating a person to a point where they can be sexually victimized by the online predator.

Best practices for usage of social media platforms

- Avoid sharing your personal information like address, mobile number, personal mail id and other sensitive identity related information on social media.
- Do not share your personal pictures online publicly on social media accounts
- Never accept friend requests without appropriate verification
- Never click on suspicious links or download anything until you verify the authenticity of the source.
- Use different passwords for different social media accounts and emails.
- Be aware of security and privacy features and enable them on the social media accounts
- Be alert while using social media platforms, if you feel that the comments are being sent from an unknown/anonymous person immediately block them.

- Identify the troll with few points/traits like spelling & grammar mistakes, exaggeration, acting entitled and block them.

Best practices for usage of social media platforms

- Ensure to share personal videos privately and restrict privacy settings to friends only
- Never share any compromising images, posts, videos of yourself to anyone, no matter who they are
- Turn off your electronic devices and web cameras when you are not using them.
- Use two factor authentication with strong passwords and different passwords for different social media accounts.
- Be very cautious when interacting with unknown people online, confirm the identity of the person through your friend's circle.
- Do not accept friend requests from unknown persons.
- Never agree to personally meet a stranger who has befriended you online.
- In case of any uncomfortable experience immediately cut off contact and inform your trusted sources.

Lesson2 : Social Media Hosting Platforms

The 6 best social media management tools in 2024

Social media has been in upheaval for the last 18 months. Twitter is now X, AI is everywhere, Threads is a thing, and Mastodon may or may not be relevant again. Despite the chaos, social media is still one of the most powerful tools available to modern businesses. You can use it to find new clients, drive traffic to your site, and keep in touch with existing customers so that they stay engaged with your business. But with all the drama, the tools you use to keep on top of things are more important than ever.

Use automation to share, engage, and cross-post without lifting a finger

Automate your social media

With social media even more fractured than it was, if you aren't careful, you can waste huge amounts of valuable time trying to manage multiple inboxes across five different apps, post the same things on all the different platforms, and keep on top of everything else. It's next to impossible using regular consumer apps. To do it properly, you need a social media management app.

The best social media management tools allow you to control your full social media presence in a single app. You can automate, analyze, and manage social media accounts, so you can focus on creating the kind of content your audience loves. I put almost 50 social media management apps to the test, and based on my testing this year, here are the six best.

The best social media management tools

- Buffer for straightforward social media scheduling
- Hootsuite for a fully-featured X experience
- Social Pilot for small teams
- Loomly for automating any social media service
- Icon square for visual content
- Sendible for an affordable all-in-one social media management app

Once you've picked a social media management app, you can make it even more powerful and efficient by automating it. Take a look at how you can use automation to improve your social marketing. Or, if you're focused mostly on Instagram, here are 3 ways to automatically post to Instagram for Business.

What makes the best social media management tool?

How we evaluate and test apps

Our best apps roundups are written by humans who've spent much of their careers using, testing, and writing about software. Unless explicitly stated, we spend dozens of hours researching and testing apps, using each app as it's intended to be used and evaluating it against the criteria we set for the category. We're never paid for placement in our articles from any app or for links to any site—we value the trust readers put in us to offer authentic evaluations of the categories and apps we review. For more details on our process, read the full rundown of how we select apps to feature on the Zapier blog.

The problem with social media management software is that it all has the same limits: the features the various social networks give it access to. This means that not only do most social media scheduling tools offer very similar features, but those features vary between the social networks they support. TikTok, for example, gives a totally different set of analytics data than Facebook, while Instagram is different to post to than YouTube.

And that's before we even talk about Twitter—rather, X. Until Elon Musk bought it, Twitter had one of the most permissive APIs. A lot of social media management apps relied on it to offer features like competitor monitoring and social media listening. But those kinds of features now cost around $42,000 per month, so they're only available in some of the most fully-featured enterprise apps or on the most expensive plans.

All this means that when it comes to the best social media manager software, you shouldn't expect wild standout features related to particular social networks. There's no social media management platform that can post directly to a personal Instagram profile or reply to comments on someone else's Facebook Page posts.

Still, there are some key features that the top social media managers have that set them apart. They generally make managing your business's social media presence easy and efficient. In particular, they offer:

- **Support for multiple social networks**, including Facebook, X, Instagram, and TikTok at the very least, though support for Mastodon, Threads, BlueSky, and the other Twitter replacements looks like it might be increasingly important in the future. The goal with any of these apps is to manage as many of your social networks as possible in one app.
- **Powerful scheduling tools**, so you could batch your social media posts at the start of the week or month, and then just let them run. (Access to your social media inboxes so you could reply to customers was a bonus, but not required.)
- **Detailed analytics on how your posts do**. The more expensive the app, the more powerful the analytics I required—at least until they hit the limit of what the social media apps offer. For enterprise apps, for example, I required more powerful X features like social monitoring, where you can scan for posts about your business, or even your competitors. More basic apps can't afford the API access these otherwise require.
- **Cost-effectiveness**. With all social media software limited to offering the same kind of features, high prices need to be justified with additional features, stellar customer support, and team and collaboration tools.

AI also looks like it's going to have a huge effect on how companies manage social media, but for now, I wasn't super impressed with many of the apps that made a big deal of it. Most apps that allow you to schedule your posts already employ some kind of AI to find the best times, and the apps that aimed to write social media posts for you were all very similar, and not significantly better than using ChatGPT. If you want an AI-powered social media manager, check out our list of the best currently available. And while many of the apps on this list are adding AI features, they're all still tools that enable you to post whatever you want to social media—whether you, an AI, or an intern wrote it.

Every tool that made the list has a free trial—and sometimes even a free plan—so don't be afraid to dive in and try them out. The best social media management app for you will be the one that best fits your needs and price point.

I've been covering tech for over a decade and updating this list for the past three years, so I've spent dozens of hours exploring social media marketing software. After putting them through their paces, comparing the features and user experience they offer against other similarly priced apps, and generally assessing how good (or bad) they are to use, these six social media planning tools are the ones I think will be the best fit for the majority of businesses.

The best social media management tools at a glance

	Best for	Standout feature	Pricing
Buffer	Straightforward social media scheduling	"Link in bio" service called Start Page	Free plan available; from $6/month per channel
Hootsuite	Managing X with all the features you're used to	Intuitive analytics	From $99/month
Social Pilot	Small teams to schedule posts	Robust features at an affordable price	From $30/month
Loomly	Custom sites	Custom social network allows you to post to any channel via Zapier	From $42/month
Icon square	Visual posts	Great Instagram integrations	From $39/month
Sendible	An affordable all-in-one social media management app	Nails the basics	From $29/month

Best social media management tool for straightforward social media scheduling

Buffer (Web, iOS, Android)

Buffer pros:

- Dead simple scheduling for all your social media accounts
- Decent free tier and per-channel pricing keeps costs low for small businesses

Buffer cons:

- Buffer has a history of changing up its pricing and features quite drastically

Buffer is one of the longest-running social media tools aimed primarily at scheduling posts, although it's gone through multiple updates, shifts, and iterations to keep up with the times. It now supports Facebook, X, LinkedIn, Instagram, TikTok, Mastodon, Pinterest, and Google Business Profile, as well as integrating with Shopify so you can see how your social media posts affect your store. Free users can connect up to three social accounts, including Facebook Pages and groups, though you're limited to scheduling 10 posts for each channel.

While Buffer's free plan is good enough for small businesses to line up a week or so's worth of posts, if you want a more complete social media management solution or to control more than three social media accounts at once, you'll need to pay $6/month per social channel for the Essentials plan. This gives you access to detailed analytics and engagement features, which let you interact with your audience directly from Buffer—just don't expect to be able to reply to posts on X anymore. (Also, if you want to bring team members on board, Buffer goes up to $12/month per social channel.)

In addition to the core scheduling, analytics, and audience management features, Buffer also offers its own "link in bio" service called Start Page. This allows you to quickly create and update a small mobile-friendly website with your latest content or even products you want to sell. It's not a new idea, but it's handy having it included as part of your social media management app—especially as it allows you to get real-world results from your social media posts.

Like many other social media apps, Buffer has added an AI Assistant. It can generate posts, rephrase your drafts, and otherwise do all the other AI content generating you'd expect. It's well integrated, though I found it didn't really take my instructions to shorten things or make things more casual on board. You may find it nice to have, but Buffer has a lot more going for it.

With Zapier, it's easy to link any other service you use to Buffer. For example, you can automatically add new blog posts to your schedule, either directly from WordPress or through an RSS feed, or add new Instagram photos to Buffer. Learn how to automate Buffer with Zapier, or get started with one of these pre-made workflows.

Buffer price: Free plan includes 1 user, 3 accounts, and 10 queued posts per profile; from $6/month per social channel for the Essentials plan that offers 2,000 queued posts per profile; from $12/month per social channel for the Team plan that offers unlimited users.

Best social media management tool for managing X (Twitter)

Hootsuite (Web, iOS, Android, Chrome)

Hootsuite pros:

- A complete social media management platform that includes scheduling messages, inbox monitoring, and managing posts
- Best-in-class X integration

Hootsuite cons:

- Expensive

If you're looking for a complete solution to all of your social media management needs, Hootsuite will cover all your bases. It's an all-in-one social media app: you can use it to schedule messages, create and manage potential posts, monitor your various inboxes, run boosted post advertising campaigns, and pretty much anything else you would want a social media management app to do.

Crucially, Hootsuite is one of the few apps that fully supports X (formerly Twitter). If you're used to being able to reply to tweets, keep an eye on your mentions, or see what people are posting about your competitors through your social media management app, with Hootsuite, you can still do it.

In addition to X, Hootsuite supports Facebook, YouTube, Instagram, LinkedIn, TikTok, and Pinterest—within the bounds that the given social media companies allow. It's easily one of the most expensive apps on this list, but it offers the features to back it up.

Analytics are a particular stand out. In addition to offering a full suite of analytics tools that can help you understand how your social media accounts are performing, Hootsuite also pulls in statistics from other businesses in similar industries, so you can see how you stack up to the competition.

Like many social media management apps, Hootsuite is embracing AI. Only Writer AI can repurpose your top posts, offer up inspiration, write posts for you, turn your blog posts and other content into posts, or just generate whatever you need it to. It works, and it's among the more polished AI offerings I tested.

Hootsuite is really aimed at businesses that can convert social engagement into revenue. It's already the most expensive app on this list—and it can get even pricier if you add any paid apps. Its standout features aren't so much what it does, but how well it does them. It's fast and easy to work with, and it's one of the most widely used social media management apps for good reason.

Hootsuite also integrates with Zapier, so you can do things like automatically create new messages directly from a spreadsheet or RSS feed.

Hootsuite price: From $99/month (billed annually) for the Professional plan that includes 1 user, 10 social profiles, and unlimited scheduling; team plans start at $249/month for three users (billed annually).

Hootsuite and Buffer are both robust platforms that offer some similar features. If you're trying to decide between the two, check out our social media management app showdown: Hootsuite vs. Buffer and take a look at our roundup of the best Hootsuite alternatives. Or, for larger companies who don't mind paying more, Sprout Social is another great social media management app with one key feature Hootsuite doesn't offer: phone support. Plans start at $249/month.

Best social media management tool for small teams to schedule posts

Social Pilot (Web, iOS, Android, Chrome, Firefox, Edge)

Social Pilot pros:

- Offers team features for a significantly better price than most competitors
- Doesn't skimp on other features, like scheduling, inbox monitoring, and analytics

Social Pilot cons:

- Web app feels a bit basic

With many apps in this category, if you want to delegate social media management to someone else in your organization, you'll have to pay a serious premium for the privilege—Hootsuite, for example, charges $3,000 per year for a team of three and thousands of dollars more if you want to have some kind of post approval workflow. (You could always give other people your Hootsuite login credentials to save money, but that comes with a whole host of security concerns.) With Social Pilot, though, the Small Team plan starts at $50/month and includes two other team members who can manage up to 20 social media accounts. That's 80% less than Hootsuite—though it does lack some polish and doesn't support X as well.

Still, although Social Pilot's user interface is on the simple side of things, it's entirely functional and supports Facebook, X, Instagram, YouTube, LinkedIn, TikTok, Pinterest, Google Business Profile, and even Tumblr. The sidebar has tabs for managing your posts and accounts, accessing your inboxes or analytics, lining up content from RSS feeds, and configuring your team and client setup. All the features you'd expect of a good social media management app are there, including the almost obligatory AI assistant—though it's the Team options that are most compelling.

Different team members can be assigned roles, based on what you want them to be able to do. For example, you can set things up so content creators have to submit all posts for approval, or allow managers to edit and schedule but still retain final approval for yourself (again, features Hootsuite charges thousands of dollars for). This allows you to delegate responsibilities to the people you work with, without having to give them free rein.

Social Pilot also integrates with Zapier, so you can automatically add content to your Social Pilot queue whenever something happens in the other apps you use most.

Best social media management tool for custom sites

Loomly (Web, iOS, Android)

Loomly pros:

- Custom social network feature allows you to post to any channel you can imagine using Zapier
- Each social network can have its own separate scheduling calendar

Loomly cons:

- Otherwise, it's not the most advanced or polished app on the list

Loomly is a decent social media tool with one ridiculous, standout feature: you can create a custom social network that allows you to post to almost any service as part of your social media management. It hits all the other bases around scheduling, having a multi-service inbox, and basic analytics, but it's this one feature that gets it on our list.

With Loomly, you can have multiple scheduling calendars for your different social media needs. And with each calendar, you can add a Facebook, Twitter, Instagram, Pinterest, LinkedIn, Google Business Profile, Snapchat, YouTube, and TikTok account—and, of course, a Custom Channel.

The Custom Channel feature works using Zapier as the backend. This means you can use it to post to other services like Reddit, send an email to your boss, or near enough anything else you can imagine. I won't even pretend I'm clever enough to come up with all the ways this could be used. If you want to take it even further, here are some other things you can do when you connect Loomly to Zapier.

Obviously, there are other ways to automate posting to Reddit or sending emails to your boss. What's interesting about Loomly is how this can tie into your other social networks. It allows you to post the same content on Twitter, Instagram, and your custom network at the same time without having to manage multiple apps.

Loomly price: From $42/month for the Base plan with 2 users and 10 social accounts.

Best social media management tool for visual social networks

Icon square (Web, iOS, Android)

Icon square pros:

- Some of the best Instagram features in any app at any price
- Competent across the board

Icon square cons:

- Features for other social media accounts are a bit lackluster

If you really prioritize super visual social networks like Instagram and TikTok, then Iconosquare might be the app for you. While it supports Facebook Pages, X accounts, and LinkedIn Company pages, it definitely puts more focus on visuals than it does text posts.

That's clear in the kinds of things you can schedule. With an Instagram account, you can schedule single photo posts, carousels of multiple photos, Reels, and Stories—and you can cross-post them all to multiple Instagram accounts at the same time. If you want, you can also schedule the first comment.

TikTok isn't quite as thoroughly supported, but you can still schedule posts and pull content from a shared media library. Of course, you can also share versions of all these things on Facebook or X, but it feels like a step back in terms of features.

Similarly, Icon square has surprisingly good reports, analytics, and even social listening features—but Instagram is by far the most supported. You can track your competitors, monitor specific hashtags, see when you're tagged, and loads more.

And like with almost every other app, you can use an AI to generate captions. But for now, it's in beta and more limited than some of the other offerings.

Icon square price: From $39/month for the Single plan with 1 user and 3 social profiles.

Best affordable all-in-one social media management tool

Sendible (Web, iOS, Android)

Sendible pros:

- Nails the basics at an affordable price
- Easy to use

Sendible cons:

- Lacks a few features of more expensive apps

Sendible is one of the best affordable all-in-one social media management apps. It supports Instagram, Facebook, TikTok, LinkedIn, Google Business Profile, YouTube, WordPress, and X, and for the most part, offers a similar—if stripped down—experience to apps like Hootsuite that cost significantly more.

Take reports. While you won't get the same deep dives into your competitors, Sandile's quick reports give you a good overview of how your posts are performing—at least on the social networks it can support. Given the price point, there's no deep X analytics available, but one nice integration is Google Analytics, so you can see how social media is driving traffic to your site.

Similarly, you can schedule posts to go out at a specific time or get added to a queue to get posted automatically at the next appropriate slot, reply to comments on your Instagram, Facebook, and LinkedIn posts, and add posts automatically from RSS feeds. It's nothing that the other apps don't do, but it's well implemented and easy to use.

And really, that's what makes Sendible stand out: it does the basics really well, at a solid price. For many small businesses just looking to stay on top of social media, that is probably enough.

Sendible Price: From $29/month for the Creator plan with 1 user and 6 social accounts.

Which social media management tool is best for you?

As with most things, there's no one best way to manage social media—just the most appropriate for your business needs. These apps are all limited by the access the various social media networks offer to third parties, so most social media manager tools are capable of doing pretty similar things in much the same ways. I suggest you check out the free trials for any of the apps that look like they could work for you and go from there.

Ready to dive even further into marketing automation? Here are 4 ways to use marketing automation to grow your business.

Related reading:

- The best AI tools for social media management
- How to create a social media post with AI for free
- How AI can help you repurpose content for social media
- The best Twitter alternatives
- Social media marketing examples to inspire your next campaign
- The best campaign management software

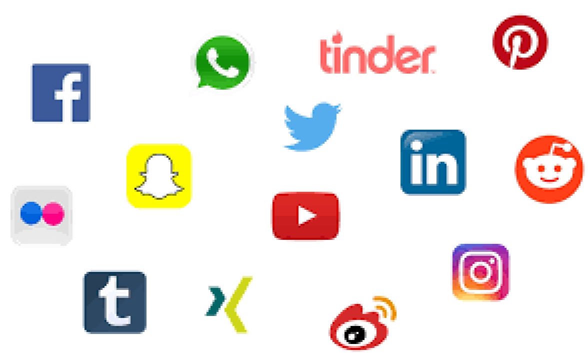
This piece was originally published in September 2017 by Andrew Kunesh and has also had contributions from Tim Brookes. The most recent update was in November 2023.

Lesson3 : Social Media End User Platforms & Applications

Must-have Social Media App Features You Can't Ignore

In a world where over 4.89 billion people use social media – a number projected to soar to almost 6 billion by 2027 – staying ahead of the curve isn't just a luxury; it's a necessity. But what propels a social media app from good to extraordinary? It's all in the features – those innovative, user-centric elements that convert an ordinary platform into an epicenter of engagement, creativity, and community. Surprised? There's more to the story.

Here's a sneak peek at what we'll explore:



- **Key Features of Successful Social Media Apps:** What distinguishes the best?
- **User Engagement Mechanics:** Personalized feeds, push notifications, interactive content, and robust networking.
- **AI and Machine Learning:** Pioneering personalized content and advertising.
- **Multimedia Capabilities:** Driving user retention through diverse content.
- **Social Commerce Functionalities:** Merging e-commerce with advertising for revenue.
- **User Analytics and Feedback:** Strategic tools for decision-making and app enhancement.
- **Future Trends:** Innovations shaping the next era of social media apps.

P.S., speaking of pioneering the future, let's shine a light on Miquido. With a team of over 200 passionate professionals, Miquido marries your business goals with the latest tech solutions. It's more than social media and entertainment app development; it's about crafting impactful digital experiences. Join us on this journey and see how Miquido's expertise can skyrocket your digital strategy.

7 Key Social Media App Features

In the dynamic realm of social media, certain social media app features consistently elevate apps to success. Let's delve deeper into these essential elements, starting with the cornerstone: user-centric design.

1. User-Centric Design

- **Intuitive Interface:** Leading social media apps, for instance, Instagram and TikTok, are prime examples of intuitive interfaces. They combine aesthetic appeal with practicality, featuring clean layouts, straightforward navigation, and a minimalist design philosophy. A study shows that 94% of first impressions are design-related, underscoring the importance of an interface that's not just visually striking but also user-friendly from the get-go. This means new social media applications fail because of a poor design that's not user-centered.
- **Personalization:** The era of generic content is over. Successful apps leverage algorithms and user data to offer tailored experiences. Think about how YouTube recommends videos based on your past views. These approaches enhance user engagement and boost content relevancy, keeping users hooked.
- **Accessibility:** Inclusivity is key. Top apps integrate features such as voice commands (as seen in WhatsApp), screen readers, and adjustable text sizes, catering to a diverse user base. This isn't just about compliance; it's about reaching a wider audience and ensuring that everyone can enjoy the app regardless of their abilities.

Pro Tip: Implement AI and Machine Learning

To make your new social media app stand out, consider implementing AI and machine learning for advanced personalization. Tools such as TensorFlow or IBM Watson can analyze user behavior to tailor content, thereby increasing engagement and user satisfaction.

Tool Suggestion: User Testing Platforms

Utilize user testing platforms such as Lyssna or UserTesting.com. These tools provide invaluable insights into how real users interact with your app, allowing you to refine the interface and user experience based on actual data and feedback.

Remember, a social media mobile app that's intuitive and enjoyable is the best social media app that users will return to time and again.

2. Robust Security and Privacy

In an age where data breaches and privacy concerns are front and center, robust security and privacy features are non-negotiable for successful social media apps.

- **End-to-end Encryption:** Popular social media apps similar to WhatsApp and Signal have set the standard with end-to-end encryption, ensuring that user conversations remain private. This feature has become a benchmark for user trust and app credibility.
- **Transparent Data Policies:** Users are increasingly savvy about their data. Apps that clearly communicate how user data is used and protected, like LinkedIn, gain user trust. Transparency isn't just ethical; it's smart business.
- **Regular Security Updates:** Ongoing updates and patches, as practiced by Facebook, demonstrate a commitment to security. It's not just about fixing vulnerabilities; it's about staying ahead of potential threats.

Pro Tip: Regular Security Audits

Conducting regular security audits can be a game changer. Tools like Nessus or Qualys help identify vulnerabilities before they become problems, ensuring your social media mobile app remains a safe space for users.

Stat Alert: A recent survey revealed that 81% of consumers would stop using a social media platform following a data breach. This highlights the paramount importance of security in retaining user trust and loyalty.

3. Easier Search

In the vast ocean of social media content, easier and more efficient search functionality is a lifeline for users. It's not just about finding what you're looking for; it's about discovering what you didn't know you needed.

- **Advanced Search Algorithms:** Platforms such as Twitter and Pinterest have mastered this with their advanced search algorithms, enabling users to find specific content quickly and accurately. This feature is key to enhancing user experience and engagement.
- **Search Filters and Tags:** The ability to filter search results by various parameters (like date, location, or hashtags, as seen on Instagram) allows users to streamline their search process, making it more user-friendly and less time-consuming.
- **Auto-Suggestions and Predictive Search:** Take a cue from Facebook, where auto-suggestions based on previous searches and user activity make the search experience faster and more intuitive.

Pro Tip: Leverage Natural Language Processing (NLP)

Implementing Natural Language Processing (NLP) can significantly enhance your search feature. NLP allows the social media platform to understand and process user queries in a more human-like manner, offering more relevant and contextual results.

Tool Suggestion: Elasticsearch

Consider integrating tools such as Elasticsearch into your platform. Elasticsearch can handle complex search queries and offers fast, scalable search capabilities, making it an invaluable asset for any social media app.

4. Seamless Social Sharing and Connectivity

In the interconnected world of social media, seamless sharing and connectivity features are vital. They're the threads that weave the social fabric together, turning individual experiences into collective moments.

- **Effortless Sharing Options:** Apps like Instagram and Twitter excel in this, offering straightforward sharing functionalities. Whether it's reposting a story or tweeting a link, the ability to share content across platforms with a few taps is key to user engagement and content virality.
- **Cross-Platform Compatibility:** The power to share content not just within the social app but across different platforms (like sharing Instagram posts to Facebook) broadens the reach and impact of content, making it more accessible to a wider audience.
- **Real-Time Interaction Features:** Social media app features such as live streaming on Facebook and real-time commenting on YouTube amplify user interaction, fostering a sense of community and immediacy.

Pro Tip: Integrate Share APIs

To enhance sharing capabilities, integrate share APIs from various social media platforms. This not only simplifies content sharing but also ensures that your social app stays connected with other major platforms, increasing its utility and appeal.

5. Profile Customization to Express Individuality

Profile customization is more than a feature; it's a canvas for self-expression. In today's social media landscape, giving social media app users the ability to personalize their profiles is a game-changer. It's about making a space feel uniquely theirs.

- **Diverse Customization Options:** Facebook and LinkedIn offer a range of customization features, from profile pictures and cover photos to bio sections and featured content. These options allow users to create a personal digital identity that reflects their individuality.
- **Theme and Layout Choices:** Apps, for example, Tumblr take customization further by allowing users to alter themes and layouts. This level of personalization makes each user's experience distinct and engaging.
- **Interactive and Dynamic Elements:** Incorporating interactive elements like story highlights on Instagram or custom playlists on Spotify adds another layer to profile customization, making it more dynamic and reflective of the user's current interests.

Pro Tip: User-Centric Design Tools

Incorporate user-centric design tools in your app, like drag-and-drop interfaces for profile customization. This empowers users to create their unique space effortlessly, enhancing their attachment to the app.

Tool Suggestion: Advanced UI Libraries

Use advanced UI libraries and SDKs that offer a wide range of design elements and customization options. These tools become the best mobile app retention strategies that can significantly simplify the development process while providing users with extensive customization capabilities.

Statistic to Consider: A survey revealed that 77% of users feel more connected to a social media app when they can personalize their profiles, underscoring the importance of customization in user retention and satisfaction.

6. Automated Content Moderation

In the digital age, where content is king, automated content moderation stands as the gatekeeper of online safety and community standards. This feature is crucial in fostering a respectful and secure environment for users.

- **AI-Driven Moderation Systems:** YouTube and Facebook use sophisticated AI algorithms for content moderation. These systems can quickly identify and flag inappropriate or harmful content, ensuring a safer online space for users.
- **User Reporting and Feedback Loops:** In addition to AI, empowering users to report content violations, as seen on Reddit, plays a pivotal role in content moderation. This user involvement creates a sense of community responsibility and enhances the effectiveness of moderation efforts.
- **Regular Policy Updates:** The digital landscape is constantly evolving, and so are the challenges of content moderation. Regularly updating community guidelines and moderation policies, as Twitter does, ensures that the platform remains a safe space for expression and interaction.

Pro Tip: Implement a Hybrid Moderation Approach

Combining AI with human oversight can significantly improve content moderation. While AI provides scalability and speed, human moderators offer nuanced understanding and judgment, leading to more effective and accurate moderation.

Tool Suggestion: Content Moderation Solutions

Consider using content moderation solutions like Microsoft Content Moderator or Clarified. These tools provide powerful AI capabilities for detecting and filtering inappropriate content, while also offering customization options to align with your platform's specific needs.

By integrating automated content moderation into your social media app, you're not just curating content; you're cultivating a safe and respectful digital ecosystem. This not only protects users but also enhances the overall quality and credibility of the platform.

7. Open Forum to Foster Community and Dialogue

The feature of an open forum in social media apps is like a digital town hall – it's where conversations flourish and communities are built. In today's social landscape, providing a space for open dialogue is essential for fostering a sense of belonging and exchange.

- **Discussion Threads and Comment Sections:** Reddit and Twitter excel in this, offering structured spaces for discussion threads and comment sections. This format encourages active participation and exchange of ideas among users.
- **User-Generated Content Spaces:** Encouraging user-generated content, as seen on platforms like Instagram and TikTok, allows users to not only express themselves but also engage with the community through likes, shares, and comments.
- **Moderated Discussions for Quality Control:** While open forums are valuable, quality control is crucial. Implementing moderation, like LinkedIn's professional community standards, ensures discussions remain constructive and respectful.

Pro Tip: Implement AI for Sentiment Analysis

Using AI-driven sentiment analysis tools can help monitor the tone and quality of discussions in your open forum. This technology can flag potentially harmful or off-topic content, maintaining a healthy and engaging dialogue.

Tool Suggestion: Community Management Platforms

Consider integrating community management platforms like Discourse or Vanilla Forums. These tools offer robust features for managing and moderating forums, enhancing the user experience and fostering a vibrant community.

Miquido's Vision: As a mobile app development company, we understand the power of community. Our approach includes creating and managing open forums that not only allow for free expression but also maintain a respectful and engaging discourse. Let's collaborate to develop an app that's more than a platform – it's a community.

User Engagement Mechanics to Drive Active Participation

User engagement mechanics are the heartbeat of social media apps. They're what keep users not just coming back, but actively participating. Let's explore the first of several critical engagement mechanisms.

Personalized Feeds

- **Algorithm-Driven Content Delivery:** Apps such as Facebook and Instagram use sophisticated algorithms to curate personalized feeds. These algorithms analyze user interactions (likes, shares, comments) to present content that's likely to keep users engaged and interested.
- **Dynamic Content Updating:** Ensuring that the feed remains fresh and relevant is key. Successful apps frequently update content, avoiding redundancy and keeping users intrigued with new posts and suggestions.

- **User Preference Settings:** Allowing users to tailor their feed settings, as seen on X (formerly Twitter), gives them control over what they see. This enhances their experience by aligning the content with their interests and preferences.

Pro Tip: Balance is Key

Finding the right balance in content curation is crucial. Over-personalization can lead to echo chambers, while too little can make the feed irrelevant. Regularly updating algorithms and offering user feedback options can help maintain this balance.

By focusing on personalized feeds, you're not just showing user's content; you're showing them content that resonates. This not only keeps them engaged but also deepens their connection to the app.

AI and Machine Learning to Revolutionize User Experience

Harnessing the power of AI and Machine Learning (ML) is transforming how social media apps engage with users. This technology is not just a feature; it's a catalyst for creating smarter, more intuitive user experiences.

Revolutionizing Content and Advertising with AI

- **Content Personalization:** AI algorithms, like those used by Netflix, analyze user behavior to recommend content. This level of personalization keeps the platform relevant and engaging for each individual user.
- **Targeted Advertising:** AI-driven advertising, as seen on social networking sites like Instagram, delivers ads that are relevant to the user's interests and online behavior, enhancing the likelihood of user engagement and conversion.
- **Smart Chatbots:** AI-powered chatbots, utilized by apps such as Slack, provide instant customer support and user interaction, enriching the overall user experience.

Enhancing User Experience with Machine Learning

- **Automated Content Curation:** ML algorithms can categorize and prioritize content based on user preferences, similar to YouTube's video recommendations, ensuring users are presented with content that resonates with their interests.
- **Behavioral Analysis for Improved Interactions:** By analyzing user data, ML can predict user preferences and tendencies, tailoring the app experience to suit individual needs.
- **Language Processing for Global Reach:** Advanced ML models enable apps to understand and process multiple languages, breaking down barriers in user communication and content consumption.

Multimedia Features of a Social Media App to Enrich User Engagement

The integration of multimedia capabilities in social media apps has revolutionized the way users interact and consume content. Let's dive into how these best social media features enhance the user experience.

Elevate Interaction with Diverse Media Formats

- **Video Integration:** Following the lead of platforms like TikTok and YouTube, incorporating video features is vital. These allow users to create, share, and engage with dynamic content, keeping the platform lively and current.
- **High-Quality Image Sharing:** Instagram emphasizes high-quality image sharing, enabling users to upload and interact with visually stunning content, fostering a visually rich user experience.
- **Interactive Stories and Live Streaming:** Snapchat's Stories and Facebook Live introduce real-time engagement, allowing users to share moments instantly and interact with audiences in real time.

Maximize User Retention through Engaging Content

- **Augmented Reality (AR) Experiences:** AR features, such as Instagram's filters, offer unique, interactive experiences, adding a layer of creativity and fun to the user experience.
- **Sound and Music Integration:** Spotify and TikTok show the importance of integrating sound and music, giving users a more immersive and expressive way to share and engage. I

At Miquido, we understand the power of multimedia in captivating audiences. Our team specializes in integrating diverse media formats, from AR to high-fidelity audio, ensuring your app provides a rich, engaging, and memorable user experience. Partner with us to get custom app development services and create an app that's not just a platform, but a multimedia powerhouse.

Social Commerce Functionalities to Monetize Engagement

Social commerce is not just a feature; it's a revolution in how users interact with and purchase products on social media platforms. Let's enhance our understanding with deeper insights and actionable strategies.

Transforming Browsing into Buying for A Seamless Experience

- **Integrating E-Commerce:** Instagram and Pinterest have seamlessly integrated e-commerce, transforming passive scrolling into active shopping. Users can now discover products through influencer endorsements, targeted ads, and direct shopping features within their social feeds.
- **The Role of Influencers:** Influencers play a crucial role in social commerce. Their endorsements can dramatically boost product visibility and credibility, as seen with the success of brand partnerships on platforms like TikTok.
- **Streamlined Shopping:** The integration of features like Instagram's 'Shop Now' buttons simplify the purchasing process, allowing users to buy products without leaving the app.

This not only enhances user convenience but also increases the likelihood of impulse purchases.

Utilize user data to create targeted advertising campaigns. By analyzing user behavior and preferences, a mobile app developer can tailor ads to match user interests, significantly increasing conversion rates.

Consider using platforms such as Shopify or BigCommerce to integrate e-commerce functionalities into your app. These tools offer robust solutions for managing product listings, payments, and customer interactions, streamlining the shopping experience.

A recent survey revealed that 30% of online shoppers are likely to make a purchase directly through social media platforms, highlighting the growing importance of social commerce in the digital marketplace.

Driving Revenue through User Interaction

The integration of direct purchase options has opened new avenues for monetization. In-app shopping features, exemplified by Facebook Marketplace, not only streamline the buying process but also keep users engaged on the platform, turning browsing time into buying time.

User Analytics and Feedback Are Key to Continuous Improvement

In the ever-evolving world of social media, user analytics, and feedback are invaluable for understanding and enhancing the user experience. This data-driven approach helps in making informed decisions that align with user needs and preferences.

Understand User Behavior through Analytics

- **Tracking Engagement Metrics:** Google Analytics helps in tracking user engagement metrics such as time spent on the app, frequency of visits, and interaction rates. This data provides insights into user behavior, guiding improvements, and feature updates.
- **Segmentation for Targeted Strategies:** Segmenting users based on their behavior and preferences allows for more targeted and effective strategies. This can lead to more personalized experiences, as seen in apps like Spotify, where listening habits influence recommended playlists.
- **A/B Testing for Optimized Features:** Utilizing A/B testing tools like Optimizely helps in understanding what features or changes resonate best with the audience, ensuring that updates are user-centric and impactful.

Leverage Feedback for Growth

- **Incorporating User Surveys:** Direct feedback through user surveys can reveal what users love and what they want improved. This direct line of communication, as used by apps like Duolingo, is crucial for user satisfaction and retention.
- **Community Forums for Collaborative Development:** Platforms such as Discord use community forums to gather user feedback, fostering a collaborative environment where users feel heard and valued.

- **Proactive Response to Feedback:** Actively responding to user reviews and feedback, not just collecting it, is vital. This shows users that their opinions matter, building loyalty and trust.

Future Trends That Will Shape the Next Era of Social Media

As we look to the horizon of social media, emerging trends in mobile app development are set to redefine how we interact, share, and connect online. Here are some key trends that are shaping the future of features of social media app:

- **Augmented Reality (AR) Experiences:** AR is transforming user interactions, offering immersive experiences that blend the real and virtual worlds. Apps, for instance, Snapchat are leading the way, but soon, more platforms will integrate AR for interactive content and advertising.
- **Voice and Conversational Interfaces:** The rise of voice-activated assistants and chatbots signifies a shift towards more natural, conversational user experiences. Expect to see social media apps integrating voice commands and chat interfaces for easier, more intuitive interactions.
- **AI-Powered Content Creation:** AI isn't just for content curation; it's moving towards content creation. With tools such as OpenAI's GPT models, future social media platforms may offer AI-generated content, tailored to individual user preferences.
- **Privacy-First Networking:** In response to growing data privacy concerns, a new wave of social media networks focusing on privacy and security is emerging. These apps will prioritize user consent and data protection for a protected social media presence, appealing to privacy-conscious users.
- **Virtual Reality (VR) Social Spaces:** Following the footsteps of platforms similar to VRChat, social media will increasingly venture into VR, offering fully immersive virtual environments for users to interact and engage in.
- **Blockchain and decentralized social media:** Blockchain technology promises a new era of decentralized social media, where users have more control over their data and content. This trend could lead to more transparent, secure, and user-centric social platforms.
- **Eco-conscious Platforms:** With a growing emphasis on sustainability, future social media apps may focus on eco-friendly practices, from reducing digital carbon footprints to promoting environmental awareness among users.

To further discover current industry trends, download this FREE Social Mobile Apps Report.

Stay Ahead in Features of A Social Media App with Miquido

As we've journeyed through the dynamic landscape of social media app features, it's clear that staying ahead of the curve is about embracing innovation and user-centric design. You're now armed with insights to navigate this exciting terrain successfully.

Let’s recap on features of a social media app:

- **User-Centric Design:** The core of a successful app.
- **Robust Security:** Essential for trust and loyalty.
- **Efficient Search Features:** For a seamless user experience.
- **Seamless Social Sharing:** Fosters community and connectivity.
- **Profile Customization:** Enables personal expression.
- **Automated Content Moderation:** Maintains a safe online space.
- **Open Forum Features:** Encourages community dialogue.
- **Engaging User Mechanics:** Keeps the audience captivated.
- **AI and Machine Learning:** Drives innovation and personalization.
- **Multimedia Capabilities:** Enriches user engagement.
- **Social Commerce Functionalities:** Opens new revenue streams.
- **User Analytics and Feedback:** Guides improvement and growth.
- **Future Trends:** Prepares for the next digital wave of social media app development.

Now that you’re equipped with the knowledge of what makes a social media app truly exceptional, it’s time to turn these insights into reality. And who better to partner with than Maqueda? Our expertise in developing cutting-edge social media apps ensures that your platform is not just a part of the trend but ahead of it. Let Maqueda be your guide in this ever-evolving digital journey, where innovation meets practicality.

Lesson4 : Social Media Standards and Protocols

What is social media protocol?

A social media policy is a strategic document that delineates guidelines for the use and management of social media within your organization. At its core, it's the linchpin that holds together your business's online presence and reputation.

Social Media Policy: Top 10 Things To Consider

A social media can be a great tool for promoting your Australian business, but things can go seriously wrong very quickly if proper procedures aren’t in place for all employees and contractors (even while “off the clock”).

This is why it's crucial to have a social media policy in place to establish guidelines on how social media is used and managed within the organization. On this page, we'll explore the indispensable need for it in the workplace and shed light on 10 essential aspects to include in your social media policy.

hat is a social media policy?

A social media policy is a strategic document that delineates guidelines for the use and management of social media within your organization. At its core, it's the linchpin that holds together your business's online presence and reputation.

More than just a set of rules, it serves as a compass, ensuring that every individual associated with your business understands the ground rules and expectations. Whether representing the organization directly or sharing content that could be linked to it, employees and contractors need to be well-versed in the dos and don'ts of social media engagement.

Without these explicit guidelines, individuals may unwittingly jeopardize the reputation of your business. This lack of awareness can lead to the "I wasn't told" scenario, where employees operate without a clear understanding of the consequences.

A social media policy, therefore, becomes a preemptive measure, eliminating uncertainties and establishing a robust framework that minimizes risks associated with both work-related and personal social media use.

In the following sections, we'll delve deeper into the components and benefits of a comprehensive social media policy, equipping business owners with the knowledge needed to navigate the intricate world of online engagement.

1. Clearly define who the social media policy applies to

Your social media policy should cover all employees and extend to individuals nominated by your business, such as contractors who may have access to or could be associated with the organization. It's about creating a wide safety net that ensures anyone connected to your business understands the rules.

Importantly, this policy isn't confined to the traditional nine-to-five. It extends beyond work hours, encapsulating online conduct during personal use – what we often refer to as "off-the-clock" engagements. Why? Because the impact of social media reverberates beyond the confines of the workplace.

What your employees say or share online can have profound effects on your business. Hence, it's not just a guideline for the office; it's a compass for professional conduct across the digital sphere.

2. Control access to social media accounts

Social media is a great way to engage with current and potential clients and also to share content, but it's so important to place limits on who has access to it and can publish on behalf of your business. Many businesses' reputation has been significantly affected by rogue employees or contractors.

A social media policy should specify who is authorized to use your business' social media accounts and any unauthorized use is prohibited. It should also nominate specific individuals who are solely permitted to create and post material.

Limiting access to social media accounts provides extra security because only employees or contractors that are well-informed of their obligations and responsibilities are using the business' social media accounts and there are severe consequences for breaches of the policy.

Scott Bartosiewicz and Chrysler

The employees who have access to the social media accounts need to be very careful they don't post something, mistakenly thinking they are on their personal account, when in fact they are signed into their employer's account.

Scott Bartosiewicz, a former social media strategist for New Media Strategies, made that mistake when he was logged in to Chrysler's Twitter account, mistakenly thinking he was using his personal account, and tweeted, *"I find it ironic that Detroit is known as the #motorcity and yet no one here knows how to f***ing drive".*

Not surprisingly, Scott's employment was terminated and even worse – his employer, New Media Strategies lost its contract with Chrysler. ('Man fired over obscene Chrysler Tweet is sorry', NBC News).

3. Establish the parameters for acceptable use of social media

It's imperative to set clear standards for what constitutes acceptable and unacceptable use of social media. Your social media policy should articulate these expectations clearly:

Upholding the good reputation

Employees must safeguard the business's reputation. No posts that could tarnish the image or integrity of the company.

Logo and branding etiquette

No company logo or branding on any social media platform without prior approval. Consistency is key, and it starts with the right permissions.

Respect and courtesy

Interactions online should mirror the professionalism expected in person. Respect others' opinions and act courteously, avoiding discrimination, defamation, bullying, or harassment.

Content standards

Posts should steer clear of anything inappropriate, offensive, or crude. Humor is subjective, and it's best to err on the side of caution.

Privacy matters

Maintain the privacy of personal information about employees, clients, or customers. What happens online stays online, respecting the confidentiality of all parties involved.

Intellectual property and confidentiality

A firm stance against infringing on others' intellectual property or breaching confidentiality. Upholding ethical standards is non-negotiable.

Learning from Elon Musk's tweet

A clear example of an inappropriate use of social media is a tweet posted by Elon Musk, of all people, stating: *"Despite intense efforts to raise money, including a last-ditch mass sale of Easter Eggs, we are sad to report that Tesla has gone completely and totally bankrupt."*

The tweet caused Tesla's share price to fall by 5.1 percent ('Elon Musk's tweets bring controversy, nearly 30 million followers,' Reuters). It's just a good example of what a big impact a few keystrokes can have – even if in jest.

4. Maintain the security of social media channels

There are many areas that pose risks to the security of social media accounts, such as malware attacks, social media hackers, third party apps and mobile phones.

Your social media policy should also include a set of guidelines outlining which personnel have access to account passwords, how often the passwords are changed and how often the anti-virus software is updated.

It should identify the various security risks and how to address them, as well as include an action plan of what to do in the event of a security breach. This way people are made aware of the potential security risks and a clear action plan to be followed in case of breach, whatever it might be.

5. Protecting and respecting intellectual property

This is a must to include in a social media policy. Employees and contractors must be crystal clear on the dos and don'ts when it comes to using social media and respecting the intellectual property rights of the business and other parties, making sure they don't infringe any intellectual property and expose the business to expensive legal proceedings, and damages.

It's all too easy to find a photo online that goes well with a post you've written and post it online, but some people are unaware that you must seek permission from the photographer or owner to use the photo and provide them with a credit. For this reason, it's worthwhile taking time to explain to employees how to comply with intellectual property law.

It's so common for people to be unaware that they're breaching someone else's intellectual property and unfortunately, the buck stops with the business if it's on the business' social media platform.

A social media policy is part of that education to make sure everyone realizes the dangers and risks associated with the use. They will think twice if it's in black and white. It should be part of the onboarding process and available at all times for them to view.

The policy should also prohibit the use of the business' logos or trademarks, unless authorized to do so.

6. Maintain confidentiality

It's far too easy for confidential information of a business to be shared on social media, if employees or contractors aren't clear about what information they can and can't post. Proper safeguards need to be put in place to protect the business.

Confidential information includes trade secrets, know-how, information about the business not known to the public, business plans and strategy, intellectual property, any customer or client information and any other information designated as confidential by the business.

The policy should state that employees and contractors should not share any confidential information, unless given express authority to do so, and provide a clear outline of information that can't be shared. You'd be surprised about how many people don't understand what would be considered confidential and just rely on the "I didn't realize" defense.

The seriousness of maintaining confidentiality is illustrated by the case when a former Tesla employee, who posted the dial-in information of an internal meeting on social media and was subsequently terminated. ('Tesla warns employees of 'potential consequences' if they leak secrets to 'people who will do anything to see us fail,' Business Insider).

7. Preventing bullying and harassment

If an employee or contractor uses social media in a manner that amounts to discrimination, bullying or harassment, you, as an employer, could be liable for such conduct if it took place in the workplace or related to the person's employment.

To reduce the liability of the business, you must show that you have taken reasonable steps to prevent discrimination, bullying or harassment by including in a social media policy that any such behavior is strictly prohibited and educating employees on the matter.

The social media policy should also note that any existing company policies that address bullying and harassment extend to conduct on social media and that disciplinary action will take place if the policy is breached.

8. Manage employees' "off the clock" personal use of social media

Unfortunately, as an employer, you may also be found liable for an employee's personal use of social media if the use can be connected to the person's employment. Employees freely use social media in their personal time and don't ordinarily consider how their behavior online might affect your business.

This is why a social media policy needs to make it clear that since employees are representatives of the business, they must not post anything on their personal social media accounts that casts the businesses in a negative light, such as making complaints or negative statements about the business, its employees or products and services.

It should also state that they must act with integrity in a way that maintains the reputation of the business, respect other people and not post content that is offensive or could constitute defamation, bullying, discrimination or harassment.

The negative ramifications of employees or contractors using social media in their personal time

A good example of the negative ramifications of employees or contractors using social media in their personal time was when Clementine Ford (a former Fairfax contributor) was the target of a sexually offensive comment made on her Facebook account by a hotel employee of Meriton.

The employee had identified Meriton as his employer on his profile page. Clementine alerted the hotel of their employee's behavior and his position was subsequently terminated. ('Hotel worker Michael Nolan sacked over Facebook post to Clementine Ford,' Sydney Morning Herald).

Meriton clearly had to deal with the situation and the impact on the business would have been extremely distracting and potentially damaging to the brand.

In a strange turn of events, the same Clementine Ford was suspended for four weeks after she was found to have breached Fairfax's social media policy when she posted an aggressive tweet aimed at the Prime Minister. Fairfax found that her tweet contained abusive language, harassing and bullying behavior and was solely devoted to attacking a person, rather than a position or idea. She resigned after her four-week suspension.

For more details see ('Former Fairfax contributor Clementine Ford blasts managers and editors,' Mumbrella).

Another good example is when Martin Hirst, a university lecturer who worked at Deakin University was suspended without pay from his position when he used his personal twitter account to post "offensive and/or disrespectful and/or threatening" tweets that were directed at students.

There was nothing on his account that linked him to Deakin University, but it found that the posts had the potential to "damage the reputation of the University". ('Deakin university journalism professor suspended without pay over tweets', The Guardian).

In the case of *Starr v Department of Human Services [2016] FWC 1460,* a Centrelink employee acted inappropriately when he posted on social media that customers were '*spastics'* and '*whingeing junkies*', discussing confidential matters concerning Centrelink and how it managed its affairs. The employee's behavior cast his employer in a very negative light, affecting its reputation. While the employee had been employed for 20 years, after a thorough investigation, Centrelink made the decision to dismiss him. The Fair Work Commission held that the employee's conduct had contravened the code of conduct and Australian public service values.

In the case of *Fitzgerald v Dianna Smith t/as Escape Hair Design [2010] FWA 7358* MS Fitzgerald, an employee of a hairdresser, was given a warning for tardiness and leaving work too early and was informed they would not be paid a bonus. She turned to Facebook and posted, *"Xmas 'bonus' alongside a job warning, followed by no holiday pay!!! Whoooooo! The Hairdressing*

Industry rocks man!!! Awesome!!!" The employee was dismissed from her position for a variety of reasons, including posting the above comment.

The Fair Work Commission held that the dismissal was valid because the post affected the employer's trust and confidence in the employee. It also went on to state that *"it would be foolish of employees to think that they may say as they wish on their Facebook page with total immunity from any consequence."*

In a recent landmark case on freedom of speech, *Comcare v Banerji* [2019] HCA 23, the High Court held that a former employee of the Department of Immigration and Citizenship, Michaela Banerji, was validly dismissed for posting over 9,000 anonymous tweets, strongly criticizing and attacking her employer, its employees, government immigration policies and members of parliament, and that the dismissal did not impede her implied freedom of political communication.

In that case, it was found that MS Banerji's tweets breached the Australian Public Service code of conduct. This case is particularly interesting as MS Banerji was using an anonymous twitter account and did not have any information revealing her identity or linking her to her employer on her account. This case acts as a warning to all employees not to make any negative comments about their employer on their social media accounts and that posting from an anonymous account doesn't protect them at all.

The recent case of Isileli "Israel" *Folau v Rugby Australia Limited & Anor* is another classic example of how an employee's personal use of social media can have a detrimental effect on the reputation of the employer. Mr. Folau, a former Wallabies football player, posted a on Instagram that "*drunks, homosexuals and adulterers*" would go to hell – an insensitive post which caused outrage among the public and tarnished the name of Rugby Australia.

Mr. Folau had posted similar homophobic tweets previously and was given a severe warning, but the above tweet led to Rugby Australia terminating his employment contract for breach of the organization's code of conduct. Mr. Folau brought a claim under the *Fair Work Act*, 2009 stating the termination was unlawful because it was based on his religion. However, Rugby Australia maintained that Mr. Folau was dismissed because he breached the player code of conduct that required players to "*treat everyone equally, fairly and with dignity regardless of gender or gender identity, sexual orientation, ethnicity, cultural or religious background, age or disability*;" to use social media appropriately; and not use social media in a way that may have negatively affected Rugby Australia or the game of rugby union.

Mr Folau and Rugby Australia have since settled the dispute, but Mr. Folau's contract remains terminated. This matter pushed the limits of religious freedom of expression, and while it did not have an official determination by the Court, it is clear if an employee's conduct on social media breaches clear standards set out in a code of conduct, the conduct itself is grounds for dismissal.

9. Consequences of non-compliance with the social media policy

The policy needs to set out the ramifications of not complying with the social media policy.

Depending on the gravity of the instance of non-compliance, you may wish to consider terminating the employee's contract, provided this is consistent with the company's enterprise agreement or its policy that addresses disciplinary action in the company.

Where there is a suspicion of non-compliance with the policy, it's worth stating that the business is entitled to launch an investigation that would require the employee's full cooperation in the form of supplying the company with access to the contentious content and refrain from deleting any such content.

Where an employee has failed to cooperate with any investigation, a business can apply disciplinary action, such as terminating employment.

Many employees use social media accounts for personal use, but it's important to protect your business from any careless remarks that could damage the reputation of the business.

It's wise to include in your policy that you may require your employees to delete any content on any personal social media account that you determine contravenes the social media policy and that not complying such a request could lead to disciplinary action, including written warnings and potentially termination of employment.

10. Compliance with other business policies

Finally, it's important that employees and contractors understand that their use of social media should not only comply with the social media policy, but also with other policies of the business, such as its code of conduct, equal employment and opportunity policy, privacy policy and confidentiality policy.

Key Takeaways

As you can see, there's more to think about that what you might first expect in this area.

One of the big things we find is that unless something is in writing, many people think they don't have to behave in any certain way. That is, well there were no lines made, therefore no lines crossed. It's much better to spell it out in black and white, again so there's no wriggle room.

The ultimate goal obviously is that the social media policy should stop it from happening in the first place, and secondly, that if damage does occur, you can show you took the necessary legal steps to do what you needed to do to make that clear. If you've done that, then there's less legal liability on the business and its owners and finally, you have clear rights to take what disciplinary action you deem necessary under the circumstances under employment law.

While social media can be an invaluable tool and has many benefits, it brings with it many risks that a strong social media policy can help mitigate.

Social Media Security Protocols

n this digital age, a brand's reputation and online presence are woven tightly together. But representing UC Santa Barbara on social media goes beyond tone, messaging, and imagery. Here's how to safeguard your accounts to ensure smooth, secure, and uninterrupted operations. **Ownership**

All UC Santa Barbara affiliated social media accounts must be owned by an employee and registered with UCSB. For security purposes, social media accounts should be managed by at least two accountable employees: one administrator and one back-up administrator. While a student may be enlisted to help manage an account, they should not establish or have the highest level (admin) rights to the account.

Accounts on social media platforms requiring a single login should use a UCSB functional email address with shared access for administrators (i.e. socialmedia@ucsb.edu). Connect Departmental Administrators (departmental email administrators) can request functional accounts. The account must also be accessible to at least two people, an administrator and a backup administrator.

Succession Planning

Social media platforms should be monitored at all times and should never go without an active administrator. If the owner of a social media account is set to leave UCSB, a new administrator should be identified immediately. Ownership should be transferred to that individual and any administrative access the former employee had should be removed. For some platforms (LinkedIn, Facebook), this requires the removal of their profile as an administrator. Other platforms such as Twitter and Instagram require a change of password. Even if your team remains unchanged, it is a good practice to review your social media privacy settings and access and publishing privileges on a quarterly basis.

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Multi-factor Authentication

Multi-Factor Authentication adds another layer of protection in addition to your username and password. Generally, the additional factor is a token or a mobile phone app that you would use to confirm that you really are trying to log in. Learn more about MFA and how to turn it on for many popular websites at twofactorauth.org. We recommend applying MFA to every social media account you access, including any personal profiles used for administering business pages.

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Password Management

As a best practice, plan to change the passwords to your social media accounts **quarterly**, or immediately after any suspicious activity such as a security notification or when an administrator leaves their role or the university.

Never reveal your passwords to others. Nobody needs to know them but your social media team—not even the IT department. If someone is asking for your password, it's a scam. Members of social media teams should keep their passwords securely. As with all passwords, don't write them down and leave them unsecured.

Use **different passwords** for different accounts, even your email account linked to your social media accounts. That way, if one account is compromised, the others won't be at risk.

The longer a password is, the better. **Focus on length over complexity**, and use at least 16 characters whenever possible.

To make passwords that are hard to guess but easy to remember, **use sentences or phrases**. For example, “bread-and-butter.” Some systems will even let you use spaces: “bread and butter yum.”

To **increase the complexity** of your password, include upper and lower case letters, numbers, and special characters. A password should use at least three of these choices. To make the previous example more secure: “Bread & butter YUM!” The best passwords have punctuation or numbers where they don’t belong. “book” as part of a password isn’t a book to a hacker trying to crack the password.

Avoid single words, or a word preceded or followed by a single number (e.g. Password1), and **don’t use personal information** in your password that others know or could easily guess about you (e.g. birthdays, children’s or pet’s names, car model, etc.). If your friends can find it, so will hackers.

Free password managers

Keep your information private, secure, and hidden:

- LastPass
- KeePass
- Keeper
- Password Safe
- Dash lane

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Incident Response and Breach Preparedness

Some of the most common security risks for social media accounts include:

- **Inactive/unmonitored accounts:** Maintain a consistent presence across all of your social channels. Hackers can target unmonitored accounts and begin posting fraudulent content as your area of campus. (If your account is inactive and you don’t have the resources or plan to resume activity, strong consideration should be given to retiring or indefinitely hiding your page or unpublishing/deactivating the page.)
    - How to unpublish a Facebook page
    - How to disable an Instagram account
    - How to temporarily deactivate a Twitter account
    - How to delete or hide a YouTube channel

- **Imposter accounts:** These accounts can target our community and prospective students with scams and misinformation. Frequently search for your name in Google and on social media platforms to ensure yours is the sole account representing your department, organization or center. Look for accounts spelled similarly designed to trick users.
- **Scams/phishing:** Don't answer any public or private messages requesting to obtain passwords, banking details, or other private information.
- **Third-party connection apps:** While these apps can make managing social media easier, any vulnerabilities can result in a breach where hackers gain access to your secure accounts. Limit your use of these services to one for each account. Manage the passwords for the accounts separately. Remember to shut the account down if you will stop using the connection app.
- **Human error:** "Employee weakness" is responsible for one in five cyberattacks, according to this survey. Watch out for fake login pages and questionable direct messages — even just downloading a file or clicking a link can put yourself and the UCSB community in danger. Stay updated on recent social media security threats, and always think twice.

If your account is hacked:

1. Report the issue via the help section of the social network where the incident occurred.
2. Notify the Office of Public Affairs & Communications.
3. Acknowledge the incident via your other channels as soon as possible, if applicable, and let them know you are working to rectify the issue.
4. Report the issue.
5. Respond to and thank any members of your network who may have initially reported the issue.

For additional guidance, consider referring to this informative and transparent University of Michigan case study detailing the response to an incident in which three of its athletics-related Facebook pages got hacked.

The following takeaways from the incident are outlined in the case study:

- Facebook will never send official communication via Messenger.
- Never enter your password anywhere but facebook.com. Scammers can set up fake pages that look like a Facebook login page, so always check the address bar.
- Watch out for fake pages/apps as well as "official" links using URL shorteners.
- Try to keep the number of admins to a minimum.

- Turn on login approvals for Admin and Editor roles, which adds another layer of security if there is a login attempt from an unrecognized device.

Lesson5 : Understanding Social Media Vulnerabilities & Threats

Social networks and social media

Understanding and managing influence vulnerability in a connected society

Abstract

Influence vulnerability has recently become a concern across society and in business. Such vulnerabilities increase as social networks are leveraged by different entities, oftentimes through social media, to affect how we think and behave. While many instances of social influence are positive and beneficial, others can be quite negative and lead to harmful outcomes for organizations and individuals such as reputational damage and an inability to control desirable thoughts, narratives, and behaviors. In general, they can decrease people's freedom of thought and behavior. This article draws on the concepts of social embeddedness and network commitment to outline people's influence vulnerabilities. It then proposes three guidelines to help reduce influence vulnerabilities based on the concepts of trustworthiness, network commitment, and self-management.

Keywords

Network commitment

Social influence

Social media

Social networks

Social embeddedness

1. Maintaining our freedom of thought and action

It is difficult to maintain one's independence of thought and action in societies where our social networks and our connections to them via social media have a profound social influence. The recent Cambridge Analytica scandal (Kleinman, 2018; Wakefield, 2019) and the anti-vaccination movement (BBC News, 2019) are extreme examples of this issue. The Cambridge Analytica scandal is alleged to have influenced major political outcomes in the U.K. and the U.S.—a potent reminder of how vulnerable our most steady institutions are to automated social influence (Kleinman, 2018; Wakefield, 2019). Indeed, the news is full of stories about people being influenced by their social networks, whether relatively impersonal online networks or more personal and intimate relational networks. As a society, we are still adjusting to the molding power of social networking platforms such as Facebook, Instagram, and Twitter. Although a socially connected world presents opportunity, it also poses risks to managers, employees, and other societal members. Social media at its core can expand our exposure to positive, neutral, and negative social forces from our social networks that make us susceptible to social influence.

Therefore, the increased prevalence of digital platforms and technologies has amplified the social forces that we face, both online and offline.

Within the business domain, organizations spent $137.63 billion in 2017 on cybersecurity targeted to stop fraudulent activity such as phishing attempts and more general social influence; that spending is expected to reach $167.14 billion by the end of 2019 (Statista, 2019). Third-party software and service firms such as DigitalStakeout, Google Alerts, Hootsuite, Crimson Hexagon, Rankur, TweetDeck, and Reputation.com's Social Suite are used to monitor social media platforms. This monitoring is often employed to look for nefarious attempts by insiders, outsiders, and automated sources to influence a company's reputation. Similar products also exist to protect the reputations of individual people (Smith, 2019). With these technology investments, basic human cognitive and psychological tendencies are often the weakest links in such initiatives (Cellan-Jones, 2019; Dodge, Carver, & Ferguson, 2007; Workman, 2008). Furthermore, many instances of social influence occur through offline interaction. Therefore, managers and societal leaders, as well as workers and other members of society, should proactively self-manage their influence vulnerabilities.

In this regard, our understanding of situations can often be clouded when others attempt to influence social narratives and behaviors. Oftentimes, these influence efforts are driven through social media and personal networks. Bots, artificial intelligence agents, and other social manipulation activities are increasingly infiltrating popular social media platforms to sway people's opinions and influence their behavior (Argo, Grunding, & Vellani, 2019; Brown, 2019; Fisher, 2018). These attempts can sometimes incorporate "fake news" and disinformation (Vosoughi, Roy, & Aral, 2018, p. 1146). Yet, social influence has been a societal concern since well before social media's rise (Asch, 1951; Granovetter, 1985; Janis, 1983), and these offline forms continue to present challenges for managers, employees, and other members of society. Indeed, social influence is a dominant part of work and life that has been amplified as we become more psychologically connected to our social networks through digital platforms.

The idea that social networks can influence peoples' thoughts and behaviors is not new (Berger, 2014; Bond et al., 2012; Brass, Galaskiewicz, Greve, & Tsai, 2004; Granovetter, 1985; Kozinets, de Valck, Wojnicki, & Wilner, 2010). However, the increased use of social media platforms has amplified the forces of social influence. While we know that these threats exist, we are often unsure of how to combat them. This lack of procedural guidance is a vulnerability for organizations and other institutions, as well as for administrators, workers, and other members of society. Therefore, we contribute to the broader discussion on social influence by explaining some critical vulnerabilities brought about by online and offline social influence. While there are many instances of positive social influence (e.g., Ashford, Blatt, & VandeWalle, 2003; Lin, Bruning, & Swarna, 2018; Porter & Woo, 2015), we focus this article on the distinct strategies that people can take to mitigate undesirable and unwanted influence. Indeed, we believe that the process of mitigating vulnerability to harmful or unwanted social influence is quite distinct from increasing exposure to positive influence (Elliot, 1999). Thus, we focus this article on mitigating negative and undesirable forms of influence vulnerability. Herein, we draw on the concepts of social embeddedness and network commitment (Bruning, Alge, & Lin, 2018; Granovetter, 1985) to outline how people become psychologically susceptible to social influence. We then propose proactive strategies based on concepts of trustworthiness (Mayer, Davis, & Schoorman, 1995), network commitment, and self-management (Stewart, Courtright, & Manz, 2011) to help people reduce their influence vulnerability and maintain their freedom of thought and action.

2. Embeddedness and personal influence vulnerability

The topic of social influence and susceptibility lies at the heart of many contemporary managerial concerns. Recent discussions have addressed topics such as the collective protection of privacy (Li, 2019); the implications of social networks on ethical behavior (Key, Azab, & Clark, 2019); the general use of social media for marketing purposes (Berthon, Pitt, Plangger, & Shapiro, 2012; Kaplan & Haenlein, 2010; Kietzmann, Hermkens, McCarthy, & Silvestre, 2011); the influence of social media communications by brands, opinion leaders, and other consumers (Lin et al., 2018; Lin, Swarna, & Bruning, 2017; Melancon & Dalakas, 2018); interorganizational communications (Posthuma, Flores, Barlow, & Dworkin, 2018); human attention to contextual information in the digital age (Berthon & Pitt, 2019); and managing employees' emergent online and offline work behavior (Bizzi, 2018; Kim, 2018; Tomczak, Lanzo, & Aguinis, 2018). A central issue within these discussions is social influence, including potential negative influences, which can be derived from our social contexts.

People can become embedded within their social networks, which can create a situation whereby a person becomes fixed within and influenced by their social ties. In this regard, Granovetter (1985) argued that individual behaviors can be influenced by social ties that promote trust and socially desirable behaviors as well as discourage undesirable behaviors. Prior research suggests that embeddedness can serve as a force of employee retention within organizations (Jiang, Liu, McKay, Lee, & Mitchell, 2012; Mitchell, Holtom, Lee, Sablynski, & Erez, 2001). It can also serve, more broadly, as a source of influence over peoples' thoughts and actions (Bond et al., 2012; Bowler & Brass, 2006; Gibbons, 2004; Lawler & Yoon, 1996). Thus, it represents a possible source of vulnerabilities to social influence.

We define *influence vulnerability to one's social network* as a person's susceptibility to being influenced by entities within their social network and broader social environment. These vulnerabilities have a few defining characteristics:

They are manifest within an individual and represent a generalized susceptibility to being influenced from the person's network, the specific ties within that network, or the broader social environment (Granovetter, 1985; Lawler & Yoon, 1996);

These vulnerabilities can be manifest within virtual or nonvirtual social interactions, as well as more general patterns of thinking about one's social environment (Bond et al., 2012; Bruning et al., 2018; Gibbons, 2004);

These vulnerabilities can be derived from a person's psychological experience of embeddedness within their social network or a specific relationship within the network in addition to other dispositional characteristics (Granovetter, 1985; Mayer et al., 1995; Mitchell et al., 2001); and

They can have positive, neutral, or negative implications (e.g., Jiang et al., 2012; Lin et al., 2018; Vosoughi et al., 2018).

We outline examples of influence vulnerabilities for different personal roles within business and society in Table 1.

Table 1. Examples of influence vulnerability according to people's different social roles

Social role	Description of the role	Examples of influence vulnerability for the social role
Organizational or societal administrator	This role involves people who are in a managerial or leadership role within a larger social entity in the corporate, government, or not-for-profit sectors. It can also include informal leaders within other formal/informal collectives and societies.	External competitors attempting to harm or interfere with strategic organizational decision-making.
		Internal competitors attempting to sabotage or harm the quality of a person's decision-making to gain relative favor for promotion or broader prestige.
		Subordinates and followers trying to influence decisions to gain personally favorable outcomes.
		Non-subordinate stakeholders trying to influence decisions to gain personally favorable outcomes.
		Internal or external actors trying to influence decisions to promote competing ideologies and logics.
Organizational worker	This role involves people who work, or otherwise contribute, in a non-supervisory capacity. People filling this role can be paid employees or unpaid volunteers. They can contribute to social entities	Leaders and managers trying to influence a person's motivations and behaviors to gain greater

Social role	Description of the role	Examples of influence vulnerability for the social role
	within the corporate, government, or not-for-profit sectors. This role can be held by supervisory workers when they are engaging in their non-supervisory work.	productivity and commitment.
		Internal or external actors trying to influence motivations and beliefs to promote competing ideologies and logics.
		Internal or external entities trying to gain access to private and secure organizational information.
		External competitors attempting to interfere with a worker's productivity and commitment within their host organization.
		Internal competitors attempting to sabotage or harm the quality of a person's work to gain relative favor for promotion or broader prestige.
		External customers, clients, or other stakeholders trying to influence a worker's decision-making to gain personally favorable outcomes.
Consumer or constituent	This role involves people within society who can be engaged by companies and other social entities to purchase products and services, provide	Companies trying to convince consumers to purchase their products or services.

Social role	Description of the role	Examples of influence vulnerability for the social role
	support or patronage to a social entity, or otherwise adopt or accept a social message.	Companies and other social entities trying to promote the awareness and appeal of their brands.
		Political entities trying to convince consumers to support their candidacy or social mission.
		Political entities trying to convince consumers to reject the candidacy or social mission of a competing entity.
		Social entities trying to gain greater awareness and non-commercial support, such as volunteering, lobbying, or word-of-mouth, from consumers.
		Governments and other social entities trying to alter the thoughts and behaviors of their constituents.
Member of society	This role involves people within society who are in a position to communicate or otherwise interact with other people within one or more societies. Their relationships can be part of broader familial, friendship, interest-based, or other informal social networks within society.	People within society trying to convince others to give them economic resources.
		People within society trying to convince others to give them greater social status and prestige.
		People within society trying to convince others to give

Social role	Description of the role	Examples of influence vulnerability for the social role
		them allegiance within informal social competitions.
		People trying to alter the different thoughts and behaviors of others.
		People or other entities trying to gain access to private information.
		People within society trying to convince others to support a third-party political entity or social mission.

Note: The table above outlines examples of different social roles that people hold within society and some general types of potentially negative influence attempts they can be subject to within these roles. The roles are organized according to people's affiliation with and status within different social entities. Therefore, many people are likely to hold two or more of these roles. The examples of potential influence attempts are presented to give descriptive examples and are not intended to be an exhaustive list or typology. Many of these examples of influence are not decisively negative, however, each of them can be perceived as negative and undesirable for certain people under certain circumstances. Therefore, each example holds the potential to be negative and/or undesirable.

We propose that internal or external entities can harness the persuasive power of personal networks to influence the thoughts and behaviors of others. Sometimes these entities are actual direct contacts within a person's network, such as a colleague, a business partner, a boss, or a co-worker (Bowler & Brass, 2006; Gibbons, 2004; Yukl, 2013; Zagenczyk, Scott, Gibney, Murrell, & Thatcher, 2010). Other times, they can be outside parties such as political entities, media outlets, or external competitors that indirectly influence a person by using the person's network contacts as a delivery mechanism (Bond et al., 2012; Lin, 2017; Vosoughi et al., 2018). We focus primarily on peoples' immediate exposure to the social influence via their direct contacts instead of the origin of the influence attempt (which can originate from outside of the network), as more immediate sources should generally have a greater social impact (Latané, 1981).

Research suggests that people become committed to their personal network both as a group of contacts and on a contact-by-contact basis (Bruning et al., 2018; Lawler & Yoon, 1996).

According to recent research, peoples' influence vulnerability can be derived from three types of network commitment: (1) *instrumental network commitment* represents the degree to which a person's network connections provide access to no substitutable resources, information, and general value; (2) *normative network commitment* represents the degree to which a person's social connections involve an exchange of favors and information that make the person feel obligated to return the favors to the individuals within the network; and (3) *affective network commitment* represents the degree to which a person's social connections create positive emotional reactions and define a person's identity (Bruning et al., 2018).

The results of this research suggest that compared to people with fewer network contacts, people who are central and have many contacts within their personal network are more susceptible to social influence from a detached outside party. The research found that people were influenced by an experimental manipulation that provided them with the secondhand thoughts and opinions of the network (Bruning et al., 2018). They were also influenced directly by the individual members of their personal networks. These relationships were found to occur according to the person's sense of status and positive feelings associated with their network connections, suggesting that they became vulnerable as they embraced and enjoyed their status. The research also suggested that people became susceptible to social influence from their network ties because of perceived dependence and reciprocal obligation.

The general findings that network commitments increase a person's influence vulnerability align with previous research that suggests our social networks and social environments influence how we think and behave (Gibbons, 2004; Latané, 1981; Zagenczyk et al., 2010). They also align with the generalized finding that different types and targets of commitment make a person vulnerable to influence from the entities and ideas to which they are committed (Hershcovitch & Meyer, 2002; Klein, Molloy, & Brinsfield, 2012; Klein, Wesson, Hollenbeck, & Alge, 1999; Kukenberger, Mathieu, & Ruddy, 2015; Meyer, Allen, & Smith, 1993; Meyer, Morin, & Vandenberghe, 2015; Monnot, Wagner, & Beehr, 2011; Weng & McElroy, 2012). Furthermore, research suggests that social media could be a functional delivery mechanism of this social influence (Bond et al., 2012; Vosoughi et al., 2018). Together, these findings support the idea that people's social embeddedness and network commitments can make them vulnerable to online and offline social influence.

3. Implications of personal influence vulnerability

Influence attempts can originate within a person's network or could come from an outside party that harnesses the person's network connections to infiltrate and gain access to them. For example, these attempts can come from managers, employees, colleagues, friends, family, and competitors, as well as other known and unknown social entities. Whether positive or negative, these influence attempts can profoundly affect individual and organizational decisions and possibly threaten their reputations, leadership effectiveness, work quality, and information security as examples. In cases of detrimental social influence, people could abandon critical thinking in favor of the prevailing winds of one's social networks (Janis, 1983).

Influence vulnerability has implications for executives, managers, and other administrators, as well as for employees and other members of society. Given the specific findings that high-status individuals can become vulnerable to social influence according to their centrality within and attachment to their networks (Bruning et al., 2018), the research has clear implications for prominent decision makers. There is a popular belief that people can access more power and freedom as they gain status in an organization or broader society and this logic is reinforced by the research on power, social networks, and influence (Chiu, Balkundi, & Weinberg, 2016; Lin, 2017; Mehra, Kilduff, & Brass, 2001). However, previous findings on network commitment suggest that this prestige might also make people more susceptible to being influenced by the people that they interact with, as well as other people who might harness the social network as a social influence tactic (Bruning et al., 2018). This susceptibility could make executives and managers particularly vulnerable. On the one hand, they have noticeable power and freedom to do what they want, which could give them a false sense of security. On the other hand, their sense of prestige could make them more vulnerable to subtle—and possibly unexpected—influence attempts. These attempts could lead to faulty decision-making that could harm the organization's reputation, leadership, and security according to the specifics of the decisions made (Kish-Gephart, Harrison, & Trevino, 2010; Schaubroeck et al., 2012). These vulnerabilities could become even more exposed as the social aspects of work and life become increasingly digitized. Social influence can now be programmed, automated, and artificially amplified, making this increased exposure a current reality (Bond et al., 2012; Vosoughi et al., 2018).

These sources of influence vulnerability should also be considered for general workers and members of society (Bond et al., 2012; Gibbons, 2004; Vosoughi et al., 2018; Zagenczyk et al., 2010). Within broader nonmanagerial work and personal contexts, these principals can apply to how people navigate the webs of social influence that they encounter through their professional and nonprofessional personal networks. In some cases, it can benefit people to be influenced socially. As members of work teams comprised of other diligent and innovative workers, a person might learn to work harder and to adopt new innovative work practices as a result of social learning and attempts to align with the norms of the group (Ashford et al., 2003; Bruning & Campion, 2018, 2019). People can also be influenced to act in a more ethical manner (Kish-Gephart et al., 2010), and they can actively seek online opinion leaders and other sources of information to gain important functional information about certain products and services (Kozinets et al., 2010; Lin et al., 2018; Lin & Kalwani, 2018).

However, there can also be activities, dialogues, and associated subgroups that could threaten a person's career success, ethical conduct, contributions to collective security, and personal well-being. There can be subgroups within organizations and society that promote professionally or personally compromising objectives that many people would want to avoid as a source of influence (Felps et al., 2009; Kish-Gephart et al., 2010). People can also be exposed to prominent influence from online social networks (Bond et al., 2012). In some cases, this exposure can make them susceptible to revealing confidential information or spreading disinformation (Dodge et al., 2007; Vosoughi et al., 2018; Workman, 2008). Social influence is often immediately accessible in a digitally connected world. Individuals can take the first steps in exerting more self-control over their influence vulnerability to help protect their independence of thought and action.

4. Guidelines for mitigating influence vulnerability

Companies, employees, and other members of society need strategies to manage their influence vulnerability since it can have negative implications. The guidelines presented herein primarily focus on mitigating potentially harmful vulnerabilities as capitalizing on opportunities could follow a somewhat different process (Ashford et al., 2003; Elliot, 1999; Lin & Kalwani, 2018). We will, however, bring the possibility of opportunities back into consideration when outlining elements that should be considered when developing plans to mitigate influence vulnerability. We outline a multistage framework that is organized according to three sequential principles to help people mitigate their influence vulnerabilities (Figure 1). The format of this figure is organized using a structure similar to the recently published multistage sequence of managing online opinion leaders (Lin et al., 2018). First, we propose that people develop their awareness of influence vulnerability. This awareness involves subcomponent assessments of trustworthiness and trust (Mayer et al., 1995), and alignment with one's personal objectives (Stewart et al., 2011). Second, we propose that people evaluate and manage their commitments proactively. This cognitive self-management specifically involves focused activities of managing one's instrumental, normative, and affective network commitments to decrease unwanted influence vulnerability that is derived from social embeddedness (Bruning et al., 2018; Granovetter, 1985). Finally, we propose that people engage in proactive planning by creating and revising a systematic strategy for self-managing one's influence vulnerabilities (Stewart et al., 2011). This self-management could involve deciding when to change one's network commitments or even network configurations.

Figure 1. Stages of proactive influence vulnerability management

Note: The figure above outlines considerations that people should make when evaluating their influence vulnerabilities. These considerations are presented in sequence to help people ensure that they have completed the appropriate background work for each step in their decision-making and planning. As multiple iterations of the process will be likely, the stages may also be parallel and simultaneous. Evaluations and decisions might also need to be revised whereby one revisits earlier considerations.

In this framework, we treat the sources of vulnerability that people should consider according to their awareness (i.e., authentication, trustworthiness, and alignment) as being distinct from the vulnerabilities derived from network commitments. The threats posed by a lack of authenticity and trustworthiness of a social contact within a social influence context would likely represent a generalized vulnerability to deceit. Alignment represents the person's awareness of whether an influence attempt should be accepted or rejected according to its congruence with their objectives (Stewart et al., 2011). Network commitment accounts for peoples' acquiescence to coercion, pressure, ingratiation, and other tactics (Yukl, 2013) that could be either intentional or unintentional on the part of the influencer. In this regard, people can be consciously vulnerable to their closest and most trusted contacts (Latané, 1981; Lawler & Yoon, 1996). Therefore, whereas authentication, trustworthiness, and alignment help a person to become aware of latent threats, network commitments represent vulnerabilities that are derived from motivational forces within a person. The proposed guidelines are further summarized in an applied checklist, derived from Figure 1, to help people mitigate their influence vulnerabilities by considering specific questions (Table 2).

Table 2. A procedural checklist for proactive influence vulnerability management

Guideline # 1	Be aware of influence vulnerabilities and decide which thoughts, decisions, and actions are most important to protect from being influenced.	• __ Are the person or people who I encounter, including virtual interactions on e-mail and social media, actually who they claim that they are?
		• __ Are the person or people who I encounter capable of providing accurate information, do they have me or their followers' best interests in mind, and do they have high integrity on issues relevant to what they are communicating?
		• __ In my work or personal life domains, what are the situations where other people will try to get me to do certain things or think in certain ways, or conversely, not do certain things or not think certain ways?
		Of these situations at work and in my personal life, which of them are uncomfortable, unethical, and otherwise detrimental?
		Are these seemingly uncomfortable, unethical, or detrimental requests reasonable, responsible, and necessary from the point of view of the person making the request?
Guideline #2	Proactively manage network commitments to decrease unwanted influence vulnerability.	• __ In my work or personal life domains, who are the people that are the most non-substitutable in the fulfillment of my most critical needs?

- __

Are there people or groups in my work or personal life domains that I feel dependent on who either do not fulfill a critical need, or who are substitutable, that also try to influence me to do things that are uncomfortable, unethical, and otherwise detrimental?

- __

In my work or personal life domains, who are the people or groups that I feel the strongest sense of obligation towards?

- __

Are there people or groups in my work or personal life domains that I feel a strong obligation towards that might not hold a similarly strong obligation towards me and that are not as committed to the relationship as I am, but that also try to influence me to do things that are uncomfortable, unethical, and otherwise detrimental?

- __

In my work or personal life domains, who are the people or groups that make me feel valuable and important?

- __

Are there people or groups in either my work or personal life domains that make me feel valuable or important, but that also try to influence me to do things that are uncomfortable, unethical, and otherwise detrimental?

Guideline #3	Create a proactive plan to understand and manage influence vulnerability.	• __ Begin with a focus on your awareness and evaluation of your possible vulnerabilities to social influence that could be harmful or otherwise misaligned with your objectives (i.e., Guideline 1).
		• __ Specifically assess your vulnerabilities to social influence according to dependence, obligation, and pride (i.e., Guideline 2).
		• __ Outline your ways of reducing specific vulnerabilities that are uncomfortable, unethical, and otherwise detrimental (i.e., Guidelines 1 and 2).
		• __ This plan should be considered on an ongoing basis and as you enter new life situations to help you better manage your own cognitive and behavioral autonomy in your most important work and personal life domains.

Note: The table above is intended to provide specific questions or objectives that a person can address while engaging the different stages of proactive influence vulnerability management presented in Figure 1.

4.1. Be aware of influence vulnerabilities and decide which thoughts, decisions, and actions are most important to protect from being influenced

Social influence is powerful partly because as it unfolds, people can be unaware that it is happening. Thus, a first step toward guarding against unwanted influence is to be aware of the situations in which other people might want to influence us. In this regard, proactive influence attempts occur when another person or group tries to change or influence one's cognitions, beliefs, and behaviors (Yukl, 2013). As broader societal consumers, these situations could also occur any time a person intentionally or unintentionally seeks outside information that benefits them (Ashford et al., 2003; Lin et al., 2018; Lin & Kalwani, 2018). Given the wide variety of situations in which people can be influenced socially, they will experience trade-offs between cognitive effort, relational maintenance, and threats to their autonomy when deciding which influence attempts to avoid.

To address the undesirable vulnerabilities posed by social influence within a broader plan of action, a person must consider the general vulnerabilities that they have to social influence. This assessment should be engaged according to the specific sources of influence for which they can be vulnerable, the situations in which they might be the most vulnerable, and the situations in which the individual and collective implications of this vulnerability could be the most detrimental. The first part of this process is to decide whether the source of information is legitimate—are the people who they say they are? Since an influence attempt can originate from outside of a person's network, this assessment should be made for both immediate sources of the influence attempt and the original sources of these attempts. While authentication might be relatively straightforward when we engage in-person communications with people that we know, online communications present more opportunities for deceit. Given this potential for deceit, some online platforms do authenticate their members (Lin, 2017) and this authentication should be sought vigilantly when gathering information from an unknown party. People should also cross-validate the information that they receive, given the aggressive way that disinformation can diffuse through a network (Vosoughi et al., 2018).

The second part of this process would involve assessing the trustworthiness of the source of the influence attempt. This assessment should consider aspects of ability, benevolence, and integrity, which should all be apparent to a reasonable degree for a source to be considered trustworthy (Mayer et al., 1995).

Assessments of ability would consider whether one believes that the sources can capably provide accurate information. *Assessments of benevolence* would consider whether one believes that the sources have the person or their general followers' best interests in mind. *Assessments of integrity* would consider any perceptions that one might have about the source's general moral integrity that are relevant to the information that they are communicating.

In this regard, authentication can be one of the multiple indicators of integrity (Lin, 2017). It is also important to account for one's disproportional tendency to trust people as this will influence how a source's trustworthiness translates to the trust that a person holds for the source (Mayer et al., 1995). Moreover, people often do not get information from the original source on social media, as it often has been shared via an online network (Bond et al., 2012; Vosoughi et al., 2018). The trustworthiness of the source should also be evaluated because even reputable outlets can make authentication difficult when they quote anonymous sources. Audiences can overlook this lack of clear authentication when they are presented by a legitimate outlet. Yet, even these legitimate outlets are not immune to ill-intended leaks of bogus information from their anonymous sources.

In addition to considering the source of the information, individuals must also pay attention to the situations in which they are most vulnerable to social influence that could pose threats for themselves or others. Therefore, a third consideration involves identifying the situations in which other people will try to influence a person's thoughts and behaviors in potentially undesirable ways (see Table 1 for generalized examples). Influence attempts can be aligned with a person's idiosyncratic objectives and, therefore, represent environmental events that should either be approached or avoided (Elliot, 1999; Stewart et al., 2011). Not every instance of social influence is problematic. Some instances are inconsequential while others will present beneficial opportunities. Other times, the influence attempt is necessary within a broader system of collective organizing, whereby individuals must trade off some of their own wishes to facilitate group success and relational viability (Burns, 1978; Granovetter, 1985). However, from a risk-management perspective, it would benefit peoples' work and personal lives to identify and understand when influence vulnerability is most threatening. This potential for goal alignment would represent one of the multiple indicators of benevolence. Once a person has outlined the situations in which social influence is possible, one should identify the undesirable influence attempts according to the implications and the alignment with the person's objectives.

4.2. Proactively manage one's network commitments to decrease unwanted influence vulnerability

People can still be vulnerable to social influence attempts even when they are aware of their vulnerabilities (Bowler & Brass, 2006; Granovetter, 1985; Lawler & Yoon, 1996). This vulnerability can be derived from the person's social embeddedness and the psychological bonds that people have within their personal networks. In this regard, people could be influenced to do something that they know might not be the right or best thing to do based on their instrumental dependencies, reciprocal obligations, and enjoyment of social prestige (Bruning et al., 2018). This guideline will involve three distinct sets of recommendations according to the instrumental, normative, and affective types of network commitment.

First, people should be aware of resource dependencies and prepare to identify or develop substitutable resources to avoid overdependence and instrumental vulnerabilities. The concept of instrumental network commitment is based on peoples' needs and their dependence on members of their network to help support these needs (Bruning et al., 2018). When a person senses that they have only a few alternative sources of need fulfillment, they become more closely bound to any given contact that they have who can support these particular needs. This makes them susceptible to influence according to their dependence on a wide range of social resources (Foa, 1971). While it might be impossible to completely reduce such dependencies, people can be aware of them and minimize them by only deciding to feel dependent on the contacts that are the most non-substitutable, and least harmful, sources of the fulfillment of the person's most critical needs.

Second, people should manage reciprocal exchanges proactively and strategically to avoid unwanted obligatory vulnerabilities. The concept of normative network commitment is based on peoples' reciprocal obligations towards members of their network as part of an ongoing social exchange (Bruning et al., 2018). When a person senses that they are bound by an obligation to reciprocate or to give back to another person or group, they become susceptible to influence from this person or group according to their sense of obligation. While social exchanges are a central and often necessary part of our work and personal lives (Cropanzano & Mitchell, 2005), they also represent a possible vulnerability to social influence (Bruning et al., 2018). Thus, they should be evaluated and managed vigilantly to ensure that our strongest obligations are focused on those contacts who reciprocate this obligation and are similarly committed to the relationship.

Third, people should be aware of the sources and benefits of social prestige, and account for these benefits, when making decisions to avoid unwanted affective vulnerabilities. The concept of affective network commitment is based on peoples' sense of prestige and identification with their network of social contacts (Ashforth & Mael, 1989; Bruning et al., 2018). When a person senses that they are held with high prestige by others and that these relationships help define ones' self, the person can become vulnerable to social influence due to identification and pride. Experiences of pride, confidence, and the knowledge that one is valued by others are important predictors of work performance and personal well-being (Judge & Bono, 2001; Judge, Erez, Bono, & Thoresen, 2003). However, people must also be careful not to be blindly influenced in an unwanted manner by this prestige.

4.3. Create a plan to understand and manage influence vulnerability on an ongoing basis

To be prepared for either expected or unexpected influence attempts, people and organizations should try to create proactive plans to manage and mitigate their unwanted and detrimental influence vulnerabilities (Stewart et al., 2011). These plans should be strategic and should begin with an outline of the possible influence vulnerabilities. At this phase, it is important to remember that social influence can have positive benefits. Therefore, it is important to be aware of the opportunities as well as the threats presented by social influence when developing or refining one's plan (Mayer et al., 1995). Once these opportunities and threats have been outlined, a person should then specifically assess their influence vulnerability according to dependence, obligation, and pride. With this information in mind, one should outline possible ways of reducing the vulnerabilities that are uncomfortable, unethical, and otherwise detrimental to ones' self, organization, or society. Finally, this plan should be evaluated and revised on an ongoing basis and as a person enters new professional and personal life situations. These modifications will help them to better manage their own cognitive and behavioral autonomy over time (Stewart et al., 2011).

While the idea of planning, monitoring, and correcting one's influence vulnerabilities is likely to be self-evident, many people make critical mistakes while doing routine tasks that have not been formalized into a systematic process. The potential for these mistakes further increases when people are less aware of the scope, pattern, and specific threats posed by their wide array of influence vulnerabilities. Additionally, these mistakes increase even more when people make quick and automatic decisions as often occur when scanning different social media platforms. Therefore, we suggest the third guideline to address the fact that merely being aware of vulnerabilities is not a sufficient solution to mitigating against these vulnerabilities being actualized in real threats. In this regard, people are recommended to systematically organize and even map out their influence vulnerabilities according to their specific societal roles (see Table 1 for examples of these roles and associated vulnerabilities), and then adjust this organizing mechanism as their lives, roles, and influence vulnerabilities change. This proactive organization can also help people understand, derive, and even mentally rehearse the proactive self-management tactics that they can use to combat these unwanted influence vulnerabilities.

5. Concluding thoughts

We describe how people can be vulnerable to influence from their social networks, according to trustworthiness, social embeddedness, and network commitment. We then propose procedural guidelines to help people mitigate these vulnerabilities. While we have focused primarily on mitigating vulnerability and threats that can come from undesirable forms of social influence, numerous opportunities and benefits can come from social influence. Therefore, future research should develop applied procedural frameworks that can explain how to cultivate, enhance, and benefit from positive forms of social influence. For example, organizations might leverage the power of social networks to drive organization-wide acceptance of change efforts. This future research should also develop more detailed procedural frameworks for addressing the specific challenges involved with mitigating influence vulnerabilities. In conclusion, we suggest that people think closely about their exposure to social influence as a result of their membership in social networks, whether or not this influence can pose a threat, and how they can mitigate negative influence vulnerabilities through systematic planning. Also, while the proactive management of influence vulnerabilities occurs within individual people, organizations and societies can reinforce more effective proactive management of influence vulnerabilities within their employees and constituents. Here, they could run awareness campaigns; and offer training on the proactive self-management of influence vulnerabilities.

Lesson6 : Understanding Social Media Attack Characteristics

More than 4.5 billion people all around the world use social media.

These platforms come with numerous benefits, as they allow users to stay in touch with their friends and family, expand their professional networks, or connect with people with similar interests.

However, the popularity of social media also attracts cyber criminals and other malicious actors, as it’s a very convenient avenue for spreading malware or social media attacks.

That’s why it’s important to discuss social media threats and learn how to protect your company from social media cyber-attacks.

What Is Considered a Threat on Social Media?

A social media threat is defined as any situation that can compromise the safety of the business and personal accounts.

Many people take social media cyber security less seriously, which can result in inadvertently facilitating social media attacks.

Clicking on different links, opening attachments other people send them and playing quizzes and games puts people at all kinds of social media risks.

And all this makes it easier for cybercriminals to steal their credentials and personal information or even lock them out of their accounts.

How Do Social Media Attacks Happen?

Thanks to the number of social media platforms and activities on them, hackers have a lot of different opportunities to plan and execute successful social media attacks. The methods cyber criminals use depends on the platform they want to target.

Social Media Attacks on Facebook

Since Facebook users can keep their profile data private, attackers use a sneaky tactic of worming their way into the network of their friends.

While preparing a cyber-attack on social media, hackers send friend requests to people from their target's list of friends. This way, the targeted person will be more likely to accept a friend request from someone with whom they have several mutual friends.

Social Media Attacks on LinkedIn

Being a social media platform for professionals, LinkedIn is a great place for cybercriminals to obtain business emails of employees from an organization and use them for phishing attacks.

Most LinkedIn users list their titles and contact information on their profiles. So, attackers can use these publicly available details to identify employees within a single company and find the ones with access to sensitive financial or customer information and target them.

Stealing Passwords

Once they become part of the target user's network, hackers are able to see what they post on social media. The practice of oversharing is what makes people susceptible and vulnerable to social media attacks.

For example, birthdays, kids' or pets' names, and other highly personal information that people recklessly make available on social media platforms allow hackers to guess passwords or security questions used for resetting passwords.

What Methods Are Used for Social Media Attacks?

Once cybercriminals collect the personal data they need, they can prepare and launch social media attacks. Depending on what their goal is, there are different methods they can use, the most common ones being:

- Social engineering
- Brand impersonation
- Phishing
- Fake giveaways

Social Engineering

Social engineering is a term used to describe a number of sophisticated social media cyber threats used to gain the target user's trust and make them make security mistakes or share sensitive information.

After picking a victim, cybercriminals investigate their social media behavior, online habits, and potential vulnerabilities, such as weak security protocols. Then, with all the information they have collected, perpetrators try to engage the target and psychologically manipulate them into divulging passwords and credentials or even providing access to their computers.

For example, these social media attacks frequently use baiting, that is, offering the target something they want or are interested in, such as downloading the latest blockbuster or some useful software for free. Download links or databases themselves are loaded with malware that infects the victim's computer.

Brand Impersonation

This kind of social media threat is also pretty common. The FBI estimates that the U.S. companies lost about $2 billion to brand impersonation attacks in 2020.

Such scams are used to steal your customers' personal information, thus eroding the credibility of your business.

Brand impersonation refers to the act of creating fake social media accounts that use the name, logo, image, and other identifying elements of a particular company with the purpose of committing fraud.

By doing so, hackers trick social media users into believing they're interacting with a particular brand and ask them to provide their personal information, such as account credentials or credit card numbers, or even send money.

Phishing

Phishing can come in the form of an email or private message on social media.

Perpetrators pretend to be a legit contact or a reputable company and send a link to a fraudulent replica of a website. These social media attacks are very effective since the spoof sites of a bank or an online store **look surprisingly real**, so unsuspecting victims enter their credentials believing they're interacting with a legitimate business.

Fake Giveaways

Many brands use giveaways to generate likes, clicks, and traffic, and hackers have noticed that people readily participate in these programs.

So, they create fake pages using the names of popular brands where they allegedly offer expensive prizes for the first couple of users who like or share the giveaway on their profiles. Apart from serving as "like farms", fake giveaways often require participants to share their email addresses and other personal information.

How to Prevent Social Media Attacks?

Although brands themselves can fall victim to social media attacks through brand impersonation, their employees also pose a security risk if their online behavior is reckless. Hackers can easily find their way into an organization's network through infected employee computers.

That's why it's of critical importance to have a social media security policy in place.

Here's what you can do to keep social media attacks at bay and protect your company from malicious agents.

1. Educate Your Employees

In many cases, employees aren't aware of all the social media threats, and this ignorance can be expensive.

You should leave nothing to chance and rely on your employees to educate themselves. Organizing regular training programs is a surefire way of ensuring that your employees are well-educated regarding how to stay safe on social media.

2. Install Ad Blockers

Install ad blockers on their corporate devices to minimize the odds that your employees will click on an infected link and jeopardize the entire **organization's network**.

If that's not possible, ask them not to click on any ads on social media. Some companies even forbid their employees to use social media while at work as a measure of precaution.

3. Avoid Using Public Wi-Fi Spots

One of the easiest ways of performing a social media attack is by hacking a public Wi-Fi hotspot and gaining access to all the devices connected to it.

That's why your employees should never use public Wi-Fi hotspots when accessing a business network. Warn them that even if they're using their personal devices, they can have their credentials stolen.

4. Change Passwords

Encourage your employees to change all their passwords regularly, including the ones to their social media accounts.

This simple tactic reduces the risk of getting their password stolen, which in turn, keeps their computers and your entire network safer.

5. Never Share Passwords with Others

Sharing passwords with other employees from the same department, especially via social media messengers, is extremely risky. Sometimes these messages can be intercepted by hackers, while a shared password can spiral out of control and increase the account's susceptibility to social media attacks.

There are many social media security risks that can hurt your organization. Apart from taking all these measures and educating your employees, it's a good idea to learn more about how **Jatheon's social media archiving tool** can improve the security of your organization online.

Contact us for more information, **book a demo** and find out all the benefits of adding an extra layer of security.

Unit Five : Social Media Detection & Protection Strategies, Security Settings, Incident Response Strategies and Management

At the end of the unit, the trainee will be able to :

- Explain methods of discovering and protecting social media

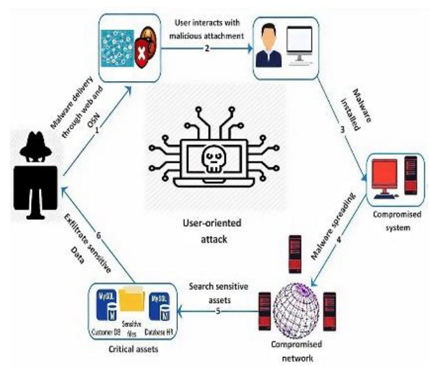
- Identify the network and its use of social media

- Analyze social network settings and blogging platforms

Lesson1 : Network Perimeter & Social Media Usage

What is the network perimeter?

The network perimeter is the edge of a company's internal network. Cloud computing and Internet-connected hardware and software have eroded the network perimeter.



What is the network perimeter?

The network perimeter is the boundary between an organization's secured internal network and the Internet — or any other uncontrolled external network. In other words, the network perimeter is the edge of what an organization has control over.

Suppose an office has an internal network to which a rack of servers, several dozen employee desktop computers, a few printers, and networking equipment such as routers and switches are connected. If an employee brings their personal laptop into the office, the laptop is outside the network perimeter - unless they are able to connect it to the network.

How do cloud computing and remote access affect the network perimeter?

Before widespread adoption of the Internet, a user's device had to be physically connected to a company's internal network to access that network. The network perimeter was essentially a real, physical boundary, and anyone trying to steal internal data would have to either infiltrate the physical corporate building or enlist the help of an internal employee. Someone would have to be in the office and using a company-managed device to connect to the corporate network.

With the Internet, the situation changed. It became possible for data to leave the corporate network, and for attackers to enter the network. Firewalls were designed to defend the network perimeter by blocking malicious external network traffic.

With the cloud, the network perimeter essentially no longer exists. Employees access cloud data and applications over the unsecured Internet instead of the IT-managed internal network. Users access internal data from any device or physical location.

These changes hold true even when a business still relies on on-premise infrastructure. Many businesses have a hybrid cloud setup, in which on-premise infrastructure is integrated with cloud infrastructure. Since many modern software applications allow users to access their files and data over the Internet, users may log in and check email or edit documents remotely from their personal devices even if not authorized to do so.

The use of remote desktop software also erodes the network perimeter, as users access their on-premise desktops over the Internet.

How do cloud computing and remote access affect the network perimeter?

The changing - or disappearing - network perimeter means identity and access management (IAM) has become very important for controlling access to data and preventing data loss.

Identity, rather than the use of a specific device or presence in a specific location, is now the crucial point for protecting data, especially for remote access to data. An authorized user can log in to their work accounts on any device, but they must establish their identity first. Identity verification is therefore essential, as is managing each user's level of access once they do establish their identity.

Even without a traditional network perimeter, it is possible to tightly restrict access to data in order to keep it secure. Cloudflare Zero Trust helps organizations manage user access without relying on a VPN — instead, internal data and resources are protected by the global Cloudflare network. Cloudflare Magic WAN enables enterprises to configure a wide area network (WAN) that automatically includes security features.

Perimeter and Network Security

Every privately owned network has a perimeter, and each perimeter must be heavily safeguarded against breaches and hackers attempting to disrupt your business. Here’s how we can do it.

- Next-Generation Firewall

To stay ahead of attackers and keep your network protected, we run a Next-Generation Firewall (NGFW) to monitor your network traffic and block any dangerous interference using state of the art network device filtering functions, in-line deep packet inspections, and intrusion prevention systems.

- Next-Generation IPS

The Next-Generation Intrusion Prevention System (NIPS) provided by Innovative Solutions, gives you much-needed protection from emerging threats. It is capable to identify the applications and usage behavior on your internal networks, in order to catch suspicious activity while producing as few false positives as possible, without interfering with your workflow.

- Secure Remote Access (VPN)

A VPN provides secure remote access to your network and servers, which ensures that your employees have secure access to the internet (through an encryption tunnel) without putting important data at risk. The most important criteria of a VPN are: Speed, Reliability, Encryption quality, Global support, and Custom support.

- Anti-Malware and APT Protection

To guarantee you have the ultimate and most advanced protection you can have, Anti-Malware and Advanced Persistent Threat Protection is a service with advanced malware protection that defends your systems against blended attacks (a combination of viruses, spams, phishing and more), sophisticated malware, and hacking-based attacks.

- Network Access Control (NAC)

Innovative solutions help your organization implement policies for controlling devices and user access to your networks. By allowing only authorized access and enforcing security compliance on devices, your network is most definitely more protected.

- DoS and DDoS Mitigation

DoS and DDoS attacks are used to interrupt or suspend the services of a hosting server in an attempt to make an online service unavailable to users. Innovative Solutions will protect your servers against these malicious attacks, with cutting-edge tools and strategies against the different types of DoS and DDoS attacks.

- SSL Visibility

Worried about encrypted malware hiding in traffic? Increased SSL Visibility helps in detecting malware blinding your security inspection tools. This solution deals with privacy violations, hidden threats, and encrypted attacks.

- Network Forensics

The main goal of Network Forensics is to monitor and analyze network traffic to gather information and legal evidence. Our digital investigators recognize, collect, preserve, examine, and analyze evidence related to cybercrimes providing you with digital evidence of any attack.

- SIEM Solutions

Security Information and Event Management (SIEM) is the most effective way to protect sensitive data. Using revolutionary and upscale SIEM tools, Innovative Solutions analyzes activity across your IT environment and logs it into an easy-to-use dashboard that provides your organization with a comprehensible representation of your threat landscape.

- DNS Security

A secure DNS is playing an important part in your organization’s online presence, protecting customer data, and maintaining brand reputation. A DNS security solution protects against all types of DNS attacks avoiding your organization some serious complications like system downtime, data theft, or even loss of business.

- Web Security

Keep your website and/or application secure and running without cybercriminal activity to interrupt your business. Applying advanced security protocols to defend your online activities prevents disastrous security breaches and increases your customers' trust in the services you provide.

- Email Security

Emails are a huge part of every business and organization, keeping the content of those emails safe and secure is critical for maintaining privacy and protecting your customers, prospects, or employees. Our Email Security Solutions offers predictive security against malware, unwanted applications, ransomware, and phishing scams; in addition to other security solutions customized for your organization.

- Security and Threat Intelligence

Innovative solutions bring you leading-edge cybersecurity and threat intelligence solutions. Our solutions are designed to detect and defend any kind of cyber-threat before they harm your organization and negatively impact your operations.

Lesson2 : Social Media Detection & Protection Components

Social Media Attacks - Introduction
• social media – What is it?
• Social: Interacting with and exchanging information with other people
• Media: An instrument or platform of communication
• Social media attacks represent the largest modern threat vector and are at an all-time high. Why?
• Roughly 3.5 billion people on social media
• Social media attacks are estimated to generate over

$3 billion annually for cyber criminals
• 60% increase since 2017
• 1.3 billion users have had their data compromised in the last five years
• Almost half of all illicit exchange of information in 2017 and 2018 was associated with social media breaches
• Social media platforms are often used for authentication to other websites/applications/platforms
• This is a major attack vector
• Social media attacks can be used to compromise healthcare organizations
• The can damage reputation, operations and even cost money Image source: Zero Fox **Types of Social Media**

Image source: Conversation Prism 5.0
• There are many categories of social media, the most common: Social Networking
• Examples:
• Facebook
• Myspace (obsolete)

• Google (obsolete)
• LinkedIn
• Twitter
• Many other categories:
• Pictures/Images
• Snap Chat
• Instagram
• Flickr
• Knowledge/Discussion
• Wikipedia
• Academia
• Reddit
• Music
• Pandora
• Spotify
• Rhapsody

Social media attacks can:
• Damage reputation
• Disrupt operations
• Impose financial cost
• Impose legal liabilities
• 2013 Syrian Electronic Army hack of the AP Twitter account: bomb exploded in the white house which injured the president.
• The tweet caused the S&P500 to drop 1%, resulting in losses totaling $136 billion

Social media accounts:
• Easy to create
• Easy to impersonate famous/familiar people
• Easy to obtain followers, legitimate or otherwise
• Easy to gain people's trust
• In 2016, Time Magazine reported that Russian operatives used Twitter to spearphish and distribute malware to more
than 10,000 of United States Department of Defense employees.
• LinkedIn prevented 7.8 million fake accounts from being created in the second half of 2019
• Automated defenses blocked 93% of them Image source: Dark Reading

16TLP

Social Media Attacks – Nontraditional Vectors
• Some phony accounts may keep appearances professional...
• Others may get personal....

Social Media in Healthcare
• How important is social media to healthcare?
• Very!
• 80% percent of healthcare providers use social media and the internet to research medical

devices, pharmaceutical information, and biotech data.
• Nearly 90% have used social media to seek/share health information.
• Nearly two-thirds of U.S. healthcare marketers used social media to reach healthcare professionals in 2017.
• One survey found that almost three-quarters of patients use online reviews as the first step when finding a new doctor.
• A journal study of 3,371 US hospitals indicated virtually all US
hospitals now have a social media presence:
• 3,351 (99.41%) have a Facebook account
• 3,351 (99.41%) have a Foursquare account
• 3,342 (99.14%) have a Yelp account
• 1,713 (50.82%) have a twitter account
• Overall, 1,699 (50.40%) have accounts on all four platforms
• Only 42 (1.25%) of hospitals only use two or less platforms

Anatomy of a Social Media Attack
• Four step process:
1. Foot printing – Gather as much information as possible about the target organization to identify a weak point
• Identify employees, especially executives
• Identify brand accounts
• Acquire public names, email address and phone numbers
• Find sensitive information through physical collection
2. Monitoring – Observe social media habits, enabling more effective attacks
• Observe personnel public communications, especially executives
• Find/observe social media connections between individuals.
• Document posted interests (hashtags, keywords)
3. Impersonate/Hijack – Spoof entity to establish trust for attack
• Establish similar looking profile
• Hijack active account through an attack campaign
• Hijack old/inactive account
4. Attack – Launch primary attack
• Launch malicious link campaign
• Use account for social engineering attacks
• Use account to discredit organization

Anatomy of a Social Media Attack (continued)
• Why are so many of these attacks successful?
• They are difficult to detect in a timely manner as compared to “traditional” cyber attacks

20TLP: WHITE, ID# 202006041300
Single sign-on: Force multiplier
• Many social media platforms allow for authentication via single sign-on (SSO)
• Distinction between identity providers (IdP) and relaying parties
• Identity Providers: Provides authentication to websites/apps using
SSO

• Relaying Party (RP) – Can be accessed using identity provider's
SSO
• When a "identity provider" is compromised, stolen authentication tokens
(Oauth tokens) can then be used to authenticate to "relying parties".
• Most SSO functionality on social media is provided
by Oauth tokens
• These are "traditional" cyberattacks via social media
• We've covered these in detail in our last presentation
• What about other ways to attack via social media?

Disinformation (continued)
• How is disinformation spread on social media?
• Bots – a software application that runs automated tasks
• Social media bots have distinct qualities
• They automatically generate messages, advocate ideas, "follow" users and attempt to accrue followers or credibility
• They are often used to infiltrate groups of people and propagate ideas
• Lack of regulation makes them ubiquitous
• They are believed to play a major role in online public opinion
• All nations concern themselves with the opinion of citizens, but this is especially important for democracies
• There is a debate about Russia's impact on the US Presential elections of 2016 – They engaged in a
disinformation campaign
• Internet Research Agency
• An "Army of Trolls"
• Why foreign powers do this?
• Sew dissent
• Achieve other political goals
• Not all disinformation originates from
• Foreign actors
• Domestic groups++

Healthcare Disinformation – Opposition to vaccines
• Individuals who oppose vaccinations (often called "anti-vaxxers") have used social media to express those
views and share information
• These individuals and their views have been controversial resulting in public debates
• At least one foreign power – Russia – has attempted to fan the proverbial flames
• Some assert that Russia's efforts are undermining US public health
• Russia attempts to sew chaos, confusion and friction with disinformation
• Anti-vaxxers are allegedly further misinformed and emboldened by this
• As the movement continues to survive and prosper, they are accused of having a negative impact
on public health and endangering themselves, their families and the general public

24TLP

technology
• Latest cellular communications protocol
• There are some who question or even assert that 5G can have health issues
• Cancer
• Coronavirus
• Other health issues
• There are some mainstream outlets who discuss possible health implications
• Russia has been fanning the proverbial flames of this debate
Image source: the Verge
Image source: New York Times
Image source: Scientific American Image source: Forbes

25TLP

althcare Disinformation – COVID19 origins
• The COVID19 pandemic
• Began to spread and gain attention over this last winter
• Based on facts, it likely originated from Wuhan
• Accidentally escaped Chinese biological lab?
• Food market?
• Deliberately engineered and released?
• Why would a foreign power spread disinformation on COVID19?
• Deflection of political fallout from true origins of virus (China)
• Sowing dissent and disunity (Russia)

hcare Disinformation – COVID19 Quarantining
• COVID19 Quarantining
• US state governments implemented restrictions on movement of
US citizens and general requirements to remain in their residences with limited exceptions during the pandemic
• Civil Libertarians began pushing back, defying orders and protesting
• Bots pushing hashtags:
• #ReOpenAmericaNow
• #Stop#TheMadness
• #ReOpenNC
• #ENDTHESHUTDOWN
Source of images: Business Insider

Lesson3 : Detection & Protection Approaches

Social Media Misinformation and the Prevention of Political Instability and Mass Atrocities

Social media's enormous impact is unmistakable. Facebook sees approximately 300 million new photos uploaded daily, while six thousand Tweets are sent every second. The most popular YouTube channels receive over 14 billion views weekly, while the messaging app Telegram boasts over 500 million users. Such platforms have also been used to promote instability, provide platforms for the spread of political conflict, and call for violence. Researchers believe that organized social media misinformation campaigns have operated in at least 81 countries, a trend that continues to grow yearly, with a sizable number of state-backed and private corporation manipulation efforts.

This policy paper draws on various sources to survey contemporary social media misinformation patterns and provide recommendations for multiple stakeholders. We argue that the instability and atrocity prevention community must incorporate emerging issues linked to social media misinformation, and we provide recommendations for doing so. A simple but disturbing truth confronts the prevention community: misinformation can rapidly shapeshift across topics, but only a few narratives need to take hold for trust in facts and evidentiary standards to erode.

Executive Summary

This policy paper examines how social media misinformation (SMM) can worsen political instability and legitimize mass atrocities. In particular, this paper is designed to encourage key stakeholders within fields linked to countering SMM to consider the specific challenges arising from the willful or accidental spread of misinformation in contexts at risk for mass atrocities. While knowledge of contextual nuance is required, general dynamics characterize the nexus between SMM and atrocity prevention. This paper argues that SMM may be particularly resonant in atrocity-risk contexts and therefore play a powerful role in encouraging a permissive societal bandwagon effect that fosters violence against the targeted group(s). To equip the diverse range of relevant stakeholders we address in this paper — including social media corporations, established (legacy) media, non-governmental civil society actors, researchers and civil society, and governments and multilateral organizations — we provide an overview of the challenges emerging from SMM with customized recommendations for each stakeholder group to support atrocity prevention. We envision this policy brief as providing the foundation to ensure continued conversations across these stakeholder groups on a complex, contested subject and, in so doing, broadening the atrocity prevention community in this emerging area.

Rather than focus on a specific case, the paper provides an overview of SMM and its effects and proposes several recommendations for the instability and atrocity prevention community. The paper is divided into several sections. Following a discussion of key terms, we turn to the main socio-political, psychological, and social media factors that increase the impact of social media misinformation. The paper next outlines the main functions of SMM, and then explores several challenges for those whose work intersects with atrocity prevention, including social media corporations, established (legacy) media, non-governmental civil society actors, researchers and civil society, and governments and multilateral organizations. The paper concludes with policy recommendations for these various stakeholder groups. The paper draws on interviews, scholarly and practitioner research, and the authors' work in this area.

Introduction

Social media's enormous impact is unmistakable. Facebook sees approximately 300 million new photos uploaded daily, while six thousand Tweets are sent every second. The most popular YouTube channels receive over 14 billion views weekly, while the messaging app Telegram boasts over 500 million users. Social media platforms connect people across societies, facilitating information sharing in ways unimaginable only two decades ago. The manipulation of social media platforms has also spread widely, and such platforms have been used to promote instability, spread political conflict, and call for violence. Researchers believe that organized social media misinformation campaigns have operated in at least 81 countries, a trend that continues to grow yearly, with a sizable number of manipulation efforts by states and private corporations.

We argue that a wide range of actors connected to the instability and atrocity prevention community must incorporate emerging issues linked to social media misinformation (SMM), and we provide recommendations for doing so. A simple but disturbing truth confronts diverse professions whose work pertains to atrocity prevention: misinformation can rapidly shapeshift across topics, but only a few narratives need to take hold to erode trust in facts and evidentiary standards. Taking advantage of the dense, extensive social interconnections across social media platforms, actors can launch numerous falsehoods, accusations, and conspiracies and observe which narratives take hold. As a growing part of contemporary asymmetric conflict, malicious actors — whether foreign or domestic state actors, parastatal groups, or non-state actors — determine when, where, and how often to attack. Defenders, which include targeted governments, civil society organizations, tech corporations, media outlets, and others, must prioritize where to focus and how to respond. The nature of this asymmetry means that defenders find themselves in a reactive crouch. The quantity, speed, and increasing sophistication of misinformation pose profound challenges for instability and atrocity prevention stakeholders.

The paper is divided into several sections. Following a discussion of key terms, we turn to the main socio-political, psychological, and social media factors that increase the impact of social media misinformation. The paper next outlines the main functions of SMM, and then explores several challenges for those whose work intersects with atrocity prevention, including social media corporations, established (legacy) media, non-governmental civil society actors, researchers and civil society, and governments and multilateral organizations. The paper concludes with policy recommendations for these various stakeholder groups.

This policy paper draws on various sources to survey contemporary social media misinformation patterns and provide recommendations for multiple stakeholders. Our research uses three primary sources. The first involves current scholarly and practitioner research. Second, we conducted interviews from October 2021 to May 2022 with 40 experts in governments and intergovernmental organizations, 13 in human rights organizations, 10 in technology corporations and tech oversight organizations, eight in media outlets, six in misinformation fact-checking and monitoring groups, 16 in research centers, and 11 in computer science communities. These involved semi-structured interviews with groups and individuals of an hour or more in length. The questions fell into several categories: specification of the misinformation and disinformation problems and their political, legal, and social consequences, particularly concerning atrocities and instability; interviewees' team or organizational responses; assessment of the broader technical, legal, and policy initiatives currently in place, including their strengths and limitations; discussion of additional steps needed from the wider practitioner community; and, identification of the major challenges for the future. Lastly, we draw on our own project with colleagues, *Artificial Intelligence, social media, and Political Violence Prevention,* which uses novel artificial intelligence (AI) tools to identify types and patterns of social media visual misinformation in unstable political situations, particularly in the Russia-Ukraine context.

Definitions

In this paper, we adopt inclusive formulations of various definitions of key terms relevant to policy development. *Social media* refers to computer-based platforms that enable people to communicate and share information across virtual networks in real-time. This includes community apps such as Facebook and Twitter, media-sharing channels like YouTube and Instagram, messaging apps such as WhatsApp, and hybrid platforms like Telegram. Scholars typically distinguish between social media *misinformation* - involving false or misleading information shared on these platforms - and social media *disinformation* (SMD), the subset of intentionally shared misinformation.[9] In practice, the boundaries are porous. Many purveyors of misinformation believe what they are sharing and are not intentionally spreading false information.

Additionally, not all harmful social media posts are wholly false. They may contain some truth, be largely true but misleading or out of context, or may advocate claims that are problematic but do not necessarily qualify as imminently dangerous. Furthermore, proving the origin of specific pieces of misinformation can be exceedingly difficult.

Additionally, social media *dis*information may be part of *influence operations*: sustained campaigns usually organized by states, parastatal entities, or organized non-state actors. In other cases, SMD is significantly ad hoc and decentralized. In keeping with much of the policy community, we use *social media misinformation* as inclusive of all these forms of problematic social media uses and refer to SMD when there is a plausible indication of an intent to deceive, such as with influence operations. We nevertheless address relevant distinctions throughout the paper.

Factors Increasing Misinformation Resonance

SMM can elevate the risk of atrocities across various political conditions, ranging from repressive/authoritarian (China, Myanmar, Venezuela, Russia, etc.) to semi-democratic (Philippines, India, Indonesia, etc.). SMM has also taken hold in countries that have historically had strong democratic institutions, including the United States and the United Kingdom, partly due to a lack of trust in institutions and domestic political influences. Contextual differences play a significant role, as these differences correlate with other mitigating institutional and societal factors that help lower the salience of violent SMM as civil liberties increase. This section discusses three key clusters of factors that affect SMM resonance: 1) socio-political cleavages, 2) individual and group psychological dynamics, and 3) the social media ecosystem.

Socio-Political Cleavages

Socio-political cleavages are key to elevating the likelihood of domestic political instability, including atrocities. These include significant social and political polarization, anti-democratic or weakened democratic regimes, and severe governance or security crises.

Severe social and political polarization refers to the hardening of in-group/out-group differences and weakening socialization processes that could otherwise moderate tensions. It occurs through the spread of dehumanizing discourses *and* formal and informal policies and practices. It also reinforces perceived normative differences between groups: out-groups are seen as threats to the interests, goals, security, or survival of the in-group. At its most extreme, such polarization may increasingly manifest through violent behavior, including attacks against opponents. Misinformation both draws from and intensifies polarization, underscoring the reinforcing nature of radicalization dynamics.

Regime type also matters. Authoritarian and semi-authoritarian governments are much more likely to use disinformation to target opponents, silence dissent, and shape public discourse. However, SMD and SMM have also been effective in diverse contexts of "democratic backsliding": democracies where the rule of law is unevenly applied, the free press is attacked or marginalized, and populist leaders are increasingly unrestrained by constitutional or legal checks (such as in Hungary, Turkey, and the United States). Although misinformation may originate from numerous sources, including civil society, the critical point is that with weakened legal and institutional constraints on executive authority, social media may become a powerful platform for misinformation and disinformation that is specifically perpetrated by state authorities or their proxies.

Profound governance or security crises are especially hospitable environments for SMM. These crises can include the likelihood or onset of armed conflict or collective violence, highly contested power transfers (e.g., extremely divisive elections, coups), constitutional crises, or the imposition of emergency rule. Crises heighten the political stakes, making social media "another battlefront in the narrative war."

In these contexts of generalized misinformation, sustained disinformation campaigns by states and their proxies can create further instability. State-sponsored SMD is often internally targeted, but SMD is increasingly becoming part of foreign policy destabilization and pressure campaigns, as seen with Russian disinformation in contexts ranging from Ukraine to the United States. In short, foreign involvement intensifies the instability factors noted above.

These socio-political factors contribute to distrust between citizens and official sources as well as among citizens, increasing the potential influence of social media misinformation on those who feel socially, politically, or economically alienated.

Psychological Dynamics

Three broad categories of psychological dynamics increase group and individual susceptibility to social media misinformation: 1) belonging, 2) intelligibility, and 3) confirmation bias.

The first category concerns a natural need for social *belonging and security* through membership in a group. Research shows that people have a powerful psychological need to connect with others, finding self-worth through community. Social media participation feeds into this need directly: it can satisfy, at least partly, the need for belonging by connecting like-minded others and strengthening psychological well-being. Accordingly, people heavily involved in a particular online community may find it difficult to critique dominant narratives, especially if information comes from a trusted or known source. Challenging dominant positions may generate criticism, humiliation, or even expulsion.

To make a complex, seemingly dangerous world *intelligible*, people often infer clear-cut causal connections, motivations, and relationships where they do not exist. While this is a common psychological heuristic, conditions of heightened instability make this particularly dangerous. Misinformation can replace complex or confusing political phenomena with reductive stories of good-versus-evil and us-versus-them. These epistemological shortcuts, which discount complex analyses and often foreclose critical scrutiny of one's assumptions and preferences, are amplified in social media echo chambers that reinforce our world views.

A final psychological factor is *confirmation bias*, the tendency to point to information that confirms already-held beliefs while rejecting contradictory information. Social media worsens this bias; research finds that people online gravitate toward those news sources that affirm their views and move away from challenging sources. Furthermore, effective disinformation campaigns intensify these biases to create politically divisive in-group/out-group distinctions. Research shows that social media users are much more likely to share unverified stories than to post a correction when stories have been shown to be false or manipulated.

These psychological dynamics become especially important in atrocity-risk contexts, where there is already an ongoing *moral reorientation* from out-group targeting as passively permissive to actively beneficial. As we will discuss further, SMM can create the perception of widespread societal buy-in to this moral recasting, i.e., facilitating a bandwagon effect.

Social Media Factors

Several context-specific social media factors also contribute to SMM impacts and should be carefully assessed in atrocity-risk contexts. These factors include: a robust social media ecosystem with a developed "attention economy," and an SMM focus on topics of high *political valence* (highly salient and divisive, such as an election) where the political outcome is uncertain and political success requires some degree of public support.

A robust social media ecosystem refers to a substantial proportion of the public who are regularly on social media. This activity sparks large, dense networks facilitating the rapid spread of information. These platforms vary in format, regulation, online culture, and popularity. Given their role in spreading information and SMM, we also include non-mainstream or regionally popular formats like Telegram and Gab and messaging apps like WhatsApp and Viber in this category. Some social media platforms, such as VK (Russian Federation) or TikTok (China), are also believed to share user data with authoritarian governments. These differences require nuances, such as foreign influence operations, domestic influence operations, and ill-informed information sharing, to be teased out in each context through case studies beyond this paper's scope.

Despite these differences, the "attention economy" is a crucial aspect of social media. Researchers have noted that a person's attention is a scarce resource, and social media tech companies rely on keeping users' attention in order to drive revenue's companies have a range of techniques, such as using "friends," "likes," "subscriptions," and other quantifiable measures to secure users' attention, which in turn strengthen the social media ecosystem and create a focused, engaged audience for advertisers. The public valuation of tech companies is tied to their number of users, and without sustained public outcry, companies are often slow to crack down on misinformation that may risk driving away users. Some companies have directly addressed troll factories, shell accounts, bots, or other amplifiers of misinformation by establishing special response protocols (discussed in Section V), but these actions are influenced by revenue concerns generated from the attention economy.

High political valence topics will vary by context, but the point is that they elicit strong public reactions and are framed to resonate along cleavages like political ideology or party, ethnicity, race, religion, or other recognized fault lines. Uncertain political outcomes that depend on public support are especially susceptible to various forms of *information disorder,* including misinformation and disinformation. In particular, disinformation campaigns are often used to secure backing by discrediting the opposition. The lead-up to presidential elections in Brazil (2018), Colombia (2022), Indonesia (2019), and the United States (2020) illustrate these dynamics. These campaigns are often sustained, coordinated, and sophisticated efforts to manipulate public sentiment and views, well beyond uncoordinated or sporadic misinformation posts.

Nevertheless, the context-specific nature of disinformation content, provenance, and dissemination patterns poses significant challenges for systematic theorizing and forecasting how disinformation will interact with high political valence issues. "Disinformation is not a wholly portable subject," one expert told us. "Knowing about the subject of disinformation is not sufficient. In an individual context, you must know about the nuances of a politicized topic before combining this knowledge with technical, computational, and other social science approaches to disinformation. Disinformation is a derivative of specific real-life events."

Functions of Social Media Misinformation

Existing research suggests that SMM is not a direct cause of severe instability or mass atrocities but it can be an enabler, legitimizing and accelerating violence in a variety of ways. Below, we frame these within three broad categories concerning the primary functions of misinformation. SMM contributes to:

Out-group Vulnerability by:

- *Fraying social relations* between individuals and groups. Research has found that misinformation campaigns weaken social ties and separate people into increasingly self-contained online political communities, with fewer opportunities to encounter counter-narratives or other sources of information. It also opens potential avenues of radicalization.

- Spreading *dehumanizing or polarizing discourse* that normalizes perceptions of political opponents as untrustworthy adversaries or even existential threats. Subjection to such severe and ongoing dehumanizing discourse legitimizes marginalization, the denial of rights, and sometimes violence.
- Targeting opposition groups or leaders with *specific false accusations* such as corruption or disloyalty, or smear campaigns to undermine their credibility. This is especially common prior to pivotal transitions, such as upcoming elections, that often correlate with increased atrocity risks.
- Attacking opposition figures to *dissuade public deliberation and curtail speech*. Sustained and relentless harassment of opponents discourages alternative views from emerging and signals to potential critics that they, too, may be targeted. It may also lower the perceived costs of violence against opposition figures.

In-group Cohesion by:

- Presenting one's group as the authentic defenders of important values and collective survival. This is a *group-affirming* function as it repositions one's group as engaged in a righteous struggle with enormous stakes, which may lower the perceived prohibitions against violence. Groups' differences are framed in heavily normative terms with little space for critique or compromise.
- Building a *collective identity around perceptions of persecution*, situating fear and grievances at the center of identity, a noted dynamic often presents in atrocity contexts.
- Advocating *collective self-defense or preemptive attack* against perceived enemies, another feature noted in atrocity-risk contexts. Social media is an effective platform for spreading calls for direct assaults on opponents and also for the practical work of *organizing collective action off-line*, including the creation of extremist advocacy organizations, secret cells, and militia groups.

Erosion of Civil Trust and the Spread of Epistemic Insecurity by:

- Introducing unrelated narratives or counterattacks. Misinformation can be part of a larger *diversionary effort* to draw attention from damaging criticisms or counterarguments.
- *Spreading doubt on a specific issue*, such as electoral fairness, candidate integrity, or opposing party intentions.
- Creating what we term *epistemic insecurity*, where charges of bias, dissimulation, and conspiracies undermine truth claims, evaluative standards, and evidence, and which are replaced by alternative, unsubstantiated narratives. Sustained misinformation campaigns can have a cumulative effect of sabotaging factual reporting and narratives

while lowering social and epistemological barriers to far-fetched conspiratorial thinking. Several experts in disinformation response units of tech companies noted that foreign-supported SMD campaigns often are directed at spreading epistemic insecurity, or what they termed "perception hacking."

The points above underscore misinformation's varied and self-reinforcing effects in fragile political contexts. These effects raise profound challenges for the atrocity prevention community, as discussed in the following section.

SMM Challenges for Instability and Atrocity Prevention

Social media misinformation presents various practical challenges to atrocity-focused work, affecting the full spectrum of efforts from early warning, deterrence and response, to prosecution. Any instability and atrocity prevention program across these categories needs to consider the following challenges to craft viable, effective policies and strategies:

Speed

The rapid pace of social media and the technology culture associated with its rise accelerate the spread of misinformation, pushing it faster and further. One technical and policy expert said "maximum engagement strategy" pushes information into the public sphere with little regard for critical inquiry or healthy skepticism. Research suggests that social media platforms are also changing norms, expectations, and practices in journalism — shaping the professional cultures across all digital, print, television, and radio industries — as journalists report implicit or explicit pressure to "publish content online quickly at the expense of accuracy" for profit reasons. Our interviews revealed a similar pattern in social media, noting the pressure policymakers (and others) feel to respond to crises within hours. Speed also contributes to crowding out unpopular opinions with little thought given to dissenting views, an effect seen in the amplification of COVID-19 disinformation and misinformation worldwide. The speed of SMM concentrates, strengthens, and amplifies confirmation biases.

Chaos

Social media contributes to an overabundance of data, challenging instability and atrocity prevention policy experts to identify and prioritize what is most important for decision-making and filter out misinformation, all in contexts that strain resources. The rise of SMM has corresponded to a modern transition to the information age, where information itself has become a productive force. Mainly due to social media activity, data are now created at an unprecedented speed, with an estimated 44 trillion gigabytes of data generated daily. Yet far from solving policymaker needs, these trends have created an informational overload: "Without new capabilities, the paradox of having too much data and too little insight would continue. "In public remarks, a former U.S. Department of Defense advisor said, "If you could apply human judgements, it's wonderful, otherwise substituting human judgment and talent with computing analytics does not work. "The turmoil of atrocity-risk contexts present decision-makers with some of the world's most complex challenges for actionable pattern identification. One former government analyst noted that SMM is "gasoline to the fog of war."

Curation and Control

Social media invites curation, providing abundant opportunities for fostering polarization and SMD influence operations by external actors. The experts interviewed across professional sectors identify several themes related to the unique curation powers of social media and its implications. One analyst framed every social media interaction as having invisible third parties that shape the interaction, from software engineers who make various behavioral assumptions about users in developing social media algorithms to political actors employing dissimulation to advance their goals. Another policymaker discussed how viral SMM content, like false accusations of imminent violence by opponents, can dominate political deliberation by saturating the information sphere. Research confirms that perception biases are linked to how imminent a given risk is perceived rather than the actual severity of danger - a dynamic that atrocity perpetrators can exploit to dehumanize targeted groups.

Experts also cited greater credulity for SMM when passed from another trusted source such as a relative, friend, or colleague. One researcher argued that social media has extended traditional marketing practices of segmentation (dividing one's market into targeted groups) into micro-segmentation, allowing SMD promulgators to test various disinformation narratives through promoted ads and adapting the content in real-time based on audience feedback. The overlap of competing narratives, conspiracy, and chaos creates a strategic messaging advantage for those able to leverage these data, including SMM and SMD actors. These dynamics highlight the importance of legacy media institutions and investigative journalism in countering atrocity risks associated with SMM, although existing challenges limit their effectiveness in this area, as we address in the policy recommendation section.

Capacity and Anonymity

New technologies are increasingly affordable and simple to use. While social media platforms may bring a democratizing aspect to the information space, this ease of access and anonymity also give disinformation creators, amplifiers, and funders more opportunity to act with impunity. Growing capacity and anonymity increase the likelihood of SMM, though our interviewees also suggested that these features may likewise enable human rights defenders to develop or extend decentralized grassroots campaigns in novel ways (e.g., *Ushahidi* and *Una Hakika* in Kenya).Although cases differ, our interviews reveal a general divide among experts over how to respond to the double-edged consequences of greater capacity and anonymity. Some experts see a net positive that allows for new means of localized peacebuilding, information sharing, and anonymity for otherwise vulnerable sources, while others remain skeptical of the ability of peacebuilding groups to use social media effectively in the face of strong SMM and disinformation campaigns by states or other armed actors.

Speech Rights: Balancing Civil Liberties and Civilian Protection

Long-standing debates and global differences surrounding the balance between national security, civil liberties, and civilian protection have sharpened in the face of SMM. Some states like New Zealand and intergovernmental organizations like the EU have strengthened oversight, standards, and penalties for misinformation and disinformation content on social media. Other states, such as Myanmar, China, or Russia , use national security as a pretext for limiting free speech and civil liberties. Different global contexts have diverse norms, ethical standards, and values around the blend of civil liberties, national security, and civilian protection.

Additionally, major tech companies like Meta, Google, and Twitter, among others, are often hesitant to employ policies that may be seen as limiting free speech, noting the practical and logistical difficulties of enforcing consistent standards across many legal contexts. This is further complicated by conflicting national and regional laws, providing unclear direction and accountability for these companies whose reach is nearly global (the 2022 EU Digital Services and Digital Markets Acts, for instance, is more demanding than current U.S. legislation).

Regardless, corporate content moderation efforts, even from companies such as Meta that have invested significant resources in this area, are often ineffective, slow, or inconsistently applied, either because of insufficient resources used to combat misinformation, unclear legal obligations and expectations that change by jurisdiction, or a commitment to profits over truth. Other social media platforms, such as Gab and Telegram, have weaker moderation rules and are less willing to regulate potentially dangerous speech. Without clear, robust, and implementable international standards, the balance between civil liberties and civilian protection will continue to vary across situations, including any national legal frameworks that might exist in an atrocity-risk context.

Censorship and Accountability Efforts

Conflicting actions between stakeholders, such as removing content flagged by social media moderators as violating community standards, may lead to a lack of information access for prosecutors, investigators, and prevention policymakers, especially in international contexts not subject to legal warrants. This challenge has been noted by social media companies surveyed for this paper, yet potential solutions remain under review by some of the companies surveyed at the time of this writing. Relatedly, when asked what the major challenge to their efforts was, governmental policymakers stated data access, an issue made more complicated by security classifications. As expressed by policymakers interviewed, except in criminal cases, technology companies' disclosure of internal data, including highly profitable micro-segmentation metrics, remains a voluntary step. Uneven data-sharing policies by technology companies operating in contexts with highly variable civil liberties, such as China and the United States, complicate matters. These dynamics often offer less opportunity for democratic states that sponsor atrocity prevention efforts to use these data in their work. However, even in democracies, government demands for information on account owners and connections raise profound, contested privacy and surveillance issues. Additionally, social media monitoring efforts to remove dangerous content may lead to a lack of data and information access for prosecutors and investigators pursuing atrocity perpetrators.

Policy Recommendations

Effective atrocity prevention requires a coherent, integrated vision across the socio-political, psychological, and technical domains. These approaches respectively address the societal dynamics that enable atrocities, psychological dimensions that link atrocities and SMM (including the attention economy), and other technical components (e.g., identifying, monitoring, classifying, and countering SMM). Multiple interviewees underscored the context-specific nature of addressing SMM but also highlighted general prevention strategies that can be adopted. Countering SMM is one component of atrocity prevention, but an increasingly important one. This last section includes recommendations tailored to different groups of stakeholders, although we envision some of these recommendations holding for multiple actors. These stakeholders include social media corporations, established (legacy) media, non-governmental civil society actors, researchers and civil society, and governments and multilateral organizations. Each of the actors plays a significant role in countering SMM. We include specific guidance for each group and broader recommendations to strengthen strategic partnerships among them for atrocity prevention.

Social Media Corporations

This category includes private corporations like Meta (Facebook/Instagram), Twitter, and Google (including YouTube), among others. Although many large corporations have offices and strategies designed to tackle SMM, the following steps are needed:

- Recognize that the platforms play a complex, central role in any effort to curtail disinformation. Remind shareholders that being a field leader includes addressing SMM; the consumer base expects this.
- Adjust algorithms amplifying SMM, especially to reduce the reach of SMM and conspiracy accounts by demoting and de-prioritizing this content from users' feeds. De-platforming accounts that call for violence works.
- Close fake and bot accounts regularly and proactively. Ensure a field-wide standard that provides regular announcements with statistical information and external evaluations (as large companies like Meta currently do) on these efforts to show the companies are responsive to public demand.
- Continue to clarify and consistently enforce policies and procedures for content monitoring, flagging, and removal.
- Institute robust oversight mechanisms and empower staff to exercise decisional authority on flagging and removal. Ensure staff are protected from corporate retaliation or contract non-renewals for third-party vendors.
- Prioritize SMM cases continually, not just when under public scrutiny. Blend efforts to include a clear focus on upstream, preventive monitoring rather than reactive response efforts. Doing so will better equip companies to work with other stakeholders in identifying upstream efforts, thereby preventing (and not just responding) to SMM, especially disinformation. This involves more robust efforts to integrate "lessons learned" from previous cases.
- Commission and implement annual polarization and conflict awareness education among staff, senior decision-makers, and content monitoring specialists. The latter must have regular refreshing training and extra insight into context-specific trends. Similarly, work with instability and atrocity prevention experts to deepen such knowledge in internal crisis monitoring teams. This allows companies to anticipate future atrocity and instability episodes better and prepare accordingly.
- Invest more in local partnerships in the Global South for content moderation. Local experts are an essential asset but often need greater support and resources. Several

experts interviewed noted that many tech company experts have little experiential and other knowledge of conflict-affected societies awash with violent SMM. In contrast, tech company stakeholders admitted that significant gaps in their contextual knowledge exist despite hiring some local experts.

- Protect content analyst and moderator employees in violent or repressive locations, including by greater anonymization of company sources where possible.
- Strengthen and formalize rapid response linkages to the instability and atrocity prevention community. Some of this has occurred, but experts note it remains relatively weak. Invest in building these networks before crises.
- Resist self-censorship demands from recognized authoritarian regimes, including the sharing of surveillance information on human rights defenders working to prevent violence in their local contexts.
- Maximize the effectiveness of corporate giving by sponsoring and participating in digital media literacy programs, journalism grants that allow media paywalls to be removed during instability and atrocity crises, and academic research grant programs for poorly understood aspects of SMM (such as the specific reinforcing processes connecting online extremism and in-world violence).
- Work with advertisers to limit or stop advertising on known SMD sites which monetize disinformation.

Established (Legacy) Media

- Recognize the explicit overlap between robust journalism, atrocity prevention, and SMM. Years of strong investigative journalism may later be necessary to counter dehumanizing calls for violence.
- Prioritize fact-checking and analysis over merely reporting extreme discourse to build a shared basis of facts to counter atrocity-related SMM.
- Invest resources in long-term coverage of key issues, creating a foundation of public record facts that can counter later disinformation campaigns that elevate atrocity risks.
- Work with civil society groups to lead digital media literacy programs, an essential component of reducing bandwagon effects that dehumanize or enable atrocity risks through viral SMM.
- Publicize, protect, and adhere to journalistic norms, explaining to the public what these are and why they are essential. Build trust as a facts-based arbiter by acknowledging mistakes or failures around these norms. This trust will be essential during the heated moments of accumulating SMM-linked atrocity risks.
- Speak openly about the distinction between news aggregators as sources of information and a reduced presence of primary or investigative news reporting.
- Remove paywall protection for critical news coverage.

- Participate in, support, and foster career advancement opportunities associated with non-major city reporting opportunities (e.g., the USA Today Network for rural community reporting), using these opportunities to widen public trust and digital literacy. Consider whether these models can be supported in contexts with long-term, structural atrocity risks.

- Host public events with academics and public intellectuals who can discuss human tendencies toward epistemic insecurity.

- Normalize bias and cognitive dissonance discussions, including for journalists, and be open with the public about the steps taken to minimize these in reporting.

Non-Governmental Civil Society Actors

- Host tabletop exercises and SMM-linked atrocity prevention simulations for stakeholders across all categories, reducing siloed efforts and fostering relationships before crises strike.

- Working with other civil society organizations, create an action plan to strengthen coordination around monitoring and moderation on social media platforms to avoid piece-meal strategies that work at cross-purposes. Solicit input and buy-in from social media companies.

- Build public advocacy for social media accountability. Maintain relationships with social media stakeholders, and when possible, work in such a way that builds political capital for reformers within the system. Additionally, maintain public pressure on tech companies that "whitewash" superficial SMM efforts.

- Pressure tech companies to establish common binding norms and policies on SMM (little incentive exists for them to do so individually). The Global Internet Forum to Counter Terrorism is a start but should be expanded substantially through greater transparency, increased membership, and metrics that move beyond "low-hanging fruit."

- Encourage financial support for news media to drop paywalls to access critical news.

- Be realistic about organizational strengths and resources, planning a division-of-labor strategy among other civil society organizations.

- Contribute detailed conflict mapping of instability contexts and actors, setting the groundwork for tailored and sustained SMM responses. Knowledge of these contexts can help tech companies fulfill the recommendation for more upstream, preventive efforts.

- Practice reflexivity and prioritize platforms for Global South actors to contribute their expertise.

Researchers and Civil Society

- Participate in tabletop exercises with other stakeholders, building networks for practitioners in the field. For senior academics, internally advocate for such activities to fulfill early-career researcher performance metrics (e.g., tenure), building the bench of scholars with SMM and atrocity prevention expertise at all career levels to ensure long-term sustainability.

- Expand fact-checking networks to monitor, flag, and publicize disinformation. This may include combining expertise across high political valence issue areas (elections, public health, security, etc.).

- Remember the different, short-term timelines of atrocity prevention/SMM response, and consider how research can provide empirically grounded frameworks for information organization in real-time.

- Regularly speak with other stakeholders, asking what types of research are needed for practitioners' atrocity prevention/SMM toolkit.

- With civil society actors, lead trainings in SMM monitoring and digital media literacy for the public.

- Partner with psychologists and other experts on education programs about SMM-related biases.

- Prioritize the integration of SMM analysis into violence and instability early warning modeling.

- Support the role of local experts, especially from traditionally marginalized communities including in the Global South, in knowledge production around SMM. Provide support and anonymity when in repressive or violent contexts.

- Practice media skills using available resources (e.g., university media offices, conversations with local journalists, and organizations like the Alan Alda Center for Communicating Science) and write these into grants. Employ these skills to "translate" research to SMM stakeholders and the public.

- Develop more precise and operable frameworks of "harm" that recognize the speed and scale of social media diffusion; work with the instability and atrocity prevention experts on these efforts.

Governments and Multilateral Organizations

- Develop and strengthen internal SMM analytical capacity, including hiring information officers with experience in the linkage between instability, atrocity prevention, and SMM.

- Work with academic experts and integrate SMM into early warning and accountability policy toolkits. Fund case study-specific research to determine what approaches, tools, and lessons learned may be portable (or not) across contexts.

- Increase policy analyst and policymaker knowledge and internal awareness of how social media operates across different platforms, including those with little regulation like Telegram and Gab.
- Be mindful of too much direct government involvement, as this can reinforce mistrust of government. Ask internally whether civil society or other stakeholders can better lead public messaging on a contentious subject.
- Ask questions on these topics internally and with government and multilateral counterparts, specifically about possible internal mismatches in SMM working definitions. Tailored questions can elicit whether competing mandates or mismatched working definitions reduce policy effectiveness.
- Strengthen legislation and international agreements to ensure that tech companies that remove SMM can share material relevant to atrocities/instability with human rights researchers and prosecutors. Tech companies often remove material quickly for violating their relevant Terms of Service and save it for a limited period, but this material can be valuable for analysis and accountability. Current legal avenues, such as the Stored Communications Act, Cloud Act, and various Mutual Legal Assistance Treaties (MLAT), are cumbersome and slow. The Berkeley Protocol on Digital Source Investigations provides practical suggestions for improvements.
- Clarify institutional roles and policies in countering SMM internally and publicly. Avoid actions that may reduce the effectiveness of civil society efforts to counter SMM.
- Remember the erroneous tendency to prioritize process over outcome.
- Democratic governments and multilateral organizations should use their influence and lobbying platforms with other governments. Despite the perceived influence of social media companies, their local content moderators can still face governmental harassment in non-free contexts.
- Utilize global and regional organizations and platforms (e.g., UN, EU, AU, OAS) to integrate SMM analysis with instability and atrocity prevention networks, policies, and doctrine. Currently, this work is ad hoc, with little concrete sharing of best practices. Intergovernmental agencies can be crucial in coordinating and sharing knowledge on standards, policies, and practical tools for combatting SMM.
- In addition to non-governmental organizations and academic-led monitoring efforts, legislators and parliamentarians should consider legislation that establishes accountability and oversight mechanisms for violence and incitement that can be directly connected to platforms.

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About the Authors

Kristina Hook is Assistant Professor of Conflict Management at Kennesaw State University's School of Conflict Management, Peacebuilding, and Development. A specialist in Ukraine and Russia, her expertise includes genocide and mass atrocity prevention, emerging technologies and disinformation, post-conflict reconstruction, and war-related environmental degradation. She regularly consults with government, multilateral, and human rights organizations on these issues. Prior to her time in academia, she served as a U.S. Department of State policy advisor for conflict stabilization.

Ernesto Verdeja is Associate Professor of Political Science and Peace Studies at the Kroc Institute for International Peace Studies, Keough School of Global Affairs, University of Notre Dame. He is also the Executive Director of the non-profit organization Institute for the Study of Genocide. His research focuses on the causes and prevention of genocide and mass atrocities, social media disinformation and mass violence, and transitional justice. He regularly consults with governments and human rights organizations on these topics

Lesson4 : Applying Social Network Settings

Applying Social Network Analysis to Identify Project Critical Success Factors

Abstract

A key challenge in project management is to understand to which extent the dynamic interactions between the different project people-through formal and informal networks of collaboration that temporarily emerge across a project´s lifecycle-throughout all the phases of a project lifecycle, influence a project's outcome. This challenge has been a growing concern to organizations that deliver projects, due their huge impact in economic, environmental, and social sustainability. In this work, a heuristic two-part model, supported with three scientific fields-project management, risk management, and social network analysis-is proposed, to uncover and measure the extent to which the dynamic interactions of project people-as they work through networks of collaboration-across all the phases of a project lifecycle, influence a project's outcome, by first identifying critical success factors regarding five general project collaboration types (communication and insight, internal and cross collaboration, know-how and power sharing, clustering, and teamwork efficiency) by analyzing delivered projects, and second, using

those identified critical success factors to provide guidance in upcoming projects regarding the five project collaboration types.

1. Introduction

If organizations want to achieve a sustainable competitive advantage, in today´s turbulent and instable business environment, they need to craft strategies that allow them to boostnced by how an organization´s core apex guides and motivates the whole organizational structure in order to overcome some major constraints, such as geographic barriers, time zones, functions, and cultures Several authors and researchers argue that performance and innovation are strongly dependent on the ability of how organizations are able to work in networks of collaboration . Research shows that networks of collaboration positively contribute to gaining competitive advantages [], are a powerful source of innovation - especially if they include human diversity , and increase performance if they are efficiently distributed across organizational functions, geographies, and technical expertise domains . Adding to this, latest research shows that if organizations want to increase the chances of achieving a sustainable competitive advantage, managers should adopt an ambidextrous leadership style This leadership style is characterized by exploiting present conditions by optimizing the current business model´s operation, and simultaneously, exploring opportunities that help redefine the business model by taking pioneering risks. This demands more flexibility, awareness, and insight, and ultimately, working more in networks of collaboration. Indeed, some authors argue that in today´s business landscape, although individual competency and training are important factors, it is almost always the network factor that is the big key predictor of high performance in organizations and are usually characterized by having broader and diverse problem-solving networks fueled with positive energy []. But a broader network does not necessarily mean larger in size. Furthermore, some authors argue that when it comes to effective networks of collaboration, bigger does not always means *better*, but rather, superior quality means better []. However, creating a broad and diverse problem-solving network usually requires an extra mile from the employees of an organization, essentially because they need to be more flexible, accountable, and empowered, and proactively search and maintain such networks. This also means that more work will be done through informal networks of relationships, removing to a certain extent, the role of the formal organizational structure in several ways .In fact, building a broader and more diverse problem-solving network requires a proper organizational structure that enables people to strategically create the necessary connections in an energized way. Usually, due its rigid nature, a formal organizational structure is not able to provide for the needs of building such problem-solving networks . However, either under the pressure or when highly motivated to get the work done, employees of an organization naturally engage in informal networks of collaboration, in order to overcome the natural constraints of the formal organizational structure to get the work done. Very often these emerging informal networks are not ruled by the rational-legal authority system that the formal organizational structure provides based on universalistic principles that are understood to be fair, but rather, by fundamentally unfair and particularistic principles, such as friendship, homophily, propinquity, dependency, trust, and others, which are characterized as personal and social needs of individuals . Therefore, if these emerging informal networks-which are usually hidden behind the organizational formal chart and extremely hard to spot with a naked eye -are not properly managed, they can turn into an issue and strongly hinder the performance and innovation capacity of an organization .Research shows that organizational informal networks have a pervasive influence on employees' experience of work, being often critical to how they find information, solve problems, and capitalize on opportunities, and are intimately intertwined with employee satisfaction, well-being, and retention . Ultimately, if these informal networks are not properly managed, they can evolve either into a collaborative overload, or lack or inefficient collaboration patterns . In project environments, the emergence of project informal networks, as an to answer to the day-to-day challenges, occurs at a high speed, and very often is neglected by managers. However, project networks, can be governed and coordinated in very different ways. David Hillson, a renowned name in the field of project risk management, argues that although the number of bodies, standards, and institutes that provide guidance in project management is increasing, projects still fail at an alarming rate . In fact, according to the Standish Group CHAOS report-2015, from 2011 to 2018, only about 29% of executed projects had successful outcomes, according to traditional project success outcome criteria (time, budget, and scope). The same trend was output by the PMI (Project Management Institute) Institute, in the PMI—Pulse of the Profession® 2017 report, where it shows that from 2011 until 2017, projects on average have been completed on time and on budget less than 60% of the time, where drivers such as changes in an organization's priorities, inaccurate requirements gathering, inadequate or poor communication, and team member procrastination, are amongst the most nominated as being responsible for this outcome . Hillson argues that the unsuccessful projects percentage occurs essentially due three major reasons that directly comply with project risk management []. First, processes need to be consensually aligned regarding approaches and risk management standards. Second, principles need to be redefined in order to remove subjective understandings of what risk and project management really is. Finally, people—projects and risk management are still done by people and not machines. Therefore, people's different cultures, know-hows, skills, informal interactions, roles, and dynamics need to be deeper researched and less neglected . The people aspect has been highlighted in a publication in 2018 at the Harvard Business Review under the name "*Better People Analytics*," where two researchers from the people analytics area concluded that, besides the two traditional people analytics factors traits and states, a third factor should be considered . This third factor, coined by the researchers as relational data, is the mapping and analysis of the employee´s informal organizational relationships, in six different areas. They are: ideation-the prediction of which employees will come up with good ideas; *influence*-the prediction of which employees will change others' behavior; *efficiency*-the prediction of which teams will complete projects on time; *innovation*-the prediction of which teams will innovate effectively; *silos*-the prediction of whether an organization is siloed by measuring its modularity; and *network vulnerability*-the prediction of which employees the organization cannot afford to lose. Although organizational informal networks should be identified and properly managed, the latest research indicates that organizations alone, are not able to do that by themselves, essentially due the nature of the purpose for which organizations are designed, which is to drive operational efficiencies, by managing, coordinating, and controlling activities . The challenge is then, how can we uncover and properly manage these informal networks of collaboration? The answer can be found on the application of social network analysis in organizations. In a nutshell, social network analysis (SNA) is the process of studying social structures, by usually analyzing social dichotomous data with a variety of measures developed based on graph theory that helps to explain how those social structures evolve trough time, and how they impact the environments where they exist . Social network analysis theory can play a very important role in bringing light to the social capital challenges. Moved by the impact both positive and negative that informal organizational networks may have in an organization's performance and innovation capacities, researches, institutes and consulting organizations have been incorporating what some coined as people risk management models into their traditional risk management processes . At the same time, specialized people risk literature has been outputting latest trends and developments in this area, which includes but is not limited subjects such as to talent shortages and retention, incompetence, innovation, working in networks, collective and individual performance, cultural fit, values, unethical behavior, low morale, employee wellness, and noncompliance with industry, and fraud . In this work, a further contribution to this trendy people risk field in the area of project management is given, by proposing a heuristic model to identify the extent to which the dynamic interactions of project people throughout all the phases of a project lifecycle, influence a project outcome. The proposed model will analyze and quantitatively measure the project-related information that *flows* across the naturally emerging project´s informal network, throughout all the phases of a project lifecycle. The proposed model is named the project outcome likelihood model (POL) and was developed based on three scientific fields (**Figure1**). They are: project management theory-which contributes with the terminology used in project management, and the structure of a project lifecycle; social network analysis theory-which contributes with the tools and techniques to uncover and measure the dynamic interactions of project people throughout a project lifecycle; and risk management theory-which contributes with the risk identification and treatment process and framework.

Figure 1. Three scientific pillars that form the basis to the development of the POL model.

2. Literature Review

2.1. History and Evolution of Social Network Analysis

Since the publication of the book "*Who Shall Survive"* by the Romanian-American psychiatrist, psychosociologist, and educator Jacob Levy Moreno (1889-1974) in 1934, research and development in the field of social network analysis has been exponentially increasing in a wide range of different areas . It spans social and behavioral sciences , agriculture health care environment , law, national safety, criminology and terrorism , political science , organizational science industry, management and leadership , communication, and learning and media , just to name a few. J. Clyde Mitchell defined social network analysis as, "A specific set of linkages among a defined set of persons, with the additional property that the characteristics of these linkages as a whole may be used to interpret the social behavior of the persons involved" . Although the application of the graph theory has been around for more than two centuries, it was only when it started to be applied to study social structures that it exponentially rose in popularity, essentially motivated by the desire to understand the extent to which people´s behaviors and relationships influence others and outcomes, usually translated into performance, innovation, social cohesion, information diffusion, and so on. Indeed, these types of relationships are complex by nature, and cannot be completely explained trough traditional individualistic social theory and data analysis methods, but rather by methods that are embedded in sociology that consider the individual´s social context in the process of making choices . It is exactly at this point that social network analysis plays a critical role, by providing valuable insight . One of the very first publications, arguing the benefits of applying social network analysis in organizations, was published in 1979 by network researchers Noel Tichy, Michael L. Tushman, and Charles Fombrun . In their work, they suggested that by applying social network analysis to organizations, significant advances could be made in organizational theory and research, because this approach would facilitate the comparative analysis of organizations as well as the comparison of subunits within an organization. Furthermore, they outlined that the benefits of applying SNA were substantial and appeared to far outweigh the costs. In fact, in a comparative scenario between two organizations, where, for example, it is assumed that the performance and innovation levels of both are direct consequences of the dynamics of their informal networks, only when those dynamics become quantitatively measured (which can be done by applying SNA) can the comparison be done.

2.2. Social Network Analysis and Project Management

2.2.1. Project Management Challenges

A project is a temporary endeavor with a defined beginning and end, designed to create a unique product or service, and is expected be properly managed by the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements, throughout all the different project phases that comprise a project lifecycle . Due lack of consensus regarding how many phases a project should be divided into, a common approach is that the number of project phases is determined by the project team, and/or the type of the project. Project management challenges, usually called project risks (essentially threats, rather than opportunities), represent essentially the likelihood of not delivering planned project activities within the constraints (usually, scope, quality, schedule, costs, and resources) associated to a project. According to David Hillson, project risk is the uncertainty that matters and aims to separate what a *real* project risk is, from what a *not real* project risk is. Hillson suggests four types of uncertainties that could affect a project’s ability to achieve its objectives, regardless of a project phase . They are: 1-Event risk: Possible future events, sometimes called “stochastic uncertainty” or “event risks.” An event risk is something that has not yet happened and may not happen at all, but if it does happen, it has an impact on one or more project objectives; most of the risk identified at the project risk register is of this type, and a set of well-established techniques for identifying, assessing, and managing them already exists. 2-Variability risk (also called “aleatoric uncertainty”): They are a set number of possible known outcomes, among which it is not known which one will really occur. These types of project risks cannot be managed by applying standard risk process procedures, but rather advanced analysis models, such as the Monte Carlo simulation. 3-Ambiguity risks (also known as “epistemic uncertainties”): Uncertainties arising from lack of knowledge or understanding. Could be called know-how and know-what risks. They comprise the use of new technology, market conditions, competitor capability or intentions, and so on. These can be managed by learning from experience of others-lessons learned-and by prototyping and simulating before taking real action. The proposed model in this work can be seen as a framework to manage ambiguous risk types, once it aims to identify critical success factors from past events (lessons learned), and use identified critical success factors to guide and predict (simulations) a future outcome of an ongoing project. 4-Emergent risks: They emerge from people´s blind-spots. Usually called “ontological uncertainty,” they are more commonly known as “black swans.” These risks are unable to be seen because they are outside a person´s experience or mindset, so one does not know that he should be looking for them at all. Usually they arise from game-changers and paradigm shifters, such as the release of disruptive inventions or products, or the use of cross-over technology from previously unforeseen sources. To manage them, contingency seems to be the key word, sometimes defined as “the capacity to maintain core purpose and integrity in the face of external or internal shock and change”. Pinto and Slevin, 1988, uncovered a set of ten critical success factors that, contrary to Hillson, change importance according to a project phase. These critical success factors are considered major project risks that if not properly managed, will hinder the chances of a success outcome. They are : (1) project mission not being properly defined, (2) lack of top management support, (3) non-detailed project schedule, (4) poor client consultation, (5) lack of necessary and proper technology and expertise, (6) poor team skills and experience, (7) ambiguous client acceptance, (8) lack of proper monitoring and feedback of project activities, (9) poor or lack of proper communication, and (10) non-readiness to handle excepted crises and deviations from plan (in other words, lack of a contingency plan). It can be said that regardless of a project phase, the above-mentioned risks and critical success factors, if not properly managed, will damage the likelihood of achieving a successful project outcome.

2.2.2. Application of Social Network Analysis in Project Management

The application of social network analysis has been in the last few years extending into the area of project management, although this adoption remains so far at a very initial stage. In project environment, objectives such, as but not limited to, understanding and measure knowledge transfer, consensus building, and the identification of critical success factors-regarding the dynamics of project informal networks-which may contribute to a success project outcome, have been priorities of the application of social network analysis. Regarding the identification of critical project success factors though, still without applying social network analysis, it has been a present preoccupation within the most recent years. One of the very first notable works regarding the identification of critical success factors in project management was published by Pinto and Slevin in 1988. By surveying circa 400 project managers from very different industries areas, asking them what major reasons that lead to success and unsuccess projects allowed them to identify a set of common critical factors that were indicated as responsible for a successful project outcome. Furthermore, they identified that those critical factors were changing the importance degree, function of the project phase. They identified a *top ten set* of critical factors. Three of them are related to how project people work in networks of collaboration throughout the different phases of a project lifecycle. They are top management support, client consultation, and communicating network. The findings made by Pinto and Slevin in 1988, were revalidated by research conducted in 2005 and 2012. This study contributed to triggering the interest of network and project researchers that soon brought social network analysis into the project management field. They are trying to provide valuable insight into some of these critical factors identified by Pinto and Slevin. In a publication at the Harvard Business Review (HBR) in 1993, professor David Krackhardt, and Jeffrey R. Hanson, highlighted the importance of managers tapping their informal organizational networks as being a key contributor for success, essentially by mapping three types of networks: the *advice* network-which reveals the people to whom others turn to get work done; the *trust* network-which uncovers who shares delicate information; and the communication network-which shows who talks to whom about work-related matters. These three networks would then be mapped with the employee´s relational information collected through surveys. They argued that this approach would get to the roots of many organizational problems. In 2001 Stephen Mead conducted one of the first, and top ten most-cited case studies ever, wherein he applied social network analysis in a project environment to visualize project teams. By the application of SNA, Mead identified and analyzed an informal project stakeholder´s communication network. Mead identified isolated and central stakeholders regarding the informal communication network and elaborated a corrective plan in order to improve the performances of those that were isolated. In the latest 30 years, remarkable research has been done by Professor Rob Cross, a renowned researcher and developer who applies social network analysis to study organizations. In one of his works, "*The Hidden Power of Social Networks,*" published in 2004, he collects a set of ten-year research cases in the study of organizations, and he highlights the many benefits of the application of SNA in organizations, especially in project environments. Cross found that in every organization, there is an informal organizational network that is responsible for how the work is done. Furthermore, he argues that in every informal organizational network, there are a set of common actors who are responsible for most dynamics of an organization. These actors include: the central connector, the boundary spanner, the information broker, the peripheral expert, the peripheral intentional, and the energizer. These names were coined to functionally describe their positions in the informal network structure sures were applied to understand the multidimensional determinants and complexity of tobacco use. Prell et al. (2009) applied SNA to analyze stakeholder networks in a natural resource management, where they identified which individuals and categories of stakeholder played more central roles in the project network and which were more peripheral, leading this information to guide stakeholder selection. Another notable work, regarding the application of social network analysis in projects, was published in one of the most credited project management institutes in 2012; it details the importance of four key subjects of social network analysis, showing that those key subjects are directly related to project management performance. They are centrality, structural holes, boundary management, and tie strength. The other latest studies regarding the application of social network analysis in project environments, go from the development of models based on SNA to analyze communication, collaboration, and knowledge networks in project meta-networks , to the analysis of mega projects networks, from the perspectives of different important project stakeholders that help to develop proper long-term project governance policies . In 2017, Mok et al. (2017) applied SNA basic network centrality measures to identify key challenges in major engineering projects (MEPs) based on interdependencies between stakeholder concerns, resulting in the identification of a set of key challenges that that occur in such MEPs, and helped to properly develop a set of recommendations to alleviate those challenges, which could be used in future MEPs. Yu et al. (2017) , used social network analysis to investigate social risks related to housing demolition, from a stakeholder perspective in China. A recent work in the field of organizations, developed by Michael Arena, Chief Talent Officer for General Motors, concluded that, after years of investigation in several organizations, successful organizations operate in a networked way, enjoying what they called an *adaptative space*, which enables a proper connection between the operational and entrepreneurial pockets of an organization in a *virtual* space-adaptative space-where employees explore new ideas, and empower the most creative people to spread their ideas across the organization. This adaptative space is built, managed, and maintained using social network analysis . Arena argues that this *adaptative space* enables organizations to work in a more agile way, which ultimately contributes to outperforming the competition in a disruptive way. However, research and development in the area of SNA extends to other areas, as does the example of the research done by professor Eric Xing, where he conducted an investigation on dynamic predictive models, built on social network analysis theory, which have as objectives, forecasting how people will interact and react when facing different future events. Such predictive models, integrated into the risk management process of an organization, may strongly help organizations to better, and more accurately prepare projects or operations, by estimating with a higher certainty degree the evolution of future events, and thus, prepare proper plans to respond to those events. In the field of project management, such dynamic predictive models will bring critical help, namely, at the stage of choosing elements to form a project team that better will adapt to certain upcoming project events, by forging the necessary hard and soft skills that are needed to face future events. Finally, an indicator of the growing trends regarding the importance of the application of social network analysis in organizations to analyze the influence that the informal organizational network may have on performance, innovation, employee retention, and so on, is visible in renowned consultancy organizations such as, but not limited to, Deloitt and Mckinsey , as they continuously keep integrating social network analysis in their people analytics toolkits.

2.2.3. The Importance of Centrality in Project Management

Centrality in a social network refers to the structural attribute of an actor-where an actor is located within the structure of a social network-and not to the actor´s own inherent attributes such as age, tender, expertise, and so on. Throughout years of research, leading social network researchers have been arguing that actor centrality can be a measure importance, influence, prestige, control, and prominence , and these can be quantitatively measured by applying graph theory centrality metrics, such as *degree*, *betweenness*, and *closeness* . According to Freeman (1979), for each of these metrics a respective social direct implication exists as follows: activity (degree can be an index of potential for the network´s activity), control (betweenness is an index of communication control by serving as bridge between two different subgroups of an network), and independence (closeness is an index of the potential independence from network control) respectively. In other words, network centrality can be seen as a source of informal power in a network. In this context, informal power derives from the advantageous position of an actor in the network regarding interaction patterns, such as communication, collaboration, information exchange, and so on, whereas formal power is defined by the position of an actor in the organizational formal chart. It can be argued that in an organizational context, people occupying those three mentioned social network structure positions (degree, betweenness, and closeness), have a greater responsibility in the maintenance and coordination of the whole network. As previously shown, several studies have focused on the centrality subject in informal networks as a special location within a structure of an informal project network. In fact, further research has been showing that centrality in informal networks plays a key role regarding project coordination and decision-making. Liaquat et al. (2006) applied network analysis to explore the correlation between actor centrality and project-based coordination, concluding that in projects, actors who are central and well connected in informal project networks are able to exercise greater coordination within the network structure. Dogan et al. (2014) reinforced the idea of the importance of centrality in informal networks, as he applied social network analysis to measure coordination performance in building and construction projects, concluding that coordination scores are highly correlated with centrality indices. Wen et al. (2018) applied social network analysis to investigate the determinants of timely decision-making from the perspective of collaboration network dynamics and concluded that network tie strength (familiarity) and network position strength (centrality) have a positive effect in a real-world project decision setting.

3. Model Development and Implementation

3.1. The Proposed Model in a Nutshell

The model proposed in this work is called project outcome likelihood (*POL*) method, and aims to provide valuable insights that may contribute to answering the following question: to which extent, do the dynamic interactions of project people throughout all the different phases of a project lifecycle, influence a project outcome? In a nutshell, to provide valuable insights that may contribute to answer the question presented above, the proposed model is designed to identify repeatable behavioral patterns that are associated to a certain project outcome type (success or failure). In other words, the model will analyze how project people behave throughout the project lifecycle of a successful delivered project, and how project people behave throughout a project lifecycle of an unsuccessful delivered project. If the model finds that in projects that were successfully delivered, project people clearly behaved differently-regarding five different global collaboration types (**5-GCT**)-than in projects that were unsuccessfully delivered, then the answer to the question above presented, is found. Furthermore, if indeed different behaviors are found, they are considered project critical factors, with obvious focus on what the project critical success factors are. Those different behaviors will be identified by analyzing and measuring information arising from project meetings, emails, and questionnaires through the application of social network analysis. This information mirrors the dynamic interactions of project people throughout all the different phases of a project lifecycle, and is used to characterize the five different global collaboration types, which are (**Table1**): (a) communication (b) internal and cross boundaries-collaboration,(c) know-how and power sharing, (d) clustering (variability effect), and (e) teamwork efficiency. The complete framework is illustrated in **Figure 2**. After the identification of the critical success factors, the model proposes a framework to monitor the evolution of an ongoing project by comparing an actual state against a desired state based on the identified critical success factors. This framework is illustrated in **Figure 3**.

Figure 2. POL model: Part 1's process for success and failure project outcomes. Source: adapted PMI, 2017.

Figure 3. Model framework-Part 1 and Part 2.

Table 1. The five global collaboration types (5-GCT) of the POL model.

3.2. Model Key Concepts

3.2.1. Project Definition

Before drilling down on how the model is built and operates, important subjects need to be introduced. The proposed model will analyze projects that were successfully and unsuccessfully delivered. First, a project is to be defined, according to the PMI, as a temporary endeavor undertaken to create a unique product, service, or result .

3.2.2. Project Outcome

Regarding how a project is delivered, there are only two possible types of outcomes—successful and unsuccessful. These two types of project outcomes—successful and unsuccessful, are the only ones accepted by the proposed model, and the criterion that dictates both types is given by the PMI . It essentially says that a successfully delivered project is a project that was delivered on time, within the agreed scope, budget, and the quality.

3.2.3. Number of Projects

The proposed model does not preview a minimum or maximum recommendable number of projects that were successfully and unsuccessfully delivered to be analyzed. There is a minimum number of projects that needs to be used as input to the model so that it can function. This number is two: one successful and one unsuccessful delivered project. However, in order to obtain more significant results that better represent, to a certain extent, the overall working culture of a service provider-organization, while delivering projects for one or multiple customers, a substantial number of projects is recommended. It would not be an exaggeration to say the more projects, the better.

3.2.4. Project People

Project people are any people who directly or indirectly participated in a project, throughout its lifecycle. These are the internal stakeholders from both interacting parts—service provider and the customer and are contractually engaged for the demand/supply of resources, services, and/or end products in project delivery .In other words, project people are any people who have participated in project meetings, email project information-related exchanges, and questionnaires. Nevertheless, as the model previews only the study of the dynamic interaction between two different teams (Team A—service provider and Team B—customer), across a project lifecycle, all project people are expected to belong to one of the two sides—Team A or Team B, regardless of the type of relationship with one of the sides—outsourcing, consultant, or other. In a case where there was participation of project people who did not belong to either Team A or Team B, they were not considered by the proposed model. This is the case regarding, for example, external consultants or audit-teams that were both agreed on by Team A and by Team B to come into play across a project lifecycle, usually playing a neutral role characterized essentially by advice and guidance.

3.2.5. Project People-Roles

Across a project lifecycle, it is usually expected that several different project people-roles, with their own and specific responsibilities, take part on project activities. Also called important stakeholders, project people-roles for the proposed model are: the project manager(s), engineer(s), expert(s), other(s), and outsourcers. Others include all those project roles that have not been previously mentioned.

3.2.6. Project Phases and Lifecycle

Any project that has been successfully or unsuccessfully delivered, has a finite number of project-phases. The number of phases is given by the PMI standard, where four generic phases are previewed. They are: starting the project, organizing and preparing, carrying out the work, and ending the project . The sum of all project phases of a project is the so-called ***project lifecycle***. The sum of all project phases of a project is the so-called project lifecycle.

3.2.7. Dynamic Interaction

The dynamic interactions of project people (DIPP), refer to how project people communicate, direct, and cross boundaries to collaborate-share know-how, exert power, cluster (create and lose relationships), and provide advice or help-within the project informal network, and they are analyzed by measuring the degree of meeting participation by project people, the rate and intensity of emailing project information-related material, and the degree of importance and influence of some project people over other project people, measured though information collected in questionnaires.

3.2.8. Project Informal Network

The project informal network, or project social network (PSN) refers to all the project people's dynamic interactions that occur out of and inside the pre-defined formal structure format. This means that, for example, in the email project information-related exchange network, the communication between a project people A and a project people B, will be analyzed and considered part of the project informal network, even when A is the direct superior (according to the project formal chart) of B. The same principle is applied if project people A and project people B have no direct formal dependency relation (superior nor subordinate); still the email-based project information-related exchange network will be analyzed and considered part of the project informal network.

3.3. Model Function Principles

As previously said, the proposed model will look for repeatable behavioral patterns (RBP) regarding the dynamic interactions of project people across the different phases of a project lifecycle, for both project outcomes. If the model identifies unique RBPs that are associated with a certain project outcome (success or failure), they are classified as critical factors. Unique RBPs mean that there are things that repeat themselves only in one of the two possible project outcomes. By being unique, they are immediately considered project critical success factors by opposition. To better illustrate the above description, a theoretical example will be explained using **Figure 4** as support. **Figure 4** presents the lifecycles of two real delivered projects-Project 1 and Project 2-which were delivered to a Customer C (not present at the **Figure 4**) and accomplished by the Organizations A and B (both present at **Figure 4**). Both Projects 1 and 2 comprise the development and implementation of technical solutions in the food and beverage industry. Essentially, Customer C, a market leader in the food and beverage industry, invited first, several organizations that deliver projects in the mentioned area, such as Organizations A and B, to show their plans/ideas, and to develop and commercialize a new product; and second, to create two project proposals that meet its needs: namely, building two new production lines. Organizations A and B won both project proposals and delivered both projects, 1 and 2. Project 1 and Project 2 occurred at different points in time, but within the same year in Europe. Both projects were delivered across the year of 2019, with the average duration of 5 months each. Organization A delivered the engineering and mechanical installation parts, and Organization B delivered the automation and programming services. Project 1 had a budget of circa 8 M€, and Project 2 had a budget of circa 5 M€. For both projects, 1 and 2, the same formal structure was used regarding Organizations A and B respectively, according to **Figure 4**. Due to protection reasons, further project information, and the identities of Customer C and Organizations A and B, will not be disclosed in this work. Employees (project people) from Organization A are represented with the black color (Team A), and from the Organization B, with the green color (Team B). At **Figure 4**, the project people's locations within the project's formal structure are also illustrated, which is valid for both Projects 1 and 2, where for example, for Team A, PP1 is the project manager; PP2, PP3, PP4, and PP5 are the direct subordinates (functional managers); and PP6, PP7, and PP8 are project staff (engineers, programmers, and so on). The project people represented in the formal chart are those project people that were assigned at the very beginning of Phase 1 to deliver the project throughout all the project phases. Concretely, **Figure 4** represents the collaboration network between Organizations A and B, while delivering Projects 1 and 2 to a Customer C. The blue line (project planned curve) represents how the projects were planned to be delivered. The grey line represents how the projects were delivered. Project 1 was successfully delivered, and Project 2 was unsuccessfully delivered. For this illustrative case, and according to the PMI, a successfully delivered project is a project delivered on time, within agreed scope, budget, and quality . On the other hand, an unsuccessfully delivered project is a project where at least one of the mentioned constraints (time, scope, budget, or quality) was not delivered according to the plan. Both projects have four different phases: Phase 1, 2, 3, and 4 throughout their lifecycles. In each of the four phases of both projects, the light blue lines represent the email communication networks between the project people. Such networks mirror the direct communication (emails sent directly to, or received directed from) patterns; the results of the analysis of all project-information-related emails at any given project phase. For example, after consulting the email exchange logs for Project 1 at Phase 1, there was direct communication between project person 4 and project person 5. This means that PP4 sent and or received an email from PP5, and vice versa, at any given time within the Phase 1 of Project 1. On the other hand, for example, on Project 2 at Phase 1, PP3 and PP5 never had direct contact regarding email exchange. Each light blue line between any two project people represents an email communication channel regardless of the number of emails exchanged. When analyzing how the email communication occurred at the first two phases (Phase 1, and Phase 2) of both projects, it is clear that for the project that was successfully delivered (Project 1), the email communication network was by far denser than the email communication network in Project 2.

Figure 4. Project lifecycles for Project 1 and Project 2.

For these two phases, and not considering any other factors, it can be concluded that a denser email communication network in Phase 1 of a project is correlated to a project success outcome.

Therefore, the email communication network is a critical success factor, and project success outcome is correlated with a dense email communication network at Phase 1 of a project. However, one still needs to define what dense and sparse email communication networks are. This means that they need to be quantified. It is now that the social network analysis provides critical help. SNA uses the graph theory that can be used to characterize and measure a social structure. The constellation that results from linking project people through emails sent and received perfectly mirrors a typical graph structure. Therefore, the direct application of graph theory metrics is adequate. For this case a centrality measure—the *density* metric—will be used to quantify what a dense and a sparse communication network is. The density is the ratio of existing links between project people inside each phase of each project lifecycle, to the maximum possible number of links (when everybody is linked) between project people, and is given by Equation (1):

(1) where:

- *L* = number of existing lines between project people;
- *n* = total number of project people;

Applying Equation (1) for Phase 1 of Project 1:

d=185(5−1)=90%d=185(5−1)=90%

(2)

Applying Equation (1) for Phase 2 of Project 1:

d=206(6−1)=67%d=206(6−1)=67%

(3)

Applying Equation (1) for Phase 3 of Project 1:

d=166(6−1)=53%d=166(6−1)=53%

(4)

Applying Equation (1) for Phase 1 of Project 2:

d=85(5−1)=40%d=85(5−1)=40%

(5)

Applying Equation (1) for Phase 2 of Project 2:

d=127(7−1)=29%d=127(7−1)=29%

(6)

Applying Equation (1) for Phase 3 of Project 2:

d=104(4−1)=83%d=104(4−1)=83%

(7)

After analyzing the results, it can be concluded that the density value, for example, for Project 1 at Phase 1 is 90%, and for Project 2 at Phase 1 it is 40%. This means that, at Project 1 in Phase 1, there was 50% more direct coverage regarding the email communication network, than for Project 2 in the same phase. In other words, this means that for Project 1 at Phase 1, almost everybody directly communicated with everybody through the email network, at a certain point in time. There may be several interpretations for this. One, for example, is that according to the legend, PP1 for both Projects 1 and 2 is the respective project manager for Team A or B, and PP4 is a direct subordinate, it can be concluded that the email communication network for Project 1 follows a more informal pattern than the one for Project 2. This is because for Project 1 in Phase 1, one project manager subordinate (PP4), had direct contact with all the other project people, in opposition to the PP4 at Project 2, where the email communication network follows a more formal pattern; the email communication between Organization A and Organization B is exclusively done through the project manager of Organization A. For example, in Project 1 at Phase 2, the direct email communication channels drop to 67%, which means that from all the possible direct email communication channels, only 67% of them exist. Now when analyzing Phase 4 of both Projects 1 and 2, it can be seen by the naked eye that all the project people are directly connected through an email communication channel. In fact, when applying Equation (1) for both projects at Phase 4:

Applying Equation (1) for Phase 4 of Project 1:

d=63(3−1)=100%d=63(3−1)=100%

(8)

Applying Equation (1) for Phase 4 of Project 2:

d=124(4−1)=100%d=124(4−1)=100%

(9)

In this case, for the Phase 4 of both projects, there is no difference between the density results on the both projects. However, Project 1 was successfully delivered, and Project 2 was unsuccessfully delivered. Therefore, it can be concluded that, the email communication network for Phase 4 of both projects is no longer considered a critical success factor, because there is absolutely no difference between the results for both projects, regarding the density metric. These results are in line with findings from Pinto and Slevin in 1988, as they found that project critical success factors change in degree of importance or even disappear, at the function of project phase. Therefore, for Phase 4, there is a need for another SNA metric that may identify a pattern regarding the dynamic interaction of project people that can be correlated to a certain project outcome. Finally, when comparing Project 1 with Project 2, regarding the email communication network, it can be concluded that for Phases 1, 2, and 3, it is denser in Project 1 than in Project 2. This means that there is a repeatable behavior pattern (RBP) at phases 1, 2, and 3, of Project 1 (successful outcome), which is characterized by having a dense email communication network, of values 90%, 67%, and 53% respectively.

3.4. Project Success Profile and Project Failure Profile

Now, let us assume that the collaboration between Organization A and Organization B had successfully delivered 20 projects to the imaginary Customer C and other 20 unsuccessfully delivered projects to the same imaginary Customer C within the latest year (making 40 projects in total), and that the project lifecycle of Project 1 in **Figure 4** no longer represents the project lifecycle of one single successfully delivered project, but rather the averaged lifecycle of all those 20 successfully delivered projects within the latest year. The same goes for Project 2 in **Figure 4**, where it now represents the averaged lifecycle of all those 20 unsuccessfully delivered projects within the latest year. In this case, the light blue lines in the lifecycles of **Figure 4** now represent the average repeatable behavioral patterns regarding the email communication network. That means that on average, all the 20 successfully delivered projects had at Phases 1, 2, and 3, a denser email communication network than for the 20 unsuccessfully delivered projects for the same phases. The average results of the email communication network represent one aspect of the so-called project success profile (**PSP**) and project failure profile (**PFP**), for successfully and unsuccessfully delivered projects respectively. A project's success or failure profile represents all the different SNA metrics that were used to analyze and quantitatively measure the dynamic interaction of project people across a project lifecycle. Until now, only one metric has been used to characterize and measure one type of dynamic interaction that occurred at the project informal network, which is the email communication network. Concluding, a project profile is the collection of all averaged SNA-metrics results used to analyze and measure each individual project from the set of projects that were successfully and successfully delivered. Furthermore, the creation of a project success or failure profile is only meaningful if more than one project has been successfully and unsuccessfully delivered. Then, the process of identifying the critical success factors follows, by adopting the same approach as was the case for the density previously explained.

3.5. POL Model Application Span

The proposed model is not limited to any certain fixed number of ***project phases***, as we propose in this work, four generic phases recommended by the PMI. The proposed model is designed to applicable regardless of ***project size and complexity***. The ***project people-roles*** are not limited to those previous mentioned at *3.2.4*, as long they are well defined for both project success and project failure outcomes. Finally, the project Teams A and B that are to be analyzed by the model, are necessarily limited to a relationship service provider—Customer as it is proposed in the present work. This means that, regarding ***project teams***, Teams A and B, can be any two different teams in an internal organizational context (between any two business units for example), or an external organizational context (between any two different organizations) that delivers, or/and requests projects. However, the analysis must be always done between any given two teams; for example, a Team A and a Team B, in every project phase, in order to be possible to quantitatively measure. These in turn, may be agglomerated, or delayered into several other "sub" teams. For example, if in a project there is a service provider (Team A), a customer (Team B), and a supplier (Team C), and so on, the model will analyze the dynamic interactions between A and B, A and C, and B and C. In other words, the analysis is always to be done between any two different entities, internal—(if, for example, they are business units, or departments of a given mother organization), and external (if they are different organizations; for example, supplier and customer)—that participate across a project lifecycle's activities/tasks.

3.6. POL Model Part 1 and Part 2

Until now, the model only analyzed a set of delivered successful and unsuccessful projects looking for unique RBPs from both project outcomes, in order to identify critical success factors. This is called Part 1 of the model, which is characterized by the identification of project-phase critical success factors. Once critical success factors have been identified, they are to be used as guidance for an ongoing project. This is Part 2 of the model, which is characterized by estimating an ongoing project outcome. This Part 2 of the model can only be executed if Part 1 of the model has been done beforehand and critical success factors have been identified. Otherwise, Part 2 of the model is excluded. Essentially, in Part 2 of the model, an *actual state* of an ongoing project is to be compared to a *desired state* of an ongoing project. The proposed model will then be used to identify whether there are any deviations between the *actual state* and the *desired state*, regarding the dynamic interactions of project people across a project lifecycle. A framework for both parts of the proposed model is illustrated in **Figure 3**. In order to understand how the proposed model functions, **Figure 3** and **Figure 4** must be simultaneously interpreted.

For the POL model's Part 1 (**Figure 3**), required project related-data according to **Table 2** and **Table 3**, arriving from number of selected successfully (PSO) and unsuccessfully (PFO) delivered projects will be analyzed and measured (for all the different project phases) by the application of metrics based on social network analysis and statistics (**Figure 2**). After all selected projects have been analyzed, an averaged profile characterizing all the successful (PSP) and unsuccessful (PFP) delivered projects will be created (**Figure 2** and **Figure 3**). The content in each of the created project profiles is an averaged result, reflecting the repeatable behavioral pattern (RBPs), regarding how project people dynamically interacted throughout the different phases of the selected project lifecycles for both successfully and unsuccessfully delivered projects (**Figure 2**, **Figure 3**). It follows a comparison process between the RBPs that characterize the PFP and the PSP. Throughout this process, if crystal clear differences (opposite results regarding PSP and PFP) are identified, then project critical success factor(s) have been identified (**Figure 2** and **Figure 3**). At this point, if project critical success factor has been identified, the characterization of the five global collaboration types is concluded. If critical success factors have not been identified, then it is to be concluded that according to the proposed model, the dynamic interactions of project people across the different phases of the analyzed project lifecycles do not influences a project outcome (**Figure 3**). In the POL model, Part 2 (**Figure 3**), if critical success factors have been identified in Part 1 of the proposed model, then for an ongoing project they may be used as guidance regarding the dynamic interactions of project people for the actual project phase of the ongoing project. However, functions of the metrics to be applied at Part 1 need to be run to output the quantitative results that enable one to compare the actual status of the ongoing project with the *should be* status according to the identified critical success factors. If there is a deviation between the actual status and the *should be status*, then it is to be concluded that according to the proposed model, the likelihood of heading to project failure outcome is real. The contrary is then also true. The outcome likelihood will then be estimated by applying a simple rule based on the highest percentage of metrics indicating success or failure outcome. In other words, the more metric results—for an ongoing project—are aligned with the critical success factors identified at Part 1 of the model, the highest is the success outcome likelihood of the ongoing project phase (Part 2 of the Model). Nevertheless, the present work does not aim to detailed explain the process of estimating a project outcome likelihood.

Table 2. Requirements for Part 1 and Part 2 of the POL model.

Table 3. Necessary information regarding each of the social interaction tools.

3.7. POL Model Requirements

So that the model can function, a set of requirements is needed for Part 1 and Part 2. These requirements are illustrated in **Table 2**.

The necessary information regarding the dynamic interaction of project people will be collected through three different social interaction tools (SIT). This necessary information is illustrated in **Table 3**. Meetings refers to F2F (Face to Face), or Web project meetings that occur in each phase of a project lifecycle. Mails refer to all the project related information emails that were exchanged between the project people, in each phase of a project lifecycle. Questionnaires, will only be used in the phases of the project lifecycle, where a third organization is outsourced to accomplish project activities. Usually, Questionnaires are applied at the execution phase of a project lifecycle. The data collected through these three SITs will then be analyzed, using a set of tools and techniques based on social network analyses, and statistics that enable us to measure the dynamic interactions of project people across all phases of a project lifecycle.

The quantitative results outputted by the SNA-metrics and statistics will be used to characterize five global collaboration types (5-GCT) that usually occur between project people, across all project phases of any project lifecycle, for both PSP and PFP. They are, (a) communication and insight, (b) internal and cross-collaboration, (c) know-how and power sharing, (d) clustering (variability effect), and (e) team efficiency. In **Table 1** is illustrated a detailed description on the five global collaboration types (5-GCT) that usually occur between project people, across all project phases of any project lifecycle.

In **Figure 2** is illustrated the overall process of the POL model for Part 1. The proposed model is not constrained to a determined number of phases of a project lifecycle. However, four phases will be adopted, which represent the generic phases of a project lifecycle recommended by the PMI (PMI, 2017). First, the required information for each project phase is collected (according to **Table 3**) for both project outcome types (success and failure). Then, the collected information regarding both project outcome types (success and failure) goes through process of analysis, by the application of social network analysis tools and techniques and statistics, which allows the project people's relational data (dynamic interactions) to be measured for both project outcome types. After that, a project success profile and a project failure profile are created. Then, the results obtained for both PSP and PFP are used to characterize the five global collaboration types (5-GCT). After that, if different RBPs (regarding each of the five global collaboration types) are to be found for each project outcome type (success or failure), then the critical success factors for the project-phase that is being analyzed have been identified! For Part 2 of the proposed model, the process is quite similar as for Part 1, but some steps are suppressed. As previously said, Part 2 of the model only makes sense if both Part 1 has already been run, and critical success factors have been identified for a certain project phase; otherwise, there will be no data to compare with. For example: Part 1 has been run, and project-phase critical success factors for all project phases have been identified. A new project is ongoing and finds itself at a certain point in time (AP) within the Phase 2. In this case, the model should be run with the requirements (by the pol model) and availability (since Phase 2 of the new project started until *AP*) for Phase 2, and the results should be compared with the critical success factors identified for Phase 2. After the comparison has been made, decisions can be made as to whether there is a need for implementing corrective actions or not.

3.8. POL Model Implementation

As previously said, the number of phases adopted in this work will be four. They are, *starting the project*, *organizing and preparing*, *carrying out the work,* and *completing the project.* These phases are adopted from the recommendations of the PMI. For the demonstration of the implementation of the POL Model, a real application case of was used, and it will be illustrated in the following pages. For this illustrative case, a generic project with four different phases has been chosen, where Teams A and B are expected to collaborate to ideally successfully deliver the project. In each project phase, meetings, email-exchange communication, and questionnaire data (in this case only at Phase 3) were recorded according to **Table 3**. The implementation goes as follows:

3.8.1. Defining the Official Project Formal Structure

First, the model previews the establishment of a formal organizational chart at the very beginning of the first phase of a project lifecycle (**Figure 5**), or even before the mentioned phase, and is to be set one time only.

Figure 5. Organizational formal chart-model implementation.

In **Figure 5** is the formal organizational chart of two Teams-Team A and Team B-that are collaborating across all the different phases of a project lifecycle in order to deliver a project. The formal importance degrees-known as the official line of command of both Teams A, and B—are represented on the formal organizational chart at **Figure 5** which is top-down (from A1 down to A6, as an example of **Figure 5**) ranked; on the top are the most important project roles, and at the bottom are the minor project roles. The formal chart displayed in **Figure 5** is where who plays what role is to be seen, and who does what, throughout the project lifecycle. Furthermore, for the POL model is the setting of the base-team that is expected to deliver the project throughout all the phases of the project lifecycle.

3.8.2. POL Model Implementation of Phase 1-Starting the Project

In **Figure 6** is illustrated the implementation process for project Phase 1—*starting the project.* In this phase (as well for the following project phases), there must be two well-defined points in time, representing where the phase starts and where the phase ends. Those are represented by the points at red *START* and *END* at **Figure 6**. Across this phase, a set of project meetings did occur, and the information regarding those meetings is to be collected according to **Table 3**. Project meetings are named events (*E*) and are coded as: *E1_1*, where for example: E_1 = event of Phase 1, and _1 = event, or meeting number one. There may exist E1_*t* events in this phase, as for all the other project phases. For example, in Event 1 (E1_1) at **Figure 6**, the project people who participated were A1, A2, and A5, from Team A, and B3, B4, B5, and B6 from Team B. The same interpretation is to be made for the remaining Events E2, E3, E4, and E5 (E1_*t*). **Figure 6**, under the project lifecycle curve, contains a table representing the PSNVar_1, which a list of the actual participants, who left, who came anew, and who re-came, at any given project meeting of project Phase 1. As an example, let us consider Meeting E1_2, as a present (actual) meeting for an instant. At Meeting E1_2 (the second project meeting form Phase 1 of the project illustrated in **Figure 6**), project people A1 and A3 from Team A, and B1 and B2 from Team B, were present. This information is displayed in the box above the red *START* point. In the table where-Teams A, B, IN, OUT-are displayed (under the project lifecycle curve), for Meeting E1_2, project person A3 from Team A is categorized as IN. This means that project person A3 is present at Meeting E1_2 (present meeting) and was not present at the previous meeting (E1_1). The categorization IN, means that project person A3 just came into this meeting (E1_2), and at the same time did not attend the previous meeting (or previous meetings). As it can be seen, project person A3, was not present at Meeting E1_1. Still, at Meeting E1_2 (the present meeting for this case), project people A2 and A5, are categorized as OUT. This means that they were at the previous meeting (E1_1) but not at the actual meeting (E1_2). The same interpretation is to be made for project people of Team B. Let us now consider Meeting E1_3 as a present meeting. At this meeting project person A1 from Team A is the only element present at the actual meeting. From Team B, project people B1 and B4 are present. At this present meeting (E1_3), project person B4 is categorized as IN, which means that B4 was not present at the previous project Meeting E1_2. Project person A3 is now categorized as OUT, meaning that B2 was present at the previous project meeting (E1_2), but is not present at the actual Meeting E1_3. The same goes for project people B2 of Team B. Still, at the present meeting (E1_3), no project people of Team A are categorized as IN. This means that at the present meeting (E1_3), there are no project people from Team A that simultaneously did not participate on the previous meeting and participate at the actual meeting. In other words, this means that there are no *newly* arrived project people from Team A, to the present meeting since the last meeting. Considering now, Meeting E1_4, as the present meeting, there are no project people categorized as OUT from either Team A or B. This means that, from the previous meeting, up to the present meeting, no project people left the meetings circuit from either Teams. In other words, this means that the project people that participate at Meeting E1_3, also are participating at Meeting E1_4. Considering now Meeting E1_*t* as the present meeting (which is as well the last meeting from the Phase 1 of the project lifecycle), project people A1 and A2 from Team A, and B1 and B4 from Team B participated at the actual event. In this case, for Team A, there is no project person categorized as IN or OUT. This means that the project people that participate at the actual meeting (last meeting of Phase 1) are the same project people that participated at the previous project Meeting E1_4. In such cases, the variability from one meeting to another meeting is zero, regarding the project people attendance.

Figure 6. POL model implementation for Phase 1, for both success and failure project outcomes. Example with five meetings.

For a given actual meeting, project people categorized as IN, are considered *new* at that given meeting. This *new* categorization has two different interpretations and is related with the restart

(**R**) step, illustrated in **Figure 7**. The first interpretation of *new*, is related to a project person, that is taking part for the very first time at any given project meeting. The second interpretation is related to a project person, that is taking part a given project meeting, but it is not the first time that this project person participates in meeting of the given project. In other words, that project person had already participated in some previous project meetings of the given project. This concept is explained in detail in the dynamic variability cycle illustrated in **Figure 7**.

Figure 7. SCRL (Start, Continue, Restart, and Leave) dynamic variability cycle meetings' participation assiduity.

The PSNVar (Project Social Network Variability) is based on the project people variability cycle illustrated in **Figure 7** and aims to understand to which extent the project social network variability impacts a project outcome. In other words, the PSNVar will quantitatively capture the variability of project people regarding the meetings attendance cycle (**Figure 7**), which consists of project people starting participation in a meeting (S), leaving (L), or continuing (C) with the successor meeting, and the cycle closes in the case of restarting (R) the meeting attendance after having left the previous meeting. Still, in Phase 1 of **Figure 6**, the POL model previews the collection of all project-related information emailed between the participating Teams (in this case Team A and B) according to **Table 3**. This is illustrated in the box above at the upper right corner of **Figure 6**.

3.8.3. POL Model Implementation of Phase 2-Organizing and Planning

In **Figure 8** is illustrated the implementation process for project Phase 2-organizing and preparing. The process is the same as for Phase 1, excluding the part of defining the formal project chart, which has already been defined at Phase 1.

Figure 8. POL model implementation for Phase 2, for both success and failure project outcomes. Example with four meetings.

3.8.4. POL Model Implementation of Phase 3-Carrying out the Work

In **Figure 9** is illustrated the implementation process for project Phase 3-*carrying out the work.*

Figure 9. Model implementation for Phase 3, for both success and failure project outcomes. Example with six meetings.

The process for Phase 3 illustrated in **Figure 9** is exactly the same as for Phase 2 illustrated in **Figure 8**, except that in this phase a new team (Team C)-which is previewed by the model at **Figure 2**-is taking part in the *carrying out the Work* project phase. The data to be collected regarding the third-party team are to be according to **Table 3** at the questionnaires line.

3.8.5. POL Model Implementation of Phase 4-Completing the Project

In **Figure 10** is illustrated the implementation process for project phase 4—*completing the project*. The process is the same as for Phase 2.

Figure 10. Model implementation for Phase 4, for both success and failure project outcome types. Example with two meetings.

3.9. Model Ethical and Legal Considerations

The proposed model accesses and analysis project related information that flows across the different project teams across a project lifecycle that may be considered confidential, and not desired to be accessed, and/or exposed. Therefore, the implementation of the model in its total plenitude (as it is designed) is totally dependent on the acceptance of competent authorities, at the organizational and ultimately nation level that administer the legal and ethical respective issues. However, all the project people that participate in a project that is to be monitored by the proposed model, should be aware of it, before the project starts.

4. Proposed Model Metrics

The proposed model previews the application of seven centrality-based metrics. They are presented at **Table 4**. Although it was not the objective of this work to extensively detail the metrics applied in the model, a brief description is presented at **Table 4**. At **Table 4**, for each metric the source of information (SITs) is indicated, as well as the respective global collaboration type associated. For example, the global collaboration type communication and insight is characterized and measured for both projects, successfully and unsuccessfully delivered, by analyzing meetings and emails exchanged with project-related information. For this collaboration type-communication and insight-the model previews the application of three metrics. They are: role attendee degree (which will analyze project meetings information), internal email cohesion degree (which will analyze exchanged information), and feedback degree (which will analyze information email exchanged). The model previews individual and collective analysis types. Individual analysis is when either certain official project roles, such as, project managers, engineers, experts, or other (customizable), are isolated analyzed in the project social network. Collective means that a group (team) or all the project people will be analyzed.

Table 4. POL model proposed metrics.

5. Benefits and Limitations of the Proposed Model

The proposed model allows organizations to learn from past experiences-lessons learned-uncovering, understanding, and measuring the reason(s) that led to failure (regarding the way different people from different organizations interacted, as they performed in networks of collaboration across a project lifecycle) to avoid their repetition, and replicate behavioral patterns associated with a project's successful outcome (critical success factors) in upcoming projects. Being able to measure (quantitatively), how those interactions contribute to a failure or to a successful project outcome, enables organizations to design strategies that are more driven by data and insights, than the traditional approaches, such as gute feeling, and biased influenced advices or hunches, when it comes to changing the way organizations work, for example, by addressing leadership behaviors, and diversity and inclusion issues. This in turn, will enable organizations to make decisions more accurately, which directly positively contributes to the economic, environmental, and social sustainability inasmuch as, once known, the reasons for project success and failure can be used to replicate the success and avoid or eliminate failure, thereby avoiding unnecessary risks, and saving resources. This drives organizations to become leaner oriented. The implementation of an automated collecting and processing data system is a huge step forward in the digital transformation process, regarding the logging of project people's dynamic interactions in networks of collaboration across a project lifecycle, by efficiently using available technology. By uncovering the different dynamic behavioral patterns that occur across the different phases of a project lifecycle, such as employees of the organizations involved delivering projects, the proposed model allows one to trace a working culture profile that mirrors how organizations work in collaborative networks that are associated with success. This is achieved by analyzing data arriving from communication/collaboration channels-project meetings, emails, and questionnaires-that organizations use to deliver projects. Collecting data from project meetings and emails is considered a non-invasive method and presents two major advantages against the questionnaires collection data type. First, the data is almost totally free from bias, or less biased influenced. Second, no employee down-time is expected to occur, because as soon as the model is implemented the collecting process is started automatically. These two factors represent two big advantages. First, the collected data mirrors more, the reality of the collaboration between the participating organizations, and second, makes the model more economically viable. The identification of critical success factors is a crystal-clear process. This means that critical success factors are identified by opposition to critical failure factors, because they must be a unique, repeatable behavior pattern. Still, critical success factors are quantitatively measured, and not only qualitatively measured, where the results/conclusions are not a direct function of the size of a given network of collaboration, but rather the interactions between the participating organizations. This allows, in a very clear way, one to observe and interpret the different dynamic behavioral patterns that occur across the different phases of a project lifecycle, which greatly facilitates intervention in order to take corrective actions. Once the model is in full operation, it can be seen as a self-learning system; it refines and monitors best practices, regarding the repeatable behavioral patterns that are associated with success, as people work in networks of collaboration towards the accomplishment of a common objective. This enables an organization to be more responsive to changes, at the very early stages of the development of a product solution or project phase. The implementation of the proposed model in an organization introduces to a certain extent, a sense of awareness among the employees, which immediately triggers in them, willingness for engagement towards a more accurate way of doing things. This factor highly contributes to cementing the fact that flexibility and adaptability are vital to survival, and to improving the way organizations work. Furthermore, by the application across a substantial time period of the proposed model, it will be possible to establish the real importance of informal networks of collaboration by comparing the informal against the formal (formal chart) networks of collaboration regarding project success or failure outcomes. Finally, the model can be applied to any project type if it respects the model requirements and structure presented throughout this work. Although the advantages by far outweigh the disadvantages of the proposed model, when tracing a PSP and a PFP, by applying mathematical operations, one will naturally be influenced by the nature that comprises the mathematical operations. The initial phase of the implementation of the model may be slow—namely, regarding the implementation of a data-collecting culture, filtering project information-related emails, and clearly identifying and defining transitional phases between different project phases-as organizations collaborate across a project lifecycle. Data collected through questionnaires, pose some natural issues; namely, regarding how trustable the data is. In fact, this data accuracy dependents almost entirely on respondents' good-will, to provide honest and non-biased information. Project organization dynamic interaction chain-break represents another limitation of the introduced model. This means that, it often happens that project related information is discussed via other type of communication/collaboration channel, such as through phone calls, or thought informal corridor meetings. These types of communication/collaboration channels are not covered by the present version of the proposed model. Finally, because the model previews the assessment of what many may consider confidential project information, its implementation will be always conditioned by legal and ethical aspects both at organizational, and country level.

6. Conclusions and Further Developments

The proposed model in this work, contributes to the organizational Transformation scientific field, namely, to the project management field, regarding the project people risk management strategy. It introduces a new approach concerning how to identify and measure the impact of project people dynamic interactions across a project lifecycle, regarding its influence in a project´s outcome (failure, or success). The model was developed base on three scientific fields (project management, risk management, and social network analysis), with special focus on the application of existing, and new social network analysis Centrality Metrics Graph theory-based, which according to latest research described at sub-chapter 2.2.3, are the ones that properly / better uncover and measure the importance of project people having a more, or a less central location within a project social network, which in turn is often associated with influence, prestige, control and prominence, coordination and decision-making, in project environments. Network tie strength, or familiarity-a direct consequence of being central within a project social network-according to latest research is also an indicator of the importance of a project people within a project social network. This is also captured, with the adapted-develop Clustering (variability effect-PSNVar) metric, illustrated in **Table 4**. The proposed model is divided in two parts. At part 1, the proposed model, will identify and quantitatively measure, critical success factors from past delivered projects regarding to how project people dynamic interacted across a project lifecycle. At part 2, the model, will use identified critical success factors, to provide guidance to upcoming projects, in order to enhance the chances of project success outcome. The approach of the proposed model is aligned to what renowned people and institutes argue, which is, more research and investigation should be directed to understand how people behaviors and dynamic collaboration patterns may influence outcomes. The propose model, to a certain extent is a tool that enables the management of the project ambiguity risk type, which is characterized essentially by a lack of knowledge or understanding and can be fought by essentially learning from past experiences-lessons learned. In fact, the proposed model, essentially tackles one of the most important factors that enables organizations to innovate, improve, optimize, and gain competitive advantages-learning from past experiences, namely, mistakes (lessons learned)-so that organizations can eliminate or avoid traps/failure behaviors, and replicate (and improve) successful behavioral patterns in upcoming projects. The proposed model focuses its attention on what is today considered one of the fundamental pillars of performance and innovation-social capital-by analyzing the social relationships between project people that ultimately enables value creation, as is proposed by several authors, simultaneously contributing with valuable insight to the people data management field, usually known as people analytics or people big-data. The proposed model strongly contributes to the achievement of a competitive advantage (to a certain extent acting of the *differentiating side* according to the popular Porter's model of an organization in a sustainable way, essentially because by quantitatively identifying project critical success (and failure by direct opposition) factors (Part 1 of the model) regarding the dynamic interactions of project people across the different phases of a project lifecycle, instead of the traditional static approach of analyzing project people's performance rates, essentially based on project risk registers and lessons learned files from delivered projects, will enable organizations to take a *real-time*, necessary adjustment measures, by continuously quantitatively comparing a real ongoing project evolution, against a desired (based on identified CSFs) project evolution (part 2 of the model) in each phase of a project lifecycle. This in turn, will enable organizations to faster adapt and respond to changes by taking a more *data-driven decisions* approach, which will ultimately strongly contribute to more rigorous and accurate management of intangible and tangible project resources, by exactly knowing how much and where action should be taken. However, continuous research should be done regarding the development of new or improved existing metrics, based on social network analysis theory.

Author Contributions

Author M.N. carried out the investigation methodology, writing-original draft preparation, conceptualization, the formal analysis, and collected resources. Author A.A. contributed with the conceptualization, writing-review and editing, the supervision, and final validation. All authors have read and agreed to the published version of the manuscript.

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The authors declare no conflict of interest.

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Applying Social Network Analysis to Identify Project Critical Success Factors

Abstract

A key challenge in project management is to understand to which extent the dynamic interactions between the different project people-through formal and informal networks of collaboration that temporarily emerge across a project´s lifecycle-throughout all the phases of a project lifecycle, influence a project's outcome. This challenge has been a growing concern to organizations that deliver projects, due their huge impact in economic, environmental, and social sustainability. In this work, a heuristic two-part model, supported with three scientific fields-project management, risk management, and social network analysis-is proposed, to uncover and measure the extent to which the dynamic interactions of project people-as they work through networks of collaboration-across all the phases of a project lifecycle, influence a project's outcome, by first identifying critical success factors regarding five general project collaboration types (communication and insight, internal and cross collaboration, know-how and power sharing, clustering, and teamwork efficiency) by analyzing delivered projects, and second, using those identified critical success factors to provide guidance in upcoming projects regarding the five project collaboration types.

1. Introduction

If organizations want to achieve a sustainable competitive advantage, in today´s turbulent and instable business environment, they need to craft strategies that allow them to boostnced by how an organization´s core apex guides and motivates the whole organizational structure in order to overcome some major constraints, such as geographic barriers, time zones, functions, and cultures Several authors and researchers argue that performance and innovation are strongly dependent on the ability of how organizations are able to work in networks of collaboration . Research shows that networks of collaboration positively contribute to gaining competitive advantages [], are a powerful source of innovation - especially if they include human diversity , and increase performance if they are efficiently distributed across organizational functions, geographies, and technical expertise domains . Adding to this, latest research shows that if organizations want to increase the chances of achieving a sustainable competitive advantage, managers should adopt an ambidextrous leadership style This leadership style is characterized by exploiting present conditions by optimizing the current business model´s operation, and simultaneously, exploring opportunities that help redefine the business model by taking pioneering risks. This demands more flexibility, awareness, and insight, and ultimately, working more in networks of collaboration. Indeed, some authors argue that in today´s business landscape, although individual competency and training are important factors, it is almost always the network factor that is the big key predictor of high performance in organizations and are usually characterized by having broader and diverse problem-solving networks fueled with positive energy []. But a broader network does not necessarily mean larger in size. Furthermore, some authors argue that when it comes to effective networks of collaboration, bigger does not always mean *better*, but rather, superior quality means better []. However, creating a broad and diverse problem-solving network usually requires an extra mile from the employees of an organization, essentially because they need to be more flexible, accountable, and empowered, and proactively search and maintain such networks. This also means that more work will be done through informal networks of relationships, removing to a certain extent, the role of the formal organizational structure in several ways .In fact, building a broader and more diverse problem-solving network requires a proper organizational structure that enables people to strategically create the necessary connections in an energized way. Usually, due its rigid nature, a formal organizational structure is not able to provide for the needs of building such problem-solving networks . However, either under the pressure or when highly motivated to get the work done, employees of an organization naturally engage in informal networks of collaboration, in order to overcome the natural constraints of the formal organizational structure to get the work done. Very often these emerging informal networks are not ruled by the rational-legal authority system that the formal organizational structure provides based on universalistic principles that are understood to be fair, but rather, by fundamentally unfair and particularistic principles, such as friendship, homophily, propinquity, dependency, trust, and others, which are characterized as personal and social needs of individuals . Therefore, if these emerging informal networks-which are usually hidden behind the organizational formal chart and extremely hard to spot with a naked eye -are not properly managed, they can turn into an issue and strongly hinder the performance and innovation capacity of an organization .Research shows that organizational informal networks have a pervasive influence on employees' experience of work, being often critical to how they find information, solve problems, and capitalize on opportunities, and are intimately intertwined with employee satisfaction, well-being, and retention . Ultimately, if these informal networks are not properly managed, they can evolve either into a collaborative overload, or lack or inefficient collaboration patterns . In project environments, the emergence of project informal networks, as an to answer to the day-to-day challenges, occurs at a high speed, and very often is neglected by managers. However, project networks, can be governed and coordinated in very different ways. David Hillson, a renowned name in the field of project risk management, argues that although the number of bodies, standards, and institutes that provide guidance in project management is increasing, projects still fail at an alarming rate . In fact, according to the Standish Group CHAOS report-2015, from 2011 to 2018, only about 29% of executed projects had successful outcomes, according to traditional project success outcome criteria (time, budget, and scope). The same trend was output by the PMI (Project Management Institute) Institute, in the PMI—Pulse of the Profession® 2017 report, where it shows that from 2011 until 2017, projects on average have been completed on time and on budget less than 60% of the time, where drivers such as changes in an organization's priorities, inaccurate requirements gathering, inadequate or poor communication, and team member procrastination, are amongst the most nominated as being responsible for this outcome . Hillson argues that the unsuccessful projects percentage occurs essentially due three major reasons that directly comply with project risk management []. First, processes need to be consensually aligned regarding approaches and risk management standards. Second, principles need to be redefined in order to remove subjective understandings of what risk and project management really is. Finally, people—projects and risk management are still done by people and not machines. Therefore, people's different cultures, know-hows, skills, informal interactions, roles, and dynamics need to be deeper researched and less neglected . The people aspect has been highlighted in a publication in 2018 at the Harvard Business Review under the name "*Better People Analytics*," where two researchers from the people analytics area concluded that, besides the two traditional people analytics factors traits and states, a third factor should be considered . This third factor, coined by the researchers as relational data, is the mapping and analysis of the employee´s informal organizational relationships, in six different areas. They are: ideation-the prediction of which employees will come up with good ideas; *influence*-the prediction of which employees will change others' behavior; *efficiency*-the prediction of which teams will complete projects on time; *innovation*-the prediction of which teams will innovate effectively; *silos*-the prediction of whether an organization is siloed by measuring its modularity; and *network vulnerability*-the prediction of which employees the organization cannot afford to lose. Although organizational informal networks should be identified and properly managed, the latest research indicates that organizations alone, are not able to do that by themselves, essentially due the nature of the purpose for which organizations are designed, which is to drive operational efficiencies, by managing, coordinating, and controlling activities . The challenge is then, how can we uncover and properly manage these informal networks of collaboration? The answer can be found on the application of social network analysis in organizations. In a nutshell, social network analysis (SNA) is the process of studying social structures, by usually analyzing social dichotomous data with a variety of measures developed based on graph theory that helps to explain how those social structures evolve trough time, and how they impact the environments where they exist . Social network analysis theory can play a very important role in bringing light to the social capital challenges. Moved by the impact both positive and negative that informal organizational networks may have in an organization's performance and innovation capacities, researches, institutes and consulting organizations have been incorporating what some coined as people risk management models into their traditional risk management processes . At the same time, specialized people risk literature has been outputting latest trends and developments in this area, which includes but is not limited subjects such as to talent shortages and retention, incompetence, innovation, working in networks, collective and individual performance, cultural fit, values, unethical behavior, low morale, employee wellness, and noncompliance with industry, and fraud . In this work, a further contribution to this trendy people risk field in the area of project management is given, by proposing a heuristic model to identify the extent to which the dynamic interactions of project people throughout all the phases of a project lifecycle, influence a project outcome. The proposed model will analyze and quantitatively measure the project-related information that *flows* across the naturally emerging project´s informal network, throughout all the phases of a project lifecycle. The proposed model is named the project outcome likelihood model (POL) and was developed based on three scientific fields (**Figure1**). They are: project management theory-which contributes with the terminology used in project management, and the structure of a project lifecycle; social network analysis theory-which contributes with the tools and techniques to uncover and measure the dynamic interactions of project people throughout a project lifecycle; and risk management theory-which contributes with the risk identification and treatment process and framework.

Figure 1. Three scientific pillars that form the basis to the development of the POL model.

2. Literature Review

2.1. History and Evolution of Social Network Analysis

Since the publication of the book "*Who Shall Survive"* by the Romanian-American psychiatrist, psychosociologist, and educator Jacob Levy Moreno (1889-1974) in 1934, research and development in the field of social network analysis has been exponentially increasing in a wide range of different areas . It spans social and behavioral sciences , agriculture health care environment , law, national safety, criminology and terrorism , political science , organizational science industry, management and leadership , communication, and learning and media , just to name a few. J. Clyde Mitchell defined social network analysis as, "A specific set of linkages among a defined set of persons, with the additional property that the characteristics of these linkages as a whole may be used to interpret the social behavior of the persons involved" . Although the application of the graph theory has been around for more than two centuries, it was only when it started to be applied to study social structures that it exponentially rose in popularity, essentially motivated by the desire to understand the extent to which people´s behaviors and relationships influence others and outcomes, usually translated into performance, innovation, social cohesion, information diffusion, and so on. Indeed, these types of relationships are complex by nature, and cannot be completely explained trough traditional individualistic social theory and data analysis methods, but rather by methods that are embedded in sociology that consider the individual´s social context in the process of making choices . It is exactly at this point that social network analysis plays a critical role, by providing valuable insight . One of the very first publications, arguing the benefits of applying social network analysis in organizations, was published in 1979 by network researchers Noel Tichy, Michael L. Tushman, and Charles Fombrun . In their work, they suggested that by applying social network analysis to organizations, significant advances could be made in organizational theory and research, because this approach would facilitate the comparative analysis of organizations as well as the comparison of subunits within an organization. Furthermore, they outlined that the benefits of applying SNA were substantial and appeared to far outweigh the costs. In fact, in a comparative scenario between two organizations, where, for example, it is assumed that the performance and innovation levels of both are direct consequences of the dynamics of their informal networks, only when those dynamics become quantitatively measured (which can be done by applying SNA) can the comparison be done.

2.2. Social Network Analysis and Project Management

2.2.1. Project Management Challenges

A project is a temporary endeavor with a defined beginning and end, designed to create a unique product or service, and is expected be properly managed by the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements, throughout all the different project phases that comprise a project lifecycle . Due lack of consensus regarding how many phases a project should be divided into, a common approach is that the number of project phases is determined by the project team, and/or the type of the project. Project management challenges, usually called project risks (essentially threats, rather than opportunities), represent essentially the likelihood of not delivering planned project activities within the constraints (usually, scope, quality, schedule, costs, and resources) associated to a project. According to David Hillson, project risk is the uncertainty that matters and aims to separate what a *real* project risk is, from what a *not real* project risk is. Hillson suggests four types of uncertainties that could affect a project's ability to achieve its objectives, regardless of a project phase . They are: 1-Event risk: Possible future events, sometimes called "stochastic uncertainty" or "event risks." An event risk is something that has not yet happened and may not happen at all, but if it does happen, it has an impact on one or more project objectives; most of the risk identified at the project risk register is of this type, and a set of well-established techniques for identifying, assessing, and managing them already exists. 2-Variability risk (also called "aleatoric uncertainty"): They are a set number of possible known outcomes, among which it is not known which one will really occur. These types of project risks cannot be managed by applying standard risk process procedures, but rather advanced analysis models, such as the Monte Carlo simulation. 3-Ambiguity risks (also known as "epistemic uncertainties"): Uncertainties arising from lack of knowledge or understanding. Could be called know-how and know-what risks. They comprise the use of new technology, market conditions, competitor capability or intentions, and so on. These can be managed by learning from experience of others-lessons learned-and by prototyping and simulating before taking real action. The proposed model in this work can be seen as a framework to manage ambiguous risk types, once it aims to identify critical success factors from past events (lessons learned), and use identified critical success factors to guide and predict (simulations) a future outcome of an ongoing project. 4-Emergent risks: They emerge from people´s blind-spots. Usually called "ontological uncertainty," they are more commonly known as "black swans." These risks are unable to be seen because they are outside a person´s experience or mindset, so one does not know that he should be looking for them at all. Usually they arise from game-changers and paradigm shifters, such as the release of disruptive inventions or products, or the use of cross-over technology from previously unforeseen sources. To manage them, contingency seems to be the key word, sometimes defined as "the capacity to maintain core purpose and integrity in the face of external or internal shock and change". Pinto and Slevin, 1988, uncovered a set of ten critical success factors that, contrary to Hillson, change importance according to a project phase. These critical success factors are considered major project risks that if not properly managed, will hinder the chances of a success outcome. They are : (1) project mission not being properly defined, (2) lack of top management support, (3) non-detailed project schedule, (4) poor client consultation, (5) lack of necessary and proper technology and expertise, (6) poor team skills and experience, (7) ambiguous client acceptance, (8) lack of proper monitoring and feedback of project activities, (9) poor or lack of proper communication, and (10) non-readiness to handle excepted crises and deviations from plan (in other words, lack of a contingency plan). It can be said that regardless of a project phase, the above-mentioned risks and critical success factors, if not properly managed, will damage the likelihood of achieving a successful project outcome.

2.2.2. Application of Social Network Analysis in Project Management

The application of social network analysis has been in the last few years extending into the area of project management, although this adoption remains so far at a very initial stage. In project environment, objectives such, as but not limited to, understanding and measure knowledge transfer, consensus building, and the identification of critical success factors-regarding the dynamics of project informal networks-which may contribute to a success project outcome, have been priorities of the application of social network analysis. Regarding the identification of critical project success factors though, still without applying social network analysis, it has been a present preoccupation within the most recent years. One of the very first notable works regarding the identification of critical success factors in project management was published by Pinto and Slevin in 1988. By surveying circa 400 project managers from very different industries areas, asking them what major reasons that lead to success and unsuccess projects allowed them to identify a set of common critical factors that were indicated as responsible for a successful project outcome. Furthermore, they identified that those critical factors were changing the importance degree, function of the project phase. They identified a *top ten set* of critical factors. Three of them are related to how project people work in networks of collaboration throughout the different phases of a project lifecycle. They are top management support, client consultation, and communicating network. The findings made by Pinto and Slevin in 1988, were revalidated by research conducted in 2005 and 2012. This study contributed to triggering the interest of network and project researchers that soon brought social network analysis into the project management field. They are trying to provide valuable insight into some of these critical factors identified by Pinto and Slevin. In a publication at the Harvard Business Review (HBR) in 1993, professor David Krack hard, and Jeffrey R. Hanson, highlighted the importance of managers tapping their informal organizational networks as being a key contributor for success, essentially by mapping three types of networks: the *advice* network-which reveals the people to whom others turn to get work done; the *trust* network-which uncovers who shares delicate information; and the communication network-which shows who talks to whom about work-related matters. These three networks would then be mapped with the employee´s relational information collected through surveys. They argued that this approach would get to the roots of many organizational problems. In 2001 Stephen Mead conducted one of the first, and top ten most-cited case studies ever, wherein he applied social network analysis in a project environment to visualize project teams. By the application of SNA, Mead identified and analyzed an informal project stakeholder´s communication network. Mead identified isolated and central stakeholders regarding the informal communication network and elaborated a corrective plan in order to improve the performances of those that were isolated. In the latest 30 years, remarkable research has been done by Professor Rob Cross, a renowned researcher and developer who applies social network analysis to study organizations. In one of his works, "*The Hidden Power of Social Networks,*" published in 2004, he collects a set of ten-year research cases in the study of organizations, and he highlights the many benefits of the application of SNA in organizations, especially in project environments. Cross found that in every organization, there is an informal organizational network that is responsible for how the work is done. Furthermore, he argues that in every informal organizational network, there are a set of common actors who are responsible for most dynamics of an organization. These actors include: the central connector, the boundary spanner, the information broker, the peripheral expert, the peripheral intentional, and the energizer. These names were coined to functionally describe their positions in the informal network structure sures were applied to understand the multidimensional determinants and complexity of tobacco use. Prell et al. (2009) applied SNA to analyze stakeholder networks in a natural resource management, where they identified which individuals and categories of stakeholder played more central roles in the project network and which were more peripheral, leading this information to guide stakeholder selection. Another notable work, regarding the application of social network analysis in projects, was published in one of the most credited project management institutes in 2012; it details the importance of four key subjects of social network analysis, showing that those key subjects are directly related to project management performance. They are centrality, structural holes, boundary management, and tie strength. The other latest studies regarding the application of social network analysis in project environments, go from the development of models based on SNA to analyze communication, collaboration, and knowledge networks in project meta-networks , to the analysis of mega projects networks, from the perspectives of different important project stakeholders that help to develop proper long-term project governance policies . In 2017, Mok et al. (2017) applied SNA basic network centrality measures to identify key challenges in major engineering projects (MEPs) based on interdependencies between stakeholder concerns, resulting in the identification of a set of key challenges that that occur in such MEPs, and helped to properly develop a set of recommendations to alleviate those challenges, which could be used in future MEPs. Yu et al. (2017) , used social network analysis to investigate social risks related to housing demolition, from a stakeholder perspective in China. A recent work in the field of organizations, developed by Michael Arena, Chief Talent Officer for General Motors, concluded that, after years of investigation in several organizations, successful organizations operate in a networked way, enjoying what they called an *adaptative space*, which enables a proper connection between the operational and entrepreneurial pockets of an organization in a *virtual* space-adaptative space-where employees explore new ideas, and empower the most creative people to spread their ideas across the organization. This adaptative space is built, managed, and maintained using social network analysis . Arena argues that this *adaptative space* enables organizations to work in a more agile way, which ultimately contributes to outperforming the competition in a disruptive way. However, research and development in the area of SNA extends to other areas, as does the example of the research done by professor Eric Xing, where he conducted an investigation on dynamic predictive models, built on social network analysis theory, which have as objectives, forecasting how people will interact and react when facing different future events. Such predictive models, integrated into the risk management process of an organization, may strongly help organizations to better, and more accurately prepare projects or operations, by estimating with a higher certainty degree the evolution of future events, and thus, prepare proper plans to respond to those events. In the field of project management, such dynamic predictive models will bring critical help, namely, at the stage of choosing elements to form a project team that better will adapt to certain upcoming project events, by forging the necessary hard and soft skills that are needed to face future events. Finally, an indicator of the growing trends regarding the importance of the application of social network analysis in organizations to analyze the influence that the informal organizational network may have on performance, innovation, employee retention, and so on, is visible in renowned consultancy organizations such as, but not limited to, Deloitt and Mckinsey , as they continuously keep integrating social network analysis in their people analytics toolkits.

2.2.3. The Importance of Centrality in Project Management

Centrality in a social network refers to the structural attribute of an actor-where an actor is located within the structure of a social network-and not to the actor´s own inherent attributes such as age, tender, expertise, and so on. Throughout years of research, leading social network researchers have been arguing that actor centrality can be a measure importance, influence, prestige, control, and prominence , and these can be quantitatively measured by applying graph theory centrality metrics, such as *degree*, *betweenness*, and *closeness* . According to Freeman (1979), for each of these metrics a respective social direct implication exists as follows: activity (degree can be an index of potential for the network´s activity), control (betweenness is an index of communication control by serving as bridge between two different subgroups of an network), and independence (closeness is an index of the potential independence from network control) respectively. In other words, network centrality can be seen as a source of informal power in a network. In this context, informal power derives from the advantageous position of an actor in the network regarding interaction patterns, such as communication, collaboration, information exchange, and so on, whereas formal power is defined by the position of an actor in the organizational formal chart. It can be argued that in an organizational context, people occupying those three mentioned social network structure positions (degree, betweenness, and closeness), have a greater responsibility in the maintenance and coordination of the whole network. As previously shown, several studies have focused on the centrality subject in informal networks as a special location within a structure of an informal project network. In fact, further research has been showing that centrality in informal networks plays a key role regarding project coordination and decision-making. Liaquat et al. (2006) applied network analysis to explore the correlation between actor centrality and project-based coordination, concluding that in projects, actors who are central and well connected in informal project networks are able to exercise greater coordination within the network structure. Dogan et al. (2014) reinforced the idea of the importance of centrality in informal networks, as he applied social network analysis to measure coordination performance in building and construction projects, concluding that coordination scores are highly correlated with centrality indices. Wen et al. (2018) applied social network analysis to investigate the determinants of timely decision-making from the perspective of collaboration network dynamics and concluded that network tie strength (familiarity) and network position strength (centrality) have a positive effect in a real-world project decision setting.

3. Model Development and Implementation

3.1. The Proposed Model in a Nutshell

The model proposed in this work is called project outcome likelihood (*POL*) method, and aims to provide valuable insights that may contribute to answering the following question: to which extent, do the dynamic interactions of project people throughout all the different phases of a project lifecycle, influence a project outcome? In a nutshell, to provide valuable insights that may contribute to answer the question presented above, the proposed model is designed to identify repeatable behavioral patterns that are associated to a certain project outcome type (success or failure). In other words, the model will analyze how project people behave throughout the project lifecycle of a successful delivered project, and how project people behave throughout a project lifecycle of an unsuccessful delivered project. If the model finds that in projects that were successfully delivered, project people clearly behaved differently-regarding five different global collaboration types (**5-GCT**)-than in projects that were unsuccessfully delivered, then the answer to the question above presented, is found. Furthermore, if indeed different behaviors are found, they are considered project critical factors, with obvious focus on what the project critical success factors are. Those different behaviors will be identified by analyzing and measuring information arising from project meetings, emails, and questionnaires through the application of social network analysis. This information mirrors the dynamic interactions of project people throughout all the different phases of a project lifecycle, and is used to characterize the five different global collaboration types, which are (**Table1**): (a) communication (b) internal and cross boundaries-collaboration,(c) know-how and power sharing, (d) clustering (variability effect), and (e) teamwork efficiency. The complete framework is illustrated in **Figure 2**. After the identification of the critical success factors, the model proposes a framework to monitor the evolution of an ongoing project by comparing an actual state against a desired state based on the identified critical success factors. This framework is illustrated in **Figure 3**.

Figure 2. POL model: Part 1's process for success and failure project outcomes. Source: adapted PMI, 2017.

Figure 3. Model framework-Part 1 and Part 2.

Table 1. The five global collaboration types (5-GCT) of the POL model.

3.2. Model Key Concepts

3.2.1. Project Definition

Before drilling down on how the model is built and operates, important subjects need to be introduced. The proposed model will analyze projects that were successfully and unsuccessfully delivered. First, a project is to be defined, according to the PMI, as a temporary endeavor undertaken to create a unique product, service, or result .

3.2.2. Project Outcome

Regarding how a project is delivered, there are only two possible types of outcomes—successful and unsuccessful. These two types of project outcomes—successful and unsuccessful, are the only ones accepted by the proposed model, and the criterion that dictates both types is given by the PMI . It essentially says that a successfully delivered project is a project that was delivered on time, within the agreed scope, budget, and the quality.

3.2.3. Number of Projects

The proposed model does not preview a minimum or maximum recommendable number of projects that were successfully and unsuccessfully delivered to be analyzed. There is a minimum number of projects that needs to be used as input to the model so that it can function. This number is two: one successful and one unsuccessful delivered project. However, in order to obtain more significant results that better represent, to a certain extent, the overall working culture of a service provider-organization, while delivering projects for one or multiple customers, a substantial number of projects is recommended. It would not be an exaggeration to say the more projects, the better.

3.2.4. Project People

Project people are any people who directly or indirectly participated in a project, throughout its lifecycle. These are the internal stakeholders from both interacting parts—service provider and the customer and are contractually engaged for the demand/supply of resources, services, and/or end products in project delivery .In other words, project people are any people who have participated in project meetings, email project information-related exchanges, and questionnaires. Nevertheless, as the model previews only the study of the dynamic interaction between two different teams (Team A—service provider and Team B—customer), across a project lifecycle, all project people are expected to belong to one of the two sides—Team A or Team B, regardless of the type of relationship with one of the sides—outsourcing, consultant, or other. In a case where there was participation of project people who did not belong to either Team A or Team B, they were not considered by the proposed model. This is the case regarding, for example, external consultants or audit-teams that were both agreed on by Team A and by Team B to come into play across a project lifecycle, usually playing a neutral role characterized essentially by advice and guidance.

3.2.5. Project People-Roles

Across a project lifecycle, it is usually expected that several different project people-roles, with their own and specific responsibilities, take part on project activities. Also called important stakeholders, project people-roles for the proposed model are: the project manager(s), engineer(s), expert(s), other(s), and outsourcers. Others include all those project roles that have not been previously mentioned.

3.2.6. Project Phases and Lifecycle

Any project that has been successfully or unsuccessfully delivered, has a finite number of project-phases. The number of phases is given by the PMI standard, where four generic phases are previewed. They are: starting the project, organizing and preparing, carrying out the work, and ending the project . The sum of all project phases of a project is the so-called ***project lifecycle***. The sum of all project phases of a project is the so-called project lifecycle.

3.2.7. Dynamic Interaction

The dynamic interactions of project people (DIPP), refer to how project people communicate, direct, and cross boundaries to collaborate-share know-how, exert power, cluster (create and lose relationships), and provide advice or help-within the project informal network, and they are analyzed by measuring the degree of meeting participation by project people, the rate and intensity of emailing project information-related material, and the degree of importance and influence of some project people over other project people, measured though information collected in questionnaires.

3.2.8. Project Informal Network

The project informal network, or project social network (PSN) refers to all the project people's dynamic interactions that occur out of and inside the pre-defined formal structure format. This means that, for example, in the email project information-related exchange network, the communication between a project people A and a project people B, will be analyzed and considered part of the project informal network, even when A is the direct superior (according to the project formal chart) of B. The same principle is applied if project people A and project people B have no direct formal dependency relation (superior nor subordinate); still the email-based project information-related exchange network will be analyzed and considered part of the project informal network.

3.3. Model Function Principles

As previously said, the proposed model will look for repeatable behavioral patterns (RBP) regarding the dynamic interactions of project people across the different phases of a project lifecycle, for both project outcomes. If the model identifies unique RBPs that are associated with a certain project outcome (success or failure), they are classified as critical factors. Unique RBPs mean that there are things that repeat themselves only in one of the two possible project outcomes. By being unique, they are immediately considered project critical success factors by opposition. To better illustrate the above description, a theoretical example will be explained using **Figure 4** as support. **Figure 4** presents the lifecycles of two real delivered projects-Project 1 and Project 2-which were delivered to a Customer C (not present at the **Figure 4**) and accomplished by the Organizations A and B (both present at **Figure 4**). Both Projects 1 and 2 comprise the development and implementation of technical solutions in the food and beverage industry. Essentially, Customer C, a market leader in the food and beverage industry, invited first, several organizations that deliver projects in the mentioned area, such as Organizations A and B, to show their plans/ideas, and to develop and commercialize a new product; and second, to create two project proposals that meet its needs: namely, building two new production lines. Organizations A and B won both project proposals and delivered both projects, 1 and 2. Project 1 and Project 2 occurred at different points in time, but within the same year in Europe. Both projects were delivered across the year of 2019, with the average duration of 5 months each. Organization A delivered the engineering and mechanical installation parts, and Organization B delivered the automation and programming services. Project 1 had a budget of circa 8 M€, and Project 2 had a budget of circa 5 M€. For both projects, 1 and 2, the same formal structure was used regarding Organizations A and B respectively, according to **Figure 4**. Due to protection reasons, further project information, and the identities of Customer C and Organizations A and B, will not be disclosed in this work. Employees (project people) from Organization A are represented with the black color (Team A), and from the Organization B, with the green color (Team B). At **Figure 4**, the project people's locations within the project's formal structure are also illustrated, which is valid for both Projects 1 and 2, where for example, for Team A, PP1 is the project manager; PP2, PP3, PP4, and PP5 are the direct subordinates (functional managers); and PP6, PP7, and PP8 are project staff (engineers, programmers, and so on). The project people represented in the formal chart are those project people that were assigned at the very beginning of Phase 1 to deliver the project throughout all the project phases. Concretely, **Figure 4** represents the collaboration network between Organizations A and B, while delivering Projects 1 and 2 to a Customer C. The blue line (project planned curve) represents how the projects were planned to be delivered. The grey line represents how the projects were delivered. Project 1 was successfully delivered, and Project 2 was unsuccessfully delivered. For this illustrative case, and according to the PMI, a successfully delivered project is a project delivered on time, within agreed scope, budget, and quality . On the other hand, an unsuccessfully delivered project is a project where at least one of the mentioned constraints (time, scope, budget, or quality) was not delivered according to the plan. Both projects have four different phases: Phase 1, 2, 3, and 4 throughout their lifecycles. In each of the four phases of both projects, the light blue lines represent the email communication networks between the project people. Such networks mirror the direct communication (emails sent directly to, or received directed from) patterns; the results of the analysis of all project-information-related emails at any given project phase. For example, after consulting the email exchange logs for Project 1 at Phase 1, there was direct communication between project person 4 and project person 5. This means that PP4 sent and or received an email from PP5, and vice versa, at any given time within the Phase 1 of Project 1. On the other hand, for example, on Project 2 at Phase 1, PP3 and PP5 never had direct contact regarding email exchange. Each light blue line between any two project people represents an email communication channel regardless of the number of emails exchanged. When analyzing how the email communication occurred at the first two phases (Phase 1, and Phase 2) of both projects, it is clear that for the project that was successfully delivered (Project 1), the email communication network was by far denser than the email communication network in Project 2.

Figure 4. Project lifecycles for Project 1 and Project 2.

For these two phases, and not considering any other factors, it can be concluded that a denser email communication network in Phase 1 of a project is correlated to a project success outcome. Therefore, the email communication network is a critical success factor, and project success outcome is correlated with a dense email communication network at Phase 1 of a project. However, one still needs to define what dense and sparse email communication networks are. This means that they need to be quantified. It is now that the social network analysis provides critical help. SNA uses the graph theory that can be used to characterize and measure a social structure. The constellation that results from linking project people through emails sent and received perfectly mirrors a typical graph structure. Therefore, the direct application of graph theory metrics is adequate. For this case a centrality measure—the *density* metric—will be used to quantify what a dense and a sparse communication network is. The density is the ratio of existing links between project people inside each phase of each project lifecycle, to the maximum possible number of links (when everybody is linked) between project people, and is given by Equation (1):

(1) where:

- L = number of existing lines between project people;
- n = total number of project people;

Applying Equation (1) for Phase 1 of Project 1:

d=185(5−1)=90%d=185(5−1)=90%

(2)

Applying Equation (1) for Phase 2 of Project 1:

d=206(6−1)=67%d=206(6−1)=67%

(3)

Applying Equation (1) for Phase 3 of Project 1:

d=166(6−1)=53%d=166(6−1)=53%

(4)

Applying Equation (1) for Phase 1 of Project 2:

d=85(5−1)=40%d=85(5−1)=40%

(5)

Applying Equation (1) for Phase 2 of Project 2:

d=127(7−1)=29%d=127(7−1)=29%

(6)

Applying Equation (1) for Phase 3 of Project 2:

d=104(4−1)=83%d=104(4−1)=83%

(7)

After analyzing the results, it can be concluded that the density value, for example, for Project 1 at Phase 1 is 90%, and for Project 2 at Phase 1 it is 40%. This means that, at Project 1 in Phase 1, there was 50% more direct coverage regarding the email communication network, than for Project 2 in the same phase. In other words, this means that for Project 1 at Phase 1, almost everybody directly communicated with everybody through the email network, at a certain point in time. There may be several interpretations for this. One, for example, is that according to the legend, PP1 for both Projects 1 and 2 is the respective project manager for Team A or B, and PP4 is a direct subordinate, it can be concluded that the email communication network for Project 1 follows a more informal pattern than the one for Project 2. This is because for Project 1 in Phase 1, one project manager subordinate (PP4), had direct contact with all the other project people, in opposition to the PP4 at Project 2, where the email communication network follows a more formal pattern; the email communication between Organization A and Organization B is exclusively done through the project manager of Organization A. For example, in Project 1 at Phase 2, the direct email communication channels drop to 67%, which means that from all the possible direct email communication channels, only 67% of them exist. Now when analyzing Phase 4 of both Projects 1 and 2, it can be seen by the naked eye that all the project people are directly connected through an email communication channel. In fact, when applying Equation (1) for both projects at Phase 4:

Applying Equation (1) for Phase 4 of Project 1:

d=63(3−1)=100%d=63(3−1)=100%

(8)

Applying Equation (1) for Phase 4 of Project 2:

d=124(4−1)=100%d=124(4−1)=100%

(9)

In this case, for the Phase 4 of both projects, there is no difference between the density results on the both projects. However, Project 1 was successfully delivered, and Project 2 was unsuccessfully delivered. Therefore, it can be concluded that, the email communication network for Phase 4 of both projects is no longer considered a critical success factor, because there is absolutely no difference between the results for both projects, regarding the density metric. These results are in line with findings from Pinto and Slevin in 1988, as they found that project critical success factors change in degree of importance or even disappear, at the function of project phase. Therefore, for Phase 4, there is a need for another SNA metric that may identify a pattern regarding the dynamic interaction of project people that can be correlated to a certain project outcome. Finally, when comparing Project 1 with Project 2, regarding the email communication network, it can be concluded that for Phases 1, 2, and 3, it is denser in Project 1 than in Project 2. This means that there is a repeatable behavior pattern (RBP) at phases 1, 2, and 3, of Project 1 (successful outcome), which is characterized by having a dense email communication network, of values 90%, 67%, and 53% respectively.

3.4. Project Success Profile and Project Failure Profile

Now, let us assume that the collaboration between Organization A and Organization B had successfully delivered 20 projects to the imaginary Customer C and other 20 unsuccessfully delivered projects to the same imaginary Customer C within the latest year (making 40 projects in total), and that the project lifecycle of Project 1 in **Figure 4** no longer represents the project lifecycle of one single successfully delivered project, but rather the averaged lifecycle of all those 20 successfully delivered projects within the latest year. The same goes for Project 2 in **Figure 4**, where it now represents the averaged lifecycle of all those 20 unsuccessfully delivered projects within the latest year. In this case, the light blue lines in the lifecycles of **Figure 4** now represent the average repeatable behavioral patterns regarding the email communication network. That means that on average, all the 20 successfully delivered projects had at Phases 1, 2, and 3, a denser email communication network than for the 20 unsuccessfully delivered projects for the same phases. The average results of the email communication network represent one aspect of the so-called project success profile (**PSP**) and project failure profile (**PFP**), for successfully and unsuccessfully delivered projects respectively. A project's success or failure profile represents all the different SNA metrics that were used to analyze and quantitatively measure the dynamic interaction of project people across a project lifecycle. Until now, only one metric has been used to characterize and measure one type of dynamic interaction that occurred at the project informal network, which is the email communication network. Concluding, a project profile is the collection of all averaged SNA-metrics results used to analyze and measure each individual project from the set of projects that were successfully and successfully delivered. Furthermore, the creation of a project success or failure profile is only meaningful if more than one project has been successfully and unsuccessfully delivered. Then, the process of identifying the critical success factors follows, by adopting the same approach as was the case for the density previously explained.

3.5. POL Model Application Span

The proposed model is not limited to any certain fixed number of ***project phases***, as we propose in this work, four generic phases recommended by the PMI. The proposed model is designed to applicable regardless of ***project size and complexity***. The ***project people-roles*** are not limited to those previous mentioned at *3.2.4*, as long they are well defined for both project success and project failure outcomes. Finally, the project Teams A and B that are to be analyzed by the model, are necessarily limited to a relationship service provider—Customer as it is proposed in the present work. This means that, regarding ***project teams***, Teams A and B, can be any two different teams in an internal organizational context (between any two business units for example), or an external organizational context (between any two different organizations) that delivers, or/and requests projects. However, the analysis must be always done between any given two teams; for example, a Team A and a Team B, in every project phase, in order to be possible to quantitatively measure. These in turn, may be agglomerated, or delayered into several other "sub" teams. For example, if in a project there is a service provider (Team A), a customer (Team B), and a supplier (Team C), and so on, the model will analyze the dynamic interactions between A and B, A and C, and B and C. In other words, the analysis is always to be done between any two different entities, internal—(if, for example, they are business units, or departments of a given mother organization), and external (if they are different organizations; for example, supplier and customer)—that participate across a project lifecycle's activities/tasks.

3.6. POL Model Part 1 and Part 2

Until now, the model only analyzed a set of delivered successful and unsuccessful projects looking for unique RBPs from both project outcomes, in order to identify critical success factors. This is called Part 1 of the model, which is characterized by the identification of project-phase critical success factors. Once critical success factors have been identified, they are to be used as guidance for an ongoing project. This is Part 2 of the model, which is characterized by estimating an ongoing project outcome. This Part 2 of the model can only be executed if Part 1 of the model has been done beforehand and critical success factors have been identified. Otherwise, Part 2 of the model is excluded. Essentially, in Part 2 of the model, an *actual state* of an ongoing project is to be compared to a *desired state* of an ongoing project. The proposed model will then be used to identify whether there are any deviations between the *actual state* and the *desired state*, regarding the dynamic interactions of project people across a project lifecycle. A framework for both parts of the proposed model is illustrated in **Figure 3**. In order to understand how the proposed model functions, **Figure 3** and **Figure 4** must be simultaneously interpreted.

For the POL model's Part 1 (**Figure 3**), required project related-data according to **Table 2** and **Table 3**, arriving from number of selected successfully (PSO) and unsuccessfully (PFO) delivered projects will be analyzed and measured (for all the different project phases) by the application of metrics based on social network analysis and statistics (**Figure 2**). After all selected projects have been analyzed, an averaged profile characterizing all the successful (PSP) and unsuccessful (PFP) delivered projects will be created (**Figure 2** and **Figure 3**). The content in each of the created project profiles is an averaged result, reflecting the repeatable behavioral pattern (RBPs), regarding how project people dynamically interacted throughout the different phases of the selected project lifecycles for both successfully and unsuccessfully delivered projects (**Figure 2**, **Figure 3**). It follows a comparison process between the RBPs that characterize the PFP and the PSP. Throughout this process, if crystal clear differences (opposite results regarding PSP and PFP) are identified, then project critical success factor(s) have been identified (**Figure 2** and **Figure 3**). At this point, if project critical success factor has been identified, the characterization of the five global collaboration types is concluded. If critical success factors have not been identified, then it is to be concluded that according to the proposed model, the dynamic interactions of project people across the different phases of the analyzed project lifecycles do not influences a project outcome (**Figure 3**). In the POL model, Part 2 (**Figure 3**), if critical success factors have been identified in Part 1 of the proposed model, then for an ongoing project they may be used as guidance regarding the dynamic interactions of project people for the actual project phase of the ongoing project. However, functions of the metrics to be applied at Part 1 need to be run to output the quantitative results that enable one to compare the actual status of the ongoing project with the *should be* status according to the identified critical success factors. If there is a deviation between the actual status and the *should be status*, then it is to be concluded that according to the proposed model, the likelihood of heading to project failure outcome is real. The contrary is then also true. The outcome likelihood will then be estimated by applying a simple rule based on the highest percentage of metrics indicating success or failure outcome. In other words, the more metric results—for an ongoing project—are aligned with the critical success factors identified at Part 1 of the model, the highest is the success outcome likelihood of the ongoing project phase (Part 2 of the Model). Nevertheless, the present work does not aim to detailed explain the process of estimating a project outcome likelihood.

Table 2. Requirements for Part 1 and Part 2 of the POL model.

Table 3. Necessary information regarding each of the social interaction tools.

3.7. POL Model Requirements

So that the model can function, a set of requirements is needed for Part 1 and Part 2. These requirements are illustrated in **Table 2**.

The necessary information regarding the dynamic interaction of project people will be collected through three different social interaction tools (SIT). This necessary information is illustrated in **Table 3**. Meetings refers to F2F (Face to Face), or Web project meetings that occur in each phase of a project lifecycle. Mails refer to all the project related information emails that were exchanged between the project people, in each phase of a project lifecycle. Questionnaires, will only be used in the phases of the project lifecycle, where a third organization is outsourced to accomplish project activities. Usually, Questionnaires are applied at the execution phase of a project lifecycle. The data collected through these three SITs will then be analyzed, using a set of tools and techniques based on social network analyses, and statistics that enable us to measure the dynamic interactions of project people across all phases of a project lifecycle.

The quantitative results outputted by the SNA-metrics and statistics will be used to characterize five global collaboration types (5-GCT) that usually occur between project people, across all project phases of any project lifecycle, for both PSP and PFP. They are, (a) communication and insight, (b) internal and cross-collaboration, (c) know-how and power sharing, (d) clustering (variability effect), and (e) team efficiency. In **Table 1** is illustrated a detailed description on the five global collaboration types (5-GCT) that usually occur between project people, across all project phases of any project lifecycle.

In **Figure 2** is illustrated the overall process of the POL model for Part 1. The proposed model is not constrained to a determined number of phases of a project lifecycle. However, four phases will be adopted, which represent the generic phases of a project lifecycle recommended by the PMI (PMI, 2017). First, the required information for each project phase is collected (according to **Table 3**) for both project outcome types (success and failure). Then, the collected information regarding both project outcome types (success and failure) goes through process of analysis, by the application of social network analysis tools and techniques and statistics, which allows the project people's relational data (dynamic interactions) to be measured for both project outcome types. After that, a project success profile and a project failure profile are created. Then, the results obtained for both PSP and PFP are used to characterize the five global collaboration types (5-GCT). After that, if different RBPs (regarding each of the five global collaboration types) are to be found for each project outcome type (success or failure), then the critical success factors for the project-phase that is being analyzed have been identified! For Part 2 of the proposed model, the process is quite similar as for Part 1, but some steps are suppressed. As previously said, Part 2 of the model only makes sense if both Part 1 has already been run, and critical success factors have been identified for a certain project phase; otherwise, there will be no data to compare with. For example: Part 1 has been run, and project-phase critical success factors for all project phases have been identified. A new project is ongoing and finds itself at a certain point in time (AP) within the Phase 2. In this case, the model should be run with the requirements (by the pol model) and availability (since Phase 2 of the new project started until *AP*) for Phase 2, and the results should be compared with the critical success factors identified for Phase 2. After the comparison has been made, decisions can be made as to whether there is a need for implementing corrective actions or not.

3.8. POL Model Implementation

As previously said, the number of phases adopted in this work will be four. They are, *starting the project*, *organizing and preparing*, *carrying out the work,* and *completing the project.* These phases are adopted from the recommendations of the PMI. For the demonstration of the implementation of the POL Model, a real application case of was used, and it will be illustrated in the following pages. For this illustrative case, a generic project with four different phases has been chosen, where Teams A and B are expected to collaborate to ideally successfully deliver the project. In each project phase, meetings, email-exchange communication, and questionnaire data (in this case only at Phase 3) were recorded according to **Table 3**. The implementation goes as follows:

3.8.1. Defining the Official Project Formal Structure

First, the model previews the establishment of a formal organizational chart at the very beginning of the first phase of a project lifecycle (**Figure 5**), or even before the mentioned phase, and is to be set one time only.

Figure 5. Organizational formal chart-model implementation.

In **Figure 5** is the formal organizational chart of two Teams-Team A and Team B-that are collaborating across all the different phases of a project lifecycle in order to deliver a project. The formal importance degrees-known as the official line of command of both Teams A, and B—are represented on the formal organizational chart at **Figure 5** which is top-down (from A1 down to A6, as an example of **Figure 5**) ranked; on the top are the most important project roles, and at the bottom are the minor project roles. The formal chart displayed in **Figure 5** is where who plays what role is to be seen, and who does what, throughout the project lifecycle. Furthermore, for the POL model is the setting of the base-team that is expected to deliver the project throughout all the phases of the project lifecycle.

3.8.2. POL Model Implementation of Phase 1-Starting the Project

In **Figure 6** is illustrated the implementation process for project Phase 1—*starting the project.* In this phase (as well for the following project phases), there must be two well-defined points in time, representing where the phase starts and where the phase ends. Those are represented by the points at red *START* and *END* at **Figure 6**. Across this phase, a set of project meetings did occur, and the information regarding those meetings is to be collected according to **Table 3**. Project meetings are named events (*E*) and are coded as: *E1_1*, where for example: E_1 = event of Phase 1, and _1 = event, or meeting number one. There may exist E1_*t* events in this phase, as for all the other project phases. For example, in Event 1 (E1_1) at **Figure 6**, the project people who participated were A1, A2, and A5, from Team A, and B3, B4, B5, and B6 from Team B. The same interpretation is to be made for the remaining Events E2, E3, E4, and E5 (E1_*t*). **Figure 6**, under the project lifecycle curve, contains a table representing the PSNVar_1, which a list of the actual participants, who left, who came anew, and who re-came, at any given project meeting of project Phase 1. As an example, let us consider Meeting E1_2, as a present (actual) meeting for an instant. At Meeting E1_2 (the second project meeting form Phase 1 of the project illustrated in **Figure 6**), project people A1 and A3 from Team A, and B1 and B2 from Team B, were present. This information is displayed in the box above the red *START* point. In the table where-Teams A, B, IN, OUT-are displayed (under the project lifecycle curve), for Meeting E1_2, project person A3 from Team A is categorized as IN. This means that project person A3 is present at Meeting E1_2 (present meeting) and was not present at the previous meeting (E1_1). The categorization IN, means that project person A3 just came into this meeting (E1_2), and at the same time did not attend the previous meeting (or previous meetings). As it can be seen, project person A3, was not present at Meeting E1_1. Still, at Meeting E1_2 (the present meeting for this case), project people A2 and A5, are categorized as OUT. This means that they were at the previous meeting (E1_1) but not at the actual meeting (E1_2). The same interpretation is to be made for project people of Team B. Let us now consider Meeting E1_3 as a present meeting. At this meeting project person A1 from Team A is the only element present at the actual meeting. From Team B, project people B1 and B4 are present. At this present meeting (E1_3), project person B4 is categorized as IN, which means that B4 was not present at the previous project Meeting E1_2. Project person A3 is now categorized as OUT, meaning that B2 was present at the previous project meeting (E1_2), but is not present at the actual Meeting E1_3. The same goes for project people B2 of Team B. Still, at the present meeting (E1_3), no project people of Team A are categorized as IN. This means that at the present meeting (E1_3), there are no project people from Team A that simultaneously did not participate on the previous meeting and participate at the actual meeting. In other words, this means that there are no *newly* arrived project people from Team A, to the present meeting since the last meeting. Considering now, Meeting E1_4, as the present meeting, there are no project people categorized as OUT from either Team A or B. This means that, from the previous meeting, up to the present meeting, no project people left the meetings circuit from either Teams. In other words, this means that the project people that participate at Meeting E1_3, also are participating at Meeting E1_4. Considering now Meeting E1_*t* as the present meeting (which is as well the last meeting from the Phase 1 of the project lifecycle), project people A1 and A2 from Team A, and B1 and B4 from Team B participated at the actual event. In this case, for Team A, there is no project person categorized as IN or OUT. This means that the project people that participate at the actual meeting (last meeting of Phase 1) are the same project people that participated at the previous project Meeting E1_4. In such cases, the variability from one meeting to another meeting is zero, regarding the project people attendance.

Figure 6. POL model implementation for Phase 1, for both success and failure project outcomes. Example with five meetings.

For a given actual meeting, project people categorized as IN, are considered *new* at that given meeting. This *new* categorization has two different interpretations and is related with the restart (**R**) step, illustrated in **Figure 7**. The first interpretation of *new*, is related to a project person, that is taking part for the very first time at any given project meeting. The second interpretation is related to a project person, that is taking part a given project meeting, but it is not the first time that this project person participates in meeting of the given project. In other words, that project person had already participated in some previous project meetings of the given project. This concept is explained in detail in the dynamic variability cycle illustrated in **Figure 7**.

Figure 7. SCRL (Start, Continue, Restart, and Leave) dynamic variability cycle meetings' participation assiduity.

The PSNVar (Project Social Network Variability) is based on the project people variability cycle illustrated in **Figure 7** and aims to understand to which extent the project social network variability impacts a project outcome. In other words, the PSNVar will quantitatively capture the variability of project people regarding the meetings attendance cycle (**Figure 7**), which consists of project people starting participation in a meeting (S), leaving (L), or continuing (C) with the successor meeting, and the cycle closes in the case of restarting (R) the meeting attendance after having left the previous meeting. Still, in Phase 1 of **Figure 6**, the POL model previews the collection of all project-related information emailed between the participating Teams (in this case Team A and B) according to **Table 3**. This is illustrated in the box above at the upper right corner of **Figure 6**.

3.8.3. POL Model Implementation of Phase 2-Organizing and Planning

In **Figure 8** is illustrated the implementation process for project Phase 2-organizing and preparing. The process is the same as for Phase 1, excluding the part of defining the formal project chart, which has already been defined at Phase 1.

Figure 8. POL model implementation for Phase 2, for both success and failure project outcomes. Example with four meetings.

3.8.4. POL Model Implementation of Phase 3-Carrying out the Work

In **Figure 9** is illustrated the implementation process for project Phase 3-*carrying out the work.*

Figure 9. Model implementation for Phase 3, for both success and failure project outcomes. Example with six meetings.

The process for Phase 3 illustrated in **Figure 9** is exactly the same as for Phase 2 illustrated in **Figure 8**, except that in this phase a new team (Team C)-which is previewed by the model at **Figure 2**-is taking part in the *carrying out the Work* project phase. The data to be collected regarding the third-party team are to be according to **Table 3** at the questionnaires line.

3.8.5. POL Model Implementation of Phase 4-Completing the Project

In **Figure 10** is illustrated the implementation process for project phase 4—*completing the project*. The process is the same as for Phase 2.

Figure 10. Model implementation for Phase 4, for both success and failure project outcome types. Example with two meetings.

3.9. Model Ethical and Legal Considerations

The proposed model accesses and analysis project related information that flows across the different project teams across a project lifecycle that may be considered confidential, and not desired to be accessed, and/or exposed. Therefore, the implementation of the model in its total plenitude (as it is designed) is totally dependent on the acceptance of competent authorities, at the organizational and ultimately nation level that administer the legal and ethical respective issues. However, all the project people that participate in a project that is to be monitored by the proposed model, should be aware of it, before the project starts.

4. Proposed Model Metrics

The proposed model previews the application of seven centrality-based metrics. They are presented at **Table 4**. Although it was not the objective of this work to extensively detail the metrics applied in the model, a brief description is presented at **Table 4**. At **Table 4**, for each metric the source of information (SITs) is indicated, as well as the respective global collaboration type associated. For example, the global collaboration type communication and insight is characterized and measured for both projects, successfully and unsuccessfully delivered, by analyzing meetings and emails exchanged with project-related information. For this collaboration type-communication and insight-the model previews the application of three metrics. They are: role attendee degree (which will analyze project meetings information), internal email cohesion degree (which will analyze exchanged information), and feedback degree (which will analyze information email exchanged). The model previews individual and collective analysis types. Individual analysis is when either certain official project roles, such as, project managers, engineers, experts, or other (customizable), are isolated analyzed in the project social network. Collective means that a group (team) or all the project people will be analyzed.

Table 4. POL model proposed metrics.

5. Benefits and Limitations of the Proposed Model

The proposed model allows organizations to learn from past experiences-lessons learned-uncovering, understanding, and measuring the reason(s) that led to failure (regarding the way different people from different organizations interacted, as they performed in networks of collaboration across a project lifecycle) to avoid their repetition, and replicate behavioral patterns associated with a project's successful outcome (critical success factors) in upcoming projects. Being able to measure (quantitatively), how those interactions contribute to a failure or to a successful project outcome, enables organizations to design strategies that are more driven by data and insights, than the traditional approaches, such as gute feeling, and biased influenced advices or hunches, when it comes to changing the way organizations work, for example, by addressing leadership behaviors, and diversity and inclusion issues. This in turn, will enable organizations to make decisions more accurately, which directly positively contributes to the economic, environmental, and social sustainability inasmuch as, once known, the reasons for project success and failure can be used to replicate the success and avoid or eliminate failure, thereby avoiding unnecessary risks, and saving resources. This drives organizations to become leaner oriented. The implementation of an automated collecting and processing data system is a huge step forward in the digital transformation process, regarding the logging of project people's dynamic interactions in networks of collaboration across a project lifecycle, by efficiently using available technology. By uncovering the different dynamic behavioral patterns that occur across the different phases of a project lifecycle, such as employees of the organizations involved delivering projects, the proposed model allows one to trace a working culture profile that mirrors how organizations work in collaborative networks that are associated with success. This is achieved by analyzing data arriving from communication/collaboration channels-project meetings, emails, and questionnaires-that organizations use to deliver projects. Collecting data from project meetings and emails is considered a non-invasive method and presents two major advantages against the questionnaires collection data type. First, the data is almost totally free from bias, or less biased influenced. Second, no employee down-time is expected to occur, because as soon as the model is implemented the collecting process is started automatically. These two factors represent two big advantages. First, the collected data mirrors more, the reality of the collaboration between the participating organizations, and second, makes the model more economically viable. The identification of critical success factors is a crystal-clear process. This means that critical success factors are identified by opposition to critical failure factors, because they must be a unique, repeatable behavior pattern. Still, critical success factors are quantitatively measured, and not only qualitatively measured, where the results/conclusions are not a direct function of the size of a given network of collaboration, but rather the interactions between the participating organizations. This allows, in a very clear way, one to observe and interpret the different dynamic behavioral patterns that occur across the different phases of a project lifecycle, which greatly facilitates intervention in order to take corrective actions. Once the model is in full operation, it can be seen as a self-learning system; it refines and monitors best practices, regarding the repeatable behavioral patterns that are associated with success, as people work in networks of collaboration towards the accomplishment of a common objective. This enables an organization to be more responsive to changes, at the very early stages of the development of a product solution or project phase. The implementation of the proposed model in an organization introduces to a certain extent, a sense of awareness among the employees, which immediately triggers in them, willingness for engagement towards a more accurate way of doing things. This factor highly contributes to cementing the fact that flexibility and adaptability are vital to survival, and to improving the way organizations work. Furthermore, by the application across a substantial time period of the proposed model, it will be possible to establish the real importance of informal networks of collaboration by comparing the informal against the formal (formal chart) networks of collaboration regarding project success or failure outcomes. Finally, the model can be applied to any project type if it respects the model requirements and structure presented throughout this work. Although the advantages by far outweigh the disadvantages of the proposed model, when tracing a PSP and a PFP, by applying mathematical operations, one will naturally be influenced by the nature that comprises the mathematical operations. The initial phase of the implementation of the model may be slow—namely, regarding the implementation of a data-collecting culture, filtering project information-related emails, and clearly identifying and defining transitional phases between different project phases-as organizations collaborate across a project lifecycle. Data collected through questionnaires, pose some natural issues; namely, regarding how trustable the data is. In fact, this data accuracy dependents almost entirely on respondents' good-will, to provide honest and non-biased information. Project organization dynamic interaction chain-break represents another limitation of the introduced model. This means that, it often happens that project related information is discussed via other type of communication/collaboration channel, such as through phone calls, or thought informal corridor meetings. These types of communication/collaboration channels are not covered by the present version of the proposed model. Finally, because the model previews the assessment of what many may consider confidential project information, its implementation will be always conditioned by legal and ethical aspects both at organizational, and country level.

6. Conclusions and Further Developments

The proposed model in this work, contributes to the organizational Transformation scientific field, namely, to the project management field, regarding the project people risk management strategy. It introduces a new approach concerning how to identify and measure the impact of project people dynamic interactions across a project lifecycle, regarding its influence in a project´s outcome (failure, or success). The model was developed base on three scientific fields (project management, risk management, and social network analysis), with special focus on the application of existing, and new social network analysis Centrality Metrics Graph theory-based, which according to latest research described at sub-chapter 2.2.3, are the ones that properly / better uncover and measure the importance of project people having a more, or a less central location within a project social network, which in turn is often associated with influence, prestige, control and prominence, coordination and decision-making, in project environments. Network tie strength, or familiarity-a direct consequence of being central within a project social network-according to latest research is also an indicator of the importance of a project people within a project social network. This is also captured, with the adapted-develop Clustering (variability effect-PSNVar) metric, illustrated in **Table 4**. The proposed model is divided in two parts. At part 1, the proposed model, will identify and quantitatively measure, critical success factors from past delivered projects regarding to how project people dynamic interacted across a project lifecycle. At part 2, the model, will use identified critical success factors, to provide guidance to upcoming projects, in order to enhance the chances of project success outcome. The approach of the proposed model is aligned to what renowned people and institutes argue, which is, more research and investigation should be directed to understand how people behaviors and dynamic collaboration patterns may influence outcomes. The propose model, to a certain extent is a tool that enables the management of the project ambiguity risk type, which is characterized essentially by a lack of knowledge or understanding and can be fought by essentially learning from past experiences-lessons learned. In fact, the proposed model, essentially tackles one of the most important factors that enables organizations to innovate, improve, optimize, and gain competitive advantages-learning from past experiences, namely, mistakes (lessons learned)-so that organizations can eliminate or avoid traps/failure behaviors, and replicate (and improve) successful behavioral patterns in upcoming projects. The proposed model focuses its attention on what is today considered one of the fundamental pillars of performance and innovation-social capital-by analyzing the social relationships between project people that ultimately enables value creation, as is proposed by several authors, simultaneously contributing with valuable insight to the people data management field, usually known as people analytics or people big-data. The proposed model strongly contributes to the achievement of a competitive advantage (to a certain extent acting of the *differentiating side* according to the popular Porter's model of an organization in a sustainable way, essentially because by quantitatively identifying project critical success (and failure by direct opposition) factors (Part 1 of the model) regarding the dynamic interactions of project people across the different phases of a project lifecycle, instead of the traditional static approach of analyzing project people's performance rates, essentially based on project risk registers and lessons learned files from delivered projects, will enable organizations to take a *real-time*, necessary adjustment measures, by continuously quantitatively comparing a real ongoing project evolution, against a desired (based on identified CSFs) project evolution (part 2 of the model) in each phase of a project lifecycle. This in turn, will enable organizations to faster adapt and respond to changes by taking a more *data-driven decisions* approach, which will ultimately strongly contribute to more rigorous and accurate management of intangible and tangible project resources, by exactly knowing how much and where action should be taken. However, continuous research should be done regarding the development of new or improved existing metrics, based on social network analysis theory.

Author Contributions

Author M.N. carried out the investigation methodology, writing-original draft preparation, conceptualization, the formal analysis, and collected resources. Author A.A. contributed with the conceptualization, writing-review and editing, the supervision, and final validation. All authors have read and agreed to the published version of the manuscript.

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Conflicts of Interest

The authors declare no conflict of interest.

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Note that from the first issue of 2016, this journal uses article numbers instead of page numbers. See further details **here**

Lesson5 : Applying Blogging Platform Settings

How can you choose the best social media platforms for your blog?

1. **All**

How can you choose the best social media platforms for your blog?

1 Know your goals

2 Know your audience

3 Know your content

4 Know your resources

5 Experiment and evaluate

6 Choose the best social media platforms for your blog

7 Here's what else to consider

If you have a blog, you probably want to reach as many people as possible and grow your audience. One of the most effective ways to do that is to use social media platforms to share your content, engage with your readers, and build your brand. But how do you choose the best social media platforms for your blog? There are so many options out there, and each one has its own features, benefits, and challenges. In this article, we will help you answer this question by giving you some tips and criteria to consider before you decide which platforms to use.

1Know your goals

Before you start exploring different social media platforms, you need to have a clear idea of what you want to achieve with them. What are your goals for your blog and your social media presence? Do you want to increase your traffic, your conversions, your subscribers, your reputation, or something else? How do you measure your success and track your progress? Having specific and realistic goals will help you narrow down your options and focus on the platforms that can help you reach them.

2Know your audience

Another important factor to consider is your target audience. Who are they, where are they, and what are they looking for? What kind of content do they consume, share, and comment on? What are their pain points, interests, and preferences? How do they interact with you and other bloggers in your niche? Knowing your audience will help you choose the platforms that match their demographics, behaviors, and needs. You can use tools like Google Analytics, Facebook Insights, or Twitter Analytics to get more insights into your audience.

3Know your content

The third factor to consider is your content. What kind of content do you create for your blog and your social media platforms? How do you format, style, and optimize it? What are the main topics, themes, and keywords that you cover? How often do you post and update your content?

How do you balance quality and quantity? Knowing your content will help you choose the platforms that suit your content type, tone, and frequency. You can use tools like BuzzSumo, Schedule, or Hootsuite to plan, schedule, and analyze your content.

4Know your resources

The last factor to consider is your resources. How much time, money, and energy do you have to invest in your social media platforms? How many platforms can you manage effectively and consistently? What tools, skills, and strategies do you need to use them? How do you delegate, outsource, or automate some of the tasks? Knowing your resources will help you choose the platforms that fit your budget, capacity, and expertise. You can use tools like Buffer, Sprout Social, or Sociable to streamline and optimize your social media management

5Experiment and evaluate

Finally, after you have considered all these factors, you can start experimenting with different social media platforms and see how they work for you. You don't have to use all of them at once, or stick to them forever. You can try one or two platforms at a time, test different features and tactics, and monitor your results. You can also ask for feedback from your audience, peers, and mentors, and learn from their experiences. The key is to evaluate your performance regularly and adjust your strategy accordingly. You can use tools like Google Analytics, Facebook Insights, or Twitter Analytics to measure your impact and ROI.

6Choose the best social media platforms for your blog

Choosing the best social media platforms for your blog is not a one-size-fits-all decision. It depends on your goals, your audience, your content, and your resources. You have to do your research, experiment, and evaluate, and find the platforms that work best for you and your blog. Some of the most popular and effective platforms for bloggers are Facebook, Twitter, Instagram, Pinterest, LinkedIn, and YouTube, but you can also explore other options like TikTok, Snapchat, Medium, or Quora. The most important thing is to choose the platforms that help you connect with your audience, share your value, and grow your blog.

7Here's what else to consider

This is a space to share examples, stories, or insights that don't fit into any of the previous sections. What else would you like to add?

Unit Six : Course Introduction

At the end of the unit, the trainee will be able to:

- Explain incident response procedures

- Mention the terms of service and IT policy framework

- Feel the importance of information security

- Feel the importance of information security

Lesson1 : Applying Microblogging Platform Settings

Designing a Micro-blogging Platform — Scalable, Available, and Consistent

1 ***Introduction:***

Microblogging platforms have become a crucial part of our online social interactions. In this blog post, we will delve into the design considerations and architecture for creating a highly scalable, available, and consistent micro-blogging platform to meet the demands of a large user base.

Functional Requirements:

1. **User Actions:**

- Users can create public or followers-only posts.
- Following other users.
- Like and comment on posts.
- Reply to comments.
- Edit and delete your own comments.
- Sort comments based on time or likes.
- View trending tweets/posts.

Non-functional Requirements:

1. **High Availability:**

- The system should be available 24/7 to accommodate users from different time zones.

2. Low Latency:

- Users should experience minimal latency when creating and viewing posts.
- Eventual consistency is acceptable for some features.

Capacity Estimations:

1. **Daily Active Users (DAU):**

- 10 million users.
- Estimated Queries Per Second (QPS): (10 * 10 ^ 6) / (24 * 3600) = ~115

2. Posts:

- **Create Posts:**
  - Number of Users Creating Posts: 5% of DAU = 5% * (10 * 10 ^ 6) = 0.5M users
- **Engage with Posts:**
  - Number of Users Engaging with Posts: 30% of DAU = 30% * (10 * 10 ^ 6) = 3M users

Storage Estimations:

1. **Post Storage:**

- 5TB per day.
  - Total Post Storage for 5 years: Number of days in 5 years = 5 years * 365 days/year = 1825 days
- Total Post Storage for 5 years: Storage per Day * Number of Days = 5TB/day * 1825 days = 9125TB

2. Data Replication/Backup:

- Total storage for 5 years: 27375TB

Database Design:

1. **User Table (SQL):**

- Unique identifier (Mobile/Email).
- First/Last Name.

2. Post Table (SQL):

- Post ID.
- User ID.
- Comment ID.
- Media link (Stored in GCS/S3).

3. Comment Table (SQL):

- Comment ID.
- User ID.
- Comment content.

4. Reply Table (SQL):

- Reply ID.
- Comment ID.
- Reply content.

5. Connection Table (SQL):

- User ID.
- Followed User ID.

6. Like Table (HBase):

- User ID.
- Post ID.
- Like count.

Data Storage:

1. **GCS/S3:**

- For static media associated with posts.

2. **Feed DB:**

- Batch job-based storage for the user feed.

APIs:

1. **Create Post:**

- Endpoint: /create_post
- Parameters: Token, Message, Media.
- Returns: JSON.

2. Follow:

- Endpoint: /follow
- Parameters: Token, UserID.
- Returns: Boolean.

3. Like:

- Endpoint: /like
- Parameters: Token, PostID, Count.

4. Comment:

- Endpoint: /comment
- Parameters: Token, PostID, Comment.

5. Reply:

- Endpoint: /reply
- Parameters: Token, CommentID, Reply.

6. Update:

- Endpoint: /update
- Parameters: Token, PostID, Operation (Edit/Delete).

7. Get Feed:

- Endpoint: /get_feed
- Returns: JSON (trending with posts).

8. Search:

- Endpoint: /search
- Returns: User/Post information.

High-level Design:

Data Sharding:

Sharding is necessary for the microblogging platform due to:

1. **Scale:** With a large user base and high activity levels, sharding ensures efficient data distribution and query processing to handle the platform's workload.
2. **Performance:** Sharding enhances query performance by distributing data across multiple shards, reducing the load on individual servers, and improving response times.
3. **Fault Tolerance:** Sharding increases fault tolerance by distributing data across multiple servers, ensuring that the system remains available even in the event of hardware failures or network issues.
4. **Scalability:** Sharding allows the platform to scale horizontally by adding more shards as the user base grows, ensuring continued performance and availability.

In summary, sharding is crucial for managing the platform's data effectively, ensuring scalability, performance, and fault tolerance in the face of increasing user activity and growth.

Data Sharding Strategy:

As we experience a high volume of new tweets daily and a significant read load, efficient distribution of data across multiple machines is imperative. We'll explore various sharding options to achieve this efficiently.

1. **Sharding Key: User ID**

Pros: Even data distribution, efficient user-centric queries, simplified routing, scalability with user growth.

Cons: Hotspotting with popular users, limited distribution flexibility, shard balancing challenges, complex cross-shard operations.

2. Sharding Key: Post ID

Pros: Even data distribution, efficient post-centric queries, simplified routing for post operations, scalability with post-growth.

Cons: Imbalance with post activity, limited flexibility for user-centric queries, complexity in cross-shard operations, shard rebalancing challenges.

3. Sharding Key: Time-based Sharding

Pros: Even data distribution, efficient time-range queries, scalability with time, facilitating historical data retrieval.

Cons: Hotspotting with time periods, complex query routing, shard balancing challenges.

4. Sharding Key: Geographic Sharding

Pros: Data locality, compliance with data regulations, scalability with geographic expansion.

Cons: Complexity in routing, uneven data distribution, management overhead.

5. Sharding Key: Hash-based Sharding

Pros: Even data distribution, flexibility in key selection, scalability with data growth.

Cons: Hash collisions, complexity in query routing, shard rebalancing challenges.

In summary, each sharding key offers unique advantages and challenges, and the choice depends on the specific requirements and scalability goals of the microblogging platform.

Caching:

Incorporating caching into our microblogging platform can significantly improve performance and reduce load on our database servers. Here's a concise breakdown of our caching strategy:

1. **Cache Implementation:** We'll utilize an off-the-shelf solution like Memcache to store hot tweets and user profiles. Memcache will store entire tweet objects, allowing application servers to quickly check for desired tweets before querying the database.
2. **Cache Replacement Policy:** Least Recently Used (LRU) is an appropriate policy for our system. When the cache is full and we need to replace a tweet with a newer or hotter one, we'll discard the least recently viewed tweet first.

3. **Intelligent Cache Management:** We'll follow the 80–20 rule, caching 20% of the daily read volume from each shard, focusing on the most popular tweets generating the majority of read traffic.
4. **Caching Latest Data:** Recognizing that the majority of users interact with tweets from the past few days, we'll cache all tweets from the last three days. This data can easily fit into dedicated cache servers, reducing the load on our backend servers. We'll replicate this data across multiple servers to distribute read traffic efficiently.
5. **Cache Structure:** Our cache will be implemented as a hash table, where the key is the OwnerID and the value is a doubly linked list containing tweets from that user in the past three days. Newer tweets will be inserted at the head of the linked list, and older tweets will be removed from the tail to make space for newer ones.

By implementing this caching strategy, we can significantly improve the responsiveness of our microblogging platform, enhance user experience, and reduce the load on our database servers.

Conclusion:

Designing a micro-blogging platform involves meticulous planning to handle the immense user base and their interactions. By incorporating scalable database structures, distributed storage, and efficient APIs, we can create a system that fulfills the functional and non-functional requirements, providing users with a seamless and engaging experience.

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Lesson2 : The Incident Response Process

Phases of Incident Response: Essential Steps for a Comprehensive Response Plan

We live in an era where cyber threats lurk around every corner, posing significant risks to businesses and organizations worldwide. Being prepared with a comprehensive incident response plan, including the 7 phases of incident response, is no longer an option; it's a necessity. Join us on a journey as we explore the vital components of an effective incident response plan, compare popular frameworks, and provide actionable tips to help you build and implement your own strategy, incorporating the 7 phases of incident response, to safeguard your organization against cyber threats.

Key Takeaways

- Organizations must create an effective incident response plan to reduce the likelihood of a cyber-attack and limit potential damage.
- The 7 Phases of Incident Response, as outlined by NIST, are essential for organizations to build their own plans tailored to their specific needs.
- Common pitfalls in planning should be avoided and outsourcing options considered when implementing an incident response plan.

The Importance of an Incident Response Plan

In the ever-evolving world of cybersecurity, businesses and organizations must remain vigilant and proactive in order to safeguard their digital assets. A robust incident response plan serves as a pillar of protection, enabling the quick and efficient management of cyber incidents. Conducting a risk assessment and establishing documented cyber incident response plans allows organizations to minimize data breach impacts and maintain business continuity as needed.

However, merely having a plan is not enough. It must be tailored to the organization's unique needs and requirements. Implementing an effective incident response plan allows organizations to significantly reduce the likelihood of a cybersecurity incident and limit potential damage.

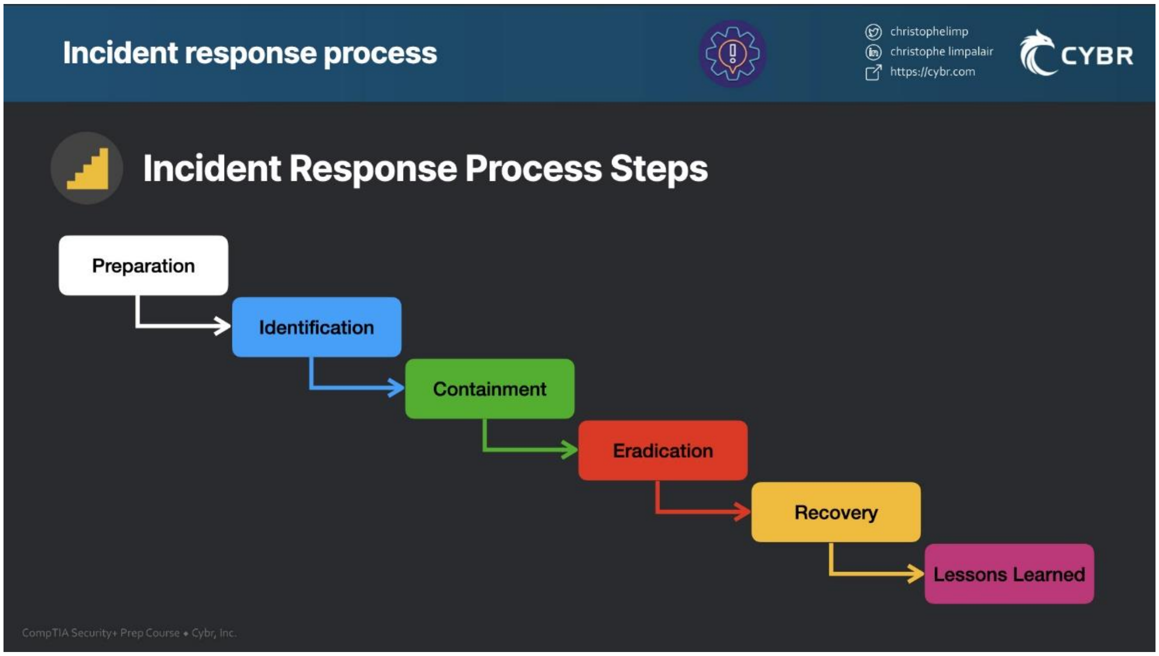
The Role of Cybersecurity in Incident Response

In the realm of incident response, cybersecurity measures play a critical role in preventing and responding to incidents effectively. With the right tools and strategies in place, organizations can:

- Detect and thwart attacks in advance
- Recognize vulnerabilities and essential assets
- Limit losses
- Execute risk management procedures

From real-time threat detection and monitoring systems to advanced logging and vulnerability assessments, the arsenal of cybersecurity tools at our disposal is vast and powerful.

A well-rounded cybersecurity approach also encompasses educating employees about potential threats and ensuring they are equipped with the knowledge and skills to take appropriate action when a security event occurs. With these essential cybersecurity measures integrated, organizations are better prepared to manage and mitigate potential cyber threats.



Business Continuity and Incident Response

Incident response and business continuity are two sides of the same coin. While they share the common objective of ensuring the ongoing operations of the organization during and after an incident, their approaches and focus may differ. Incident response primarily deals with the immediate response to an incident, whereas business continuity plans cover the entire organization and its ability to function during and after a crisis or disaster.

Integrating incident response into business continuity planning enables organizations to effectively respond to and recover from incidents or disruptions that could impact their operations. This involves:

- Identifying incidents
- Containing incidents
- Mitigating incidents
- Resolving incidents in a timely manner

By incorporating incident response into business continuity planning, organizations can ensure minimal impact on business continuity. A robust incident response plan is a critical component of business continuity planning.

Delving into the 7 Phases of Incident Response

Now that we understand the importance of incident response and its role in business continuity let's delve into the heart of the matter: the 7 phases of incident response. These phases, as outlined by the National Institute of Standards and Technology (NIST), are:

1. Preparation
2. Identification
3. Containment
4. Eradication
5. Recovery
6. Lessons Learned
7. Ongoing Improvement

Organizations can create a comprehensive response plan to effectively address cyber threats by following these phases.

Each phase serves a specific purpose, from assigning roles and prioritizing tasks in the Preparation phase to strategizing improvements in the Ongoing Improvement phase. Understanding the objectives and tasks of each phase is vital to construct an efficient and effective incident response plan, which ultimately safeguards your organization from cyber threats.

Phase 1: Preparing for Potential Incidents

In the world of cybersecurity, there is no such thing as being too prepared. The first phase of an incident response plan, preparation, lays the foundation for all subsequent steps. During this phase, organizations must:

- Conduct risk assessments
- Evaluate potential vulnerabilities
- Establish appropriate communication channels
- Ensure that business continuity plans are in place

To achieve this, organizations must define clear communication channels, implement response checklists, and provide staff with quality cybersecurity training. Additionally, having the right tools and infrastructure in place is essential for incident response, as they enable the detection, investigation, and preservation of evidence related to incidents. A well-prepared organization is one that is ready to face potential cybersecurity incidents head-on.

Phase 2: Identifying and Assessing Threats

Detecting and verifying the occurrence of a cyber incident is a critical step in the incident response process. This is where the Identification phase comes into play. During this phase, organizations must assess whether an event is a cyber-attack, evaluate its intensity, and classify the cybersecurity incident based on the nature of the attack. It is crucial to determine when the incident occurred to effectively respond and mitigate any potential damage.

Implementing clear policies for cybersecurity and incident response, setting up monitoring systems to establish a baseline of normal activity, and training employees to be vigilant in identifying and reporting suspicious activity are some of the recommended practices for identifying cybersecurity incidents. Being proactive in detecting potential security breaches and vulnerabilities can significantly reduce the impact of cybersecurity incidents for organizations.

Phase 3: Containing the Impact

Once an incident has been identified, the next step is to contain its impact and prevent it from spreading to other areas of the organization's network. The Containment phase focuses on isolating the affected systems and impeding the incident from propagating further.

Swift implementation of containment measures allows organizations to minimize incident-caused damage and limit the potential for further harm. It is crucial, however, not to delete the malware during this phase, as doing so may hinder the response team's ability to conduct an investigation and restore the files. The containment phase is a delicate balance between limiting damage and preserving evidence for the subsequent phases of the incident response process.

Phase 4: Investigating and Eradicating Threats

With the incident contained, the next step is to investigate the root cause and eradicate any threats from the system. The Eradication phase has one goal: to make sure the threat is no longer present in the organization's network. Additionally, the affected systems must be returned to their original configuration.

To achieve this, organizations must employ a range of techniques, including:

- Designing and implementing policies and rules regarding data usage
- Implementing network access control
- Utilizing antivirus software consistently
- Monitoring data usage to combat threats
- Enhancing physical security
- Monitoring and instructing users about being mindful with downloads from third-party sites

Thoroughly investigating and eradicating threats enables organizations to take a significant step towards restoring normal operations.

Phase 5: Recovering and Restoring Operations

The Recovery phase of an incident response plan is all about getting back to business as usual. After the threat has been eradicated, organizations must restore the affected systems to their pre-incident state. Files lost during the incident or cyberattack may require a data recovery service to restore them. It is important to contact the relevant service as soon as possible in order to minimize any further losses.

The length and effort required for the restoration and recovery phase will depend on the extent of the damage caused by the incident. Organizations can minimize downtime and ensure a smooth return to normal operations by following a well-documented process and working closely with the incident response team.

Phase 6: Learning from the Incident

After an incident has been successfully managed, it's essential to take a step back and learn from the experience. The Lessons Learned phase is all about recognizing areas for improvement in the organization's security posture and incident response plan.

The incident response team should document the lessons learned to build upon their existing knowledge base. This information can then be used to revise the incident response plan and enhance the organization's overall security posture. Conducting a lessons learned meeting and analyzing the incident allows organizations to uncover valuable insights, improve their overall security posture, and ensure they are better prepared for future incidents.

Phase 7: Ongoing Testing and Evaluation

An effective incident response plan is not a one-and-done endeavor. It requires continuous testing and evaluation to ensure it remains current and effective in the face of ever-evolving cyber threats. Regular testing and evaluation allows organizations to identify and address weaknesses in their incident response plan, ultimately improving their overall security posture.

Strategies and tools for testing incident response plans include tabletop exercises, parallel testing, and tool testing. By committing to ongoing testing and evaluation, organizations can stay one step ahead of cyber threats and ensure their incident response plan remains effective in the face of new risks and incidents.

Incident Response Frameworks: NIST vs. SANS

In the world of incident response, two frameworks stand out as the most highly regarded: NIST and SANS. Both frameworks provide IT teams with a foundation to construct their incident response plans, ultimately helping organizations better manage and mitigate cyber threats.

The primary distinction between the NIST and SANS frameworks lies in their approach to containment, eradication, and recovery. NIST believes that these processes are interrelated, indicating that containment of threats should not be delayed until eradication is completed. While there is no definitive answer as to which framework is more suitable, it is essential for organizations to carefully evaluate their specific needs and requirements and choose the framework that best aligns with their objectives and strategies.

Building and Implementing an Effective Incident Response Plan

Creating and implementing an effective incident response plan is not a simple task. It requires a thorough understanding of the organization's unique needs and a commitment to continually updating and improving the plan. To customize an incident response plan according to the organization's needs, steps should be taken to:

1. Identify and document the location of crucial data assets
2. Assess potential crises
3. Establish employee roles and responsibilities
4. Outline the organization's security policies

Training the incident response team on the organization's specific requirements is also essential to ensure a smooth and effective cyber incident response when an incident occurs. Following these best practices enables organizations to build and implement an incident response plan that is both tailored to their unique requirements and resilient against ever-evolving cyber threats. By establishing a comprehensive incident response program, organizations can further strengthen their cyber incident response capabilities.

Common Pitfalls to Avoid in Incident Response Planning

While incident response planning is critical for organizations, it is not without its challenges. Common pitfalls include:

- Not testing backups
- Not having an incident response retainer
- Lacking a clear chain of command
- Not regularly reviewing and testing the plan

These mistakes can lead to significant consequences, including prolonged downtime, increased recovery costs, and potential reputational damage.

To avoid these errors, organizations should ensure they have a well-documented and frequently tested own incident response plan in place. Conducting tabletop exercises and drawing upon the experiences of others helps organizations identify and resolve any errors or challenges in their incident response plan, ultimately improving their overall security posture.

Outsourcing Incident Response: Pros and Cons

Outsourcing incident response to external specialists or organizations can offer several advantages, such as:

- Specialized knowledge
- Prompt response
- Cost-efficiency

- 24/7 surveillance
- Flexibility

Engaging external expertise can provide organizations with consistent and reliable results, minimizing the impact on business operations and expediting recovery.

However, outsourcing incident response is not without its potential drawbacks. These can include:

- Lack of knowledge of the organization's specific environment
- Inadequate SLAs and reporting
- Loss of control
- Communication difficulties
- Data protection and confidentiality issues
- Limited expertise and skill set

When considering outsourcing incident response, organizations must carefully weigh the pros and cons and choose a provider that aligns with their needs and requirements.

Summary

In conclusion, a robust and effective incident response plan is essential for organizations to safeguard their digital assets and ensure business continuity in the face of cyber threats. By understanding the importance of incident response, familiarizing themselves with popular frameworks, and adopting best practices for building and implementing a tailored plan, organizations can significantly improve their security posture and resilience against cyberattacks. Remember, the key to effective incident response is not just having a plan in place, but also proactively testing, evaluating, and refining it to stay ahead of ever-evolving threats.

Frequently Asked Questions

What are the 7 steps in incident response?

The 7 steps of incident response are Preparation, Identification, Containment, Eradication, Recovery, Learning, and Re-testing. These phases provide a structure to manage the response to a cybersecurity threat in an organized way.

What are the phases of incident response NIST?

The NIST Incident Response Cycle consists of four interconnected stages: Preparation, Detection & Analysis, Containment, Eradication & Recovery, and Post-Incident Analysis.

What is incident response plan?

An Incident Response Plan is a documented set of instructions designed to detect, respond to, and limit the consequences of malicious cyber-attacks against an organization's information systems. It is formally approved by senior leadership and outlines procedures, steps, and responsibilities of its incident response program.

How can organizations create a customized incident response plan?

Organizations can create a customized incident response plan by identifying and documenting data assets, assessing potential crises, assigning roles and responsibilities, and outlining security policies.

What are the benefits of outsourcing incident response?

Outsourcing incident response offers specialized knowledge, quick response times, cost savings, 24/7 monitoring and improved flexibility.

Lesson3 : Social media & Incident Response

Build Your Social Media Crisis Management Plan in 10 Steps

A communications crisis can strike at any time. It could be a faulty product, a lousy campaign, or a slip of the tongue from someone higher up.

It doesn’t matter the industry you’re in, or how popular you’ve been to this point. Sometimes, it just happens.

Whatever the case, you need to be prepared. If you’re going to put out a fire, you need a good hose:

So we’ve put together this 10-step crisis management guide to get you ready. Make sure you’ve done everything you need to before disaster strikes.

Before the event

1. Get your crew together

While every staff member is important, they can’t all be part of your crisis management team.

Put together a group of responsible responders, each with their dedicated role.

You need a good mix of **executive personnel (to enforce decisions), management (to coordinate), and creatives (to craft the right message)**.

Oh, and a lawyer probably helps.

As you build your team, answer the following questions:

- Who will take ownership for the overall strategy – assigning tasks and ensuring the team stays on target?
- Who is responsible for identifying and monitoring potential crises?
- Who's going to inform management and/or key stakeholders?
- Who will manage social media and respond to questions?
- And who will be handling messages that come in through other channels?
- Which executive will act as a spokesperson for the media?

Get these roles straightened out while you have time to plan.

Next, it's time to think about what sorts of crisis you might possibly face.

2. Define "a crisis"

You need to decide the kinds of events that will kick your new plan into action.

Not every piece of bad news or negative headline should force you to go "code red."

For this, you'll need a working definition of a crisis.

According to Jay Baer, a social media crisis has three characteristics:

- **Information asymmetry**: When you don't know any more than the public about what's going on.
- **A change from the norm**: Everyday criticism of your products is not a crisis. When your products explode at random – that's a crisis.
- **Serious risk to your company**: It seems obvious, but the scope of the issue is important. For something to be a crisis, it needs to have a truly negative effect.

With your new team, set benchmarks and find real examples of what qualifies as a crisis.

An added benefit of this is that you'll identify potential weaknesses you otherwise might not have thought about.

Since every company is different, it's a matter of creating a definition that works for you.

Once you've done that, you can begin thinking about key steps to take during an event.

3. Identify your key message

How you react publicly during a crisis is likely to define your success.

You could have a great plan and a smart team, but if the message is wrong you've got no chance.

You can't plan your specific response yet since you don't know what the crisis is. Instead, **establish your core values as a company, and your main value proposition to customers**.

Whatever your response during the tough times, these should be central.

Why is this important?

Things will be moving at a mile a minute. Despite your best intentions, you can't monitor everything every spokesperson or social media manager says and posts.

What you *can* ensure is that they convey the most important information.

If you remind customers why they came to you in the first place, you have a far better chance of keeping them around.

4. Create communication guidelines

Once you're clear on the basic message, you need to decide how to deliver it.

That means creating guidelines so that anyone writing a social media post knows what's expected of them.

To get ready for a crisis, do the following:

- Determine rules for communicating with key stakeholders and executives.
- Set network-specific guidelines for communicating on social media (since you'll have different content and format considerations for each).
- Decide on a process for communicating updates via your website and other online company channels not covered by social media.
- Create guidelines for employees outside of the crisis communications team advising how to respond to inquiries.

To ensure you're even more prepared, craft some basic templates.

The first of these should be a brief, general statement of the company's position.

You also need sample answers to the obvious questions you know you'll receive.

This is your best opportunity to set the tone you'll use as a company. There may be even room for jokes and light-hearted apologies, as long as they suit your usual social media style.

By preparing these now, you're more likely to be effective when a crisis breaks, rather than making the situation worse.

5. Monitor for updates

Or in Jay Baer's words, "*buy some binoculars*". **Get a monitoring tool that'll help you figure out what's being said about you, and were.**

If you're trying to see everything happening on social media without a listening tool, good luck.

You're going to need something that gives you real-time updates and lets you analyze large amounts of data to draw conclusions.

Naturally, we suggest *Mention*.

It lets you track social media, forums, blogs, and news, and respond to social media posts directly from the app.

Plus, Mention will tip you off if a serious crisis is about to hit. Pulse alerts tell you when your keywords explode online, meaning that everybody is talking about your brand.

You'll be notified first, so you're able to respond quickly.

Find out how monitoring can save your brand in a crisis.

Whether or not you use Mention, you need to be clear on three matters:

- What tool(s) will you use to monitor for brand crises?
- Who is responsible for the management of the tool?
- What is the ongoing process for crisis monitoring?

Get these straightened out before a problem strikes, and you'll have a far easier time when you're caught off-guard.

During a crisis

6. Get it under control

We've put together a checklist that'll help you right the ship. It's a step-by-step guide to use when the going gets tough.

For full instructions, you need the checklist. For now, let's take a look at the highlights:

Pause your scheduled posts

With a mad panic breaking out around you, it's easy to forget that you've got a full social queue.

As Charli Day explains, you can't afford to accidentally post "*Happy #ThrowbackThursday — Have a beautiful day*" when your product has just caused a serious injury or death."

That's a pretty extreme example, but still a great point.

Publicly acknowledge what's going on

You're not going to be able to hide for long - especially on social media.

Your best bet is to make clear that you know there's a problem, and you're working to fix it. You'll still get some angry responses, but it should buy you some time.

Inform your team

You didn't put a crack squad together for nothing. Contact them quickly and send them to work.

If you respond quickly enough, you may be able to lessen the harm overall.

Post a long-form response on your website

You'll be sending plenty of small, individualized social media responses.

But you also need one official place where reporters and blog writers can find your side of the story.

Posting this response will also buy you time.

When people want answers fast, you'll have a place to send them while you work on more important matters.

One final piece of advice: "do not lose your cool. Ever."

Once the dust settles, it's time to figure out what went wrong.

After a social media crisis

7. Assess brand impact

This is where your monitoring tool comes in handy again.

You should have data showing what a normal business week looks like, to compare with your "*crisis week*". You'll quickly know just how bad things became.

From a social media perspective, **focus on factors like lost followers, specific complaints, and the amount of negative sentiment around your brand**.

You'll also be able to see where your response was most effective.

You may have spent countless hours scouring Twitter and responding to individuals, and yet one Facebook post reached more people and was widely shared.

These kinds of insights help you understand how badly your reputation was hit, and you'll be able to plan better for the future.

The key questions for this section of your plan are:

- What will your KPIs for successful crisis management be?
- How will you measure the negative conversations generated?
- How will you measure the impact on overall brand sentiment?
- How will you measure the overall brand impact of this over time?

Make sure you have a monitoring tool that lets you do all of this, and anything else you choose to include in your plan.

You also need to collect data *before* a crisis arises, to benchmark against. If you know what a "*normal*" week looks like, you'll be able to accurately assess the bad times.

8. Reflect on your response

Once it looks like you're out of the woods, it's important to take stock of your response.

Hopefully, you had a great plan in place, and everyone knew exactly what was required of them.

As part of your plan, **make time to regroup after the event, and discuss how it went**. Key questions to work through include:

- What were the strongest aspects of your brand's crisis plan?
- Where was the existing strategy unhelpful or less impactful?
- Are there any processes or templates that need to be revised?
- Do you need to create any new systems or guidelines?

Discuss the different experiences of management, administrative, and customer support staff.

Did everyone feel ready to respond, and what other resources would have helped when things got hectic?

9. Prepare for the long-term

Unfortunately, negative news and complaints can linger far longer than a week or two.

You need to decide what your response will look like moving forward.

It might not be best to act like everything is now fixed. Instead, you may want to be proactive, offering updates and solutions to help customers get through a tough time.

These are the big questions to ask yourself:

- How will you manage or participate in the long-term conversation about this event?
- Do you need to provide continual updates long-term to any of your audiences?

Again, your monitoring tool will be invaluable here.

Not only will you hear if things quickly begin to spiral (again), but you'll be able to show sentiment improving over time, and find positive feedback to share with your community.

10. Update your crisis management plan

The last step is to revisit the first nine steps.

This may have been your first chance to test out your crisis management plan, so you need to figure out if it worked.

Hopefully, you won't get another opportunity for some time, so this is the time to make changes.

Move through each section of your plan and make any changes that need to be made. Make the necessary fixes to ensure your crisis management plan is as good as it needs to be.

So those were our 10 steps to get you prepared. **You're all set!**

What to do in the face of an ugly social media crisis

No brand wants to find themselves in a social media crisis, but every brand needs to be prepared for.

It's one of those "hope for the best, prepare for the worst" things. Like insurance.

You can't let yourself and your communications team go in denial and pretend it could never happen.

One viral, "didn't think it through" tweet.

One screenshotted Snapchat.

One employee logging into the wrong account.

That's all it takes to have a crisis on your hands, my friend. And if it happens, you need a game plan, and you need one bad.

And here's what it should include.

Want to save a quick list of these steps...just in case? Download the free PDF!

1. Determine whether or not it's a real social media crisis

First of all, is the situation *really* a crisis? There's a big difference between a sticky situation and a full-blown disaster.

Sure, both are bad, but there's a big difference that dictates how your brand needs to react.

So you obviously want to make sure the crisis is real and you're not overreacting. No one likes a drama queen.

Ask yourself: will this have a real, lasting impact on our brand? Will it impact business results, or is it just talk?

We've all seen it: a Facebook friend getting totally outraged and going on a tirade about a brand for something that's not even a big deal.

And we all have that friend who *needs* a brand to be angry at in order to survive on social media. It's who they are, and we love them anyway.

With how easy it is for people to become keyboard warriors and how quickly something can go viral, not every sticky situation will have an impact.

It's perfectly possible to just move on without going into full-on crisis mode.

When things get more serious, however, is when a situation really will drive away customers and have other lasting impacts on your business, your employees, etc.

Now, only your brand knows your customers well enough to determine that about a social media disaster.

But when people start angry tweeting you on social media, take a look at who they are. Are they your customers, your audience?

Basically, who cares?

And I don't mean that like, "*Ugh, who cares?*" I actually want you to answer that.

Are the people angry with your brand actually your target audience or an important audience to you, or are they people outside of your important markets?

It's never nice to piss people off, but if they're not your audience or customers, it may not be a crisis.

2. Pause your scheduled posts

If something is a crisis, the first thing you want to do is go into "*crisis control*" mode.

That means not asking people to buy from you when the whole internet is mad at you. Timing is everything, after all.

Press "*pause*" on any campaigns and content you'd planned to put out on social media, and you may want to consider altering your schedule on other online channels, too.

The benefit here is two-fold:

First of all, as mentioned before, a crisis is not a great time to be marketing and selling.

People aren't happy with you, and people need to be happy to buy.

Secondly, this frees up your whole team to focus 100% on getting the crisis under control.

It should be your number one priority, not a marketing campaign that will fail if everyone hates you, anyway.

3. Publicly acknowledge what's going on

Staying in contact with your audiences during a social media crisis is so, so important.

Beyond effectively communicating updates, you already need to comfort people by showing them you're there and you care.

As soon as possible, acknowledge your brand's problem or crisis on social media.

Even if you don't have a solution or real updates yet, put something out that tells your audience that you're aware of what's going on.

This lets people know that you've jumped on the issue quickly and care about solving it, as well as where to go for more updates.

At this point, it doesn't need to be anything more than a short post on each important channel.

You may want to consider reposting it a time or two within the same time frame to ensure your followers see it.

4. Create a social crisis action plan

Once you've checked in with your audience and let them know what's up, it's time to go into *problem-solving* mode.

It's time to put your crisis communications plan into action.

Part of being prepared for a crisis means in addition to learning these 10 steps today, you're also starting to work on them.

You need a crisis comms plan long before a crisis happens as it guides your team in responding.

If you don't know where to start, our free crisis communication workbook can help.

Basically, you want to decide what steps your team will take during a crisis, which team members will perform each task, and how you'll communicate with each other and your public.

5. Inform your team

In addition to giving a heads up about the situation to your audience, **you also absolutely have to consider any other stakeholders at the company.**

Executive leadership obviously needs to know what's going on, as they do with anything big happening to the company.

Additionally, they might have to field questions from people about it and should be primed with a response.

Any support or customer-facing positions should be pulled into the loop as well.

They may have customers and prospects coming to them with questions that they should feel confident in answering.

6. Work quickly but thoroughly

A social media crisis is not the time for perfectionism. **You have a fire to put out, and the longer you wait, the more it will breathe and spread.**

Your social media crisis communication plan should be lean and minimal. Once the crisis is over, you can focus on the lower priority parts of crisis management - now's the time for high, DEFCON 1-level to-dos.

Work quickly by carefully and accurately. The last thing you need to do while dealing with one crisis is to start another crisis!

I won't lie - this is tough. Toeing the line between "fast but effective" and "sloppy and confusing" can be quite the balancing act.

7. Give your audience frequent updates

It's so important to stay in close touch with your audience in the middle of a social crisis**.**

For one, social media is real-time and your posts "expire" quickly in terms of reach.

Someone may not have seen your tweet from a few hours ago, but are online now.

But also, keeping them in the loop can help pacify anyone angry or upset.

Apologize continuously, let them know what steps you're taking to remedy the company's problem, and thank them for their patience.

When you don't have any actual news to update them with, it's best to keep it short and sweet.

If you are providing them with crucial news, it's best to communicate the essential or most important facts on social, and link to a web page with more information.

When it comes to this, it's better to over-communicate than not share enough, and this lets you have a central location for the more detailed info.

8. Individually reply to concerned audience members

In addition to sending out blanket statements from your company to its whole audience, **you'll also want to address anyone that reaches out directly on social media.**

Obviously, don't waste your time engaging with trolls and such, but crisis management tools can help you find people who are legitimately concerned, the customers whose relationships you're in danger of damaging.

If it's a general angry or concerned tweet, let the user know they're heard and instruct them on how they can stay updated.

If they address something specific, address that topic directly as best you can.

And if you can't answer the question, be honest, don't just try to sidestep it.

And for the love of social media, **do NOT use automated or canned responses** in a social media crisis.

9. Post a long-form response on your website

Remember that central location I talked about previously? Let's talk about it a little more.

You want one "hub" that people can go to for information so that you don't have to only give updates 140 characters at a time.

This can be a blog post that you update as you have more information or a static page.

Add new updates and details as you have them, and it's a great timeline of the crisis and place to direct social media users to.

You can even embed social media posts to let people see all channels in one spot.

10. Let the dust settle.

Once you've performed steps five through nine, it's kind of a matter of rinsing and repeating. You'll go through them with each update you communicate to your audience.

Once they've done their jobs, it's time to let the dust settle. Move on, but don't forget.

You don't want to keep people's attention on the social media crisis any longer than it needs to be, but you also shouldn't avoid the topic if someone else brings it up.

And you're done

You now have a crisis plan locked, loaded, and ready to test.

Hopefully, you'll never need to use it. But this way you're prepared in case disaster strikes.

If you want more information for each step of the way, download our free workbook. It's a detailed walkthrough to help you ask and answer the right questions.

With it, you'll be ready to deal with anything coming your way.

Lesson4 : Understanding the social media IT/Security Policy Framework and terms of serves

Understanding & Deploying an Effective Social Media Policy Framework

risks. Any endeavor to utilize social media or other internet resources should be carefully considered and approached with diligence. If done correctly, social media can create an engaging medium to communicate with customers, market products, and interact with other organizations.

There are many reasons why an organization might want to incorporate social media into their overall strategy. First and foremost, it serves as a relatively inexpensive, dynamic, and highly effective advertising tool. It can be leveraged in several ways, from traditional direct marketing in the form of adds to softer social engagement activities. The medium allows for real-time two-way communication and can provide valuable feedback and insight almost instantly. Its use is incredibly widespread across almost any demographic, this combined with its accessibility ensures that nearly any product, service, or organization can connect with its potential market. Lastly, its low barrier to entry and effectiveness is particularly useful to small and medium sized organizations who may lack the marketing resources of larger firms.

However, the internet can be like the wild west, and stepping out into social media communications can be treacherous The dissemination of information can be effective when it is tightly controlled and planned for, but once released it is nearly impossible to take back, revise, or otherwise control the discourse. Information can be easily taken out of context, confused, misinterpreted, or altered. The viral nature of social media also allows anyone to potentially have the same reach as a professional team of marketers and creates the risk that sensitive information or negative PR be distributed from almost anyone.

What provisions should a social media policy include to help mitigate the risks can allow organizations to access the potential of social media?

- Any policy should clarify and assign responsibilities of those who manage the various social media functions. Providing not just guidelines for what kinds of communication should be used but assigning accountability for that communication. This should include guidelines on communication style and branding, as well as individual employee responsibility guidelines for outside social media use. This ensures messages are uniform and accurate.
- The policies should cover security, such as how accounts will be maintained, what kinds of devices and IT resources should be used, and how those channels can be made secure.
- The policies should describe an action plan for any sort of PR emergency. This includes who are the appropriate contacts, including high level leadership, how to identify the scope of the issue, and an approval process for external communication regarding the crisis. Given the highly volatile nature of the internet, a small issue can become exponentially threatening in a short period of time. This requires a diligent and exacting response.

While there are many risks to navigate when stepping out into the unblinking and scrutinizing eye of the social media landscape, a diligent, thoughtful, and precise policy can go a long way into unlocking the potential to reach millions with an effective social media strategy.

DocTract Cloud Platform is an efficient, ready to use tool that is built by experts that know how to make the journey towards effective policy management easy for you and your organization. DocTract provides an unparalleled experience for organizations of all sizes and assists in building an optimal Policy Management System with transparent pricing and rapid implementation.

does allow more information to be posted and an employee can easily and unknowingly install a malware Facebook application that's more dangerous than what you face from your typical Twitter usage, which doesn't impact network resources as much. A response process must be in place for policy violations and related mechanisms must also be in place to actually monitor for violations. If you are looking for internal employee access, then data loss prevention tools are needed. If you are looking for external incidents, then you might need third-party monitoring services such as ReputationDefender.com. You may assign risk levels to different social media activities and apply appropriate resources based on risk to the organization. Once a violation occurs, a clear process needs to be in place to notify the right resources for a response. A fast response is vital, precisely because the real-time, instantaneous nature of social platforms accelerates the speed at which events get passed along and become viral. A plan identifies possible areas for error, minimizes risks, and provides mitigation guidelines all teams can follow on a 24×7 basis.

The level of authority that response teams have has to be defined. Like your disaster recovery plan, you should test your social media response plan for possible attack scenarios. Possible decisions when addressing violations may include:

 Identifying the issue at hand
 Responding to media inquiries
 Acknowledging the problem and responding to mentions in a timely, courteous, and professional manner on relevant blogs, microblogs, and social networks, particularly when posted by influencers
 Determining employee culpability, if any
 Implementing changes to prevent continued use of the access violation
 Isolating the technology (if any) that have been compromised
 Contacting websites that may be involved
 Recording evidence and logging a timeline of events and remediation steps taken
 Contacting the appropriate public agencies if necessary
 Notifying internal executives and legal counsel

A Sample Social Media Security Policy

Each policy varies depending on company size, industry, regulatory requirements, corporate culture, and level of engagement with customers and the public. Some companies might be more concerned with brand awareness whereas others are more concerned with sales activities. If you are a smaller company, you might not be able to field a cross-functional team from Legal, HR, Marketing, Sales, Customer Service, and IT to manage your social media security tactics: it might all fall on Marketing and IT or perhaps just Marketing. This would dictate a number of different policy requirements. But every company still needs a policy in place if it is to engage with the public in a manner that includes risk reduction tactics.

Here is a basic outline you can follow to develop your own social media security policy.

Social Media Policy Outline

1. Introduction
i. What is this policy all about?
a. Policy Management
ii. Company rights to change and update this policy
b. Effective Date
c. Goals
i. What are the goals of this policy (set guidelines, determine responsibilities, manage reputation, etc.)
d. Purpose
i. What is the purpose of this document and who does it apply to?
e. Scope
i. What is the applicability to the policy to technologies and employees,

contractors and partners, etc.?
f. Policy Owners
i. Who manages this policy?
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2. How social media Is Used
a. Social Media Channels (Facebook, Flickr, LinkedIn, Twitter, YouTube,
GoWalla, Foursquare, etc.)
b. Social Media Benefits (marketing, sales, customer service, new product
development, customer feedback, access to media, partnerships,
communications, cost reductions, etc.)
c. Community Manager Objectives
i. Who is the Community Manager?
ii. What is the Community Manager's role?
d. IT Security Department Responsibilities
i. Define role of IT Security.
ii. Identify processes to authenticate and authorize each social media
platform.
iii. Define implementation responsibilities.
iv. Define reporting responsibilities.
v. Define monitoring responsibilities.
e. Marketing Department Responsibilities
i. Define role of IT Security to assist the Marketing department in
conducting their responsibilities in a secure manner
f. Human Resources Responsibilities
i. Define role of IT Security to assist the HR department in conducting
their responsibilities in a secure manner
g. Legal Department Responsibilities
i. Define role of IT Security to assist the Legal department in conducting
their responsibilities in a secure manner
3. Social media General Policies
a. Advertising
b. Regulatory Requirements
c. Community Management
d. Confidentiality
i. What information can be shared?
1 2 8 S e c u r i n g t h e C l i c k s : N e t w o r k S e c u r i t y i n t h e A g e o f S o c i a l M e d i a
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e. Disclosures
i. What must employees disclose when using social media and what must they not disclose?
f. Legal Issues
i. What legal restrictions must be applied to social media usage?
g. Level of Engagement
i. What are the expectations of engaging with the community and what internal and external resources are required?
h. Managing Friends of the Company
i. Understand the dangers and opportunities posed by Friends and review endorsements, profile information that is linked and shared, and manage trust.
i. How to Handle Negative Comments
j. Press Inquiries
i. Define responsibilities for dealing with the press.
k. Third-party Employees
i. Identify process for managing third-party relationships
l. Restrictions on Trademarks and Intellectual Property
i. How are trademarks, copyrights, and IP managed?
4. IT Security Policies
a. The purpose of these policies is to establish the technical guidelines for IT security and to communicate the controls necessary for a secure network infrastructure. The network security policy will provide the practical mechanisms to support the company's comprehensive set of security policies. This policy purposely avoids being overly specific in order to provide some latitude in implementation and management strategies.
b. Social Media Sites Authentication
i. Define complexity of passwords for all in-house hosted application and third-party hosted social media applications.
1. Password Construction
The following statements apply to the construction of passwords for network devices: Eight characters, with a mix of letters, numbers, and special characters (such as punctuation marks and symbols).

Passwords should not be comprised of, or otherwise utilize, words that can be found in a dictionary, should not include "guessable" data such as personal information like birthdays, addresses, phone numbers, locations, etc.
2. Change Requirements
Passwords must be changed according to the company's Password Policy. Identity requirements that apply to changing network

device passwords.
3. Password Policy Enforcement
Where passwords are used an application must be implemented that enforces the company's password policies on construction, changes, reuse, lockout, etc.
4. Administrative Password Guidelines
As a general rule, administrative access to systems should be limited to only those who have a legitimate business need for this type of access.
c. In-House Deployed Social Media Applications
i. Failed Logons
Repeated logon failures can indicate an attempt to "crack" a password and surreptitiously access a network account. In order to guard against password-guessing and brute-force attempts, the company must lock a user's account after five unsuccessful logins.
ii. Logging
Logging needs vary depending on the type of network system and the type of data the system holds. The following sections detail the company's requirements for logging and log review.
1. Application Servers
Logs from application servers are of interest since these servers often allow connections from a large number of internal and/or external sources. At a minimum, logging of errors, faults, and login failures is required.
2. Network Devices
Logs from network devices protecting the application servers are of interest since these devices control all network traffic, and can have a huge impact on the company's security. At a minimum, logging of errors, faults, and login failures is required.

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iii. Log Management
1. Log Review
Log management applications can assist in highlighting important events, however, a member of the company's IT team should still review the logs as frequently as is reasonable.
2. Log Retention
Logs should be retained in accordance with the company's Retention Policy.
iv. Intrusion Detection/Intrusion Prevention
The company requires the use of either an IDS or IPS on critical application servers.

v. Security Testing
Security testing, also known as a vulnerability assessment, a security audit, or penetration testing, is an important part of maintaining the company's network security.
1. Internal security testing
2. External security testing
vi. Social Media Application Documentation
Documentation, specifically as it relates to security, is important for efficient and successful application management.
vii. Antivirus/Antimalware
viii. All application servers and end-user systems that connect to the application servers should have antivirus/antimalware software running.
ix. Software Use Policy
1. Software applications can create risk in a number of ways and thus certain aspects of software use must be covered by this policy.
2. All downloadable social media end-user software and applications for desktop, laptops, and mobile devices should be approved by IT Management.
x. Suspected Security Incidents
1. When a security incident is suspected that may impact a network device, the IT Staff should refer to the company's Incident Response policy for guidance.

d. Third-party Hosted Applications
i. Service level agreement
Review all service level agreements with sites and application providers.
ii. Updates
Upgrades must be in place for updates, upgrades, and hotfixes to address security concerns
iii. Testing
1. Third-parties must provide proof of security testing of their applications or allow the company to test the application for security weaknesses.
2. Third-parties must provide proof of security infrastructure and policies that maintain a secure environment for customer data.
e. Education and Training
i. IT Security is responsible for training end users on security requirements for all hardware and software resources.
ii. HR is responsible for policy and process training.

iii. Hold a yearly training program and ongoing updates to alerts users of new risks and security measures.
5. Social Media Do's and Don'ts
a. What are the major Do's and Don'ts?
b. Social Media Do's
i. Add value, promote the company in a positive light, educate, be a brand ambassador, respond to customers, engage in conversations, be a knowledge resource, build relationships, know the restrictions on content, understand the risks of the mediums, check all facts, provide disclaimers, gain feedback, check regulatory risk, understand legal ramifications, secure communications, secure and protect customer information, understand privacy requirements, etc.
c. Social Media Don'ts
i. Discuss confidential information, share private customer information, share derogatory comments, access unsecured or unencrypted channels, discuss customer activity, post internal information, associate personal life with corporate accounts, disparage competitors, disparage partners, be condescending or patronizing, etc.

6. Brand Guideline Policy
a. What is the brand policy and what are the guidelines for discussing and promoting the brand?
7. Twitter Usage Policy
a. Identify what Twitter should be used for.
b. Identify objectives (access, brand monitoring, identity management, research, customer communications, media coverage, etc.).
c. Policy Team Ownership
d. Identify who can source and publish tweets.
e. Content Guidelines
i. Identify content requirements such as frequency, context, content, tone, hashtag usage, followers, following, etc.
ii. Link shortening policy
f. Re-tweeting and Following
i. Focus areas: research, partners, industry news, statistics, other relevant content
ii. Research, partners, industry news, statistics, other relevant content
g. Product-specific Accounts Management
i. Link accounts to products
ii. Monitor specific accounts
8. Facebook Usage Policy
a. Identify what Facebook should be used for.

b. Identify objectives (brand monitoring, marketing, community engagement, partnership development, lead generation, etc.).
c. Policy Team Ownership
d. Identify who can use Facebook and post from company accounts.
e. Content Guidelines
i. What content is applicable and allowed?
ii. Content types and sources (such as events, news, surveys, photos, etc.)
iii. Tone of community engagement and interaction (personal, corporate, friendly, professional)
iv. Online contest general guidelines from a security perspective

9. Company Blogging Policy
a. Define the purpose of corporate blogging
b. Objectives
c. Policy Team Ownership
d. Identify who is responsible for blogging
e. Content Guidelines
i. Define what content is allowed in blogs
ii. Identify video policy for blogs
10. Personal Blogging Policy
a. Identify how employees are allowed to use company information in personal blogs and social network posts, and when and where personal blogs can be accessed.
i. What are the limitations?
ii. What corporate IP can be used?
iii. What can be said about company products and services?
iv. Identify relevant Human Resources policies that restrict employee dissemination of company information in any form.
v. What company confidential or other information can be posted?
b. Approval process
c. Disclaimer
i. What disclaimers must employees use?
d. Disclosure
i. What must employees disclose and not disclose on their blogs?
e. Endorsements
11. Employee Code of Conduct Policy
a. Reference Human Resources handbook on code of conduct.
b. Do not damage the company reputation.
c. Use of inappropriate comments.

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Wrap Up
Your social media Policy is the foundation of your operations and procedures. Constructing it is challenging, as it has to take into account new functions that many companies have not had to deal with before and has to be constantly updated. Also, departments must collaborate in ways they haven't done previously. To develop a comprehensive policy, you have to address all the major aspects of the H.U.M.O.R. Matrix. A key driver is how the different departments work together daily to achieve a baseline level of secure operations.
Improvement Checklist
c Is there ongoing communications and collaboration across departments?
c Have you defined specific policies for internally hosted applications versus externally hosted applications?
c Are you managing the policy on a constant basis?
c Did you create a new role for the Community Manager?
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Lesson5 : Understanding Privacy Statements / Policy

Social Media Privacy

Background

Too many social media platforms are built on excessive collection, algorithmic processing, and commercial exploitation of users' personal data. That must change.

Over the past two decades, social media platforms have become vast and powerful tools for connecting, communicating, sharing content, conducting business, and disseminating news and information. Today, millions or billions of users populate major social networks including

Facebook, Instagram, TikTok, Snapchat, YouTube, Twitter, LinkedIn, and dating apps like Grindr and Tinder.

But the extraordinary growth of social media has given platforms extraordinary access and influence into the lives of users. Social networking companies harvest sensitive data about individuals' activities, interests, personal characteristics, political views, purchasing habits, and online behaviors. In many cases this data is used to algorithmically drive user engagement and to sell behavioral advertising—often with distortive and discriminatory impacts.

The privacy hazards of social networks are compounded by platform consolidation, which has enabled some social media companies to acquire competitors, exercise monopolistic power, and severely limit the rise of privacy-protective alternatives. Personal data held by social media platforms is also vulnerable to being accessed and misused by third parties, including law enforcement agencies.

As EPIC has long urged, Congress must enact comprehensive data protection legislation to place strict limits on the collection, processing, use, and retention of personal data by social networks and other entities. The Federal Trade Commission should also make use of its existing authority to rein in abusive data practices by social media companies, and both the FTC and Congress must take swift action to prevent monopolistic behavior and promote competition in the social media market.

Social Media & Surveillance Advertising

Social media companies—and in particular, Facebook—collect vast quantities of personal data in order to "micro target" advertisements to users. This practice, also known as surveillance advertising or behavioral advertising, is deeply harmful to privacy, the flow of information, and the psychological health of social media users.

As former FTC Commissioner Rohit Chopra wrote in his dissent from the FTC's 2019 Facebook order, "Behavioral advertising generates profits by turning users into products, their activity into assets, their communities into targets, and social media platforms into weapons of mass manipulation." Chopra went on to explain how surveillance advertising operates in Facebook's case:

To maximize the probability of inducing profitable user engagement, Facebook has a strong incentive to (a) increase the total time a user engages with the platform and (b) curate an environment that goads users into monetizable actions.

To accomplish both of these objectives, Facebook and other companies with a similar business model have developed an unquenchable thirst for more and more data. This data goes far beyond information that users believe they are providing, such as their alma mater, their friends, and entertainers they like. Facebook can develop a detailed, intimate portrait of each user that is constantly being updated in real time, including our viewing behavior, our reactions to certain types of content, and our activities across the digital sphere where Facebook's technology is embedded. The company can make more profit if it can manipulate us into constant engagement and specific actions aligned with its monetization goals.

As long as advertisers are willing to pay a high price for users to consume specific content, companies like Facebook have an incentive to curate content in ways that affect our psychological state and real-time preferences.

Notably, tracking and behavioral advertising by social media companies is not limited to the platforms themselves. Firms like Facebook use hard-to-detect tracking techniques to follow individuals across a variety of apps, websites, and devices. As a result, even those who intentionally opt out of social media platforms are affected by their data collection and advertising practices.

Social Media & Competition

Data collection is at the core of many social media platforms' business models. For this reason, mergers and acquisitions involving social networks pose acute risks to consumer privacy. Yet in recent years, platforms that have promised to protect user privacy have been repeatedly taken over by companies that fail to protect user privacy.

One of the most notable examples of this trend is Facebook's 2014 purchase of WhatsApp, a messaging service that attracted users precisely because of strong commitments to privacy. WhatsApp's founder stated in 2012 that, "[w]e have not, we do not and we will not ever sell your personal information to anyone." Although EPIC and the Center for Digital Democracy urged the FTC to block the proposed Facebook-WhatsApp deal, the FTC ultimately approved the merger after both companies promised not to make any changes to WhatsApp user privacy settings.

However, Facebook announced in 2016 that it would begin acquiring the personal information of WhatsApp users, directly contradicting their previous promises to honor user privacy. Antitrust authorities in the EU fined Facebook $122 million in 2017 for making deliberately false representations about the company's ability to integrate the personal data of WhatsApp users. Yet the FTC took no further action at the time. It wasn't until the FTC's 2020 antitrust lawsuit against Facebook—six years after the merger—that the FTC publicly identified Facebook's acquisition of WhatsApp as part of a pattern of anticompetitive behavior.

For many years, the United States stood virtually alone in its unwillingness to address privacy as an important dimension of competition in the digital marketplace. With the 2020 wave of federal and state antitrust lawsuits against Facebook and Google—and with a renewed interest in antitrust enforcement at the FTC—that dynamic may finally be changing. But moving forward, it is vital that antitrust enforcers take data protection and privacy into account in their antitrust enforcement actions and assessments of market competition. If the largest social media platforms continue to buy up new market entrants and assimilate their users' data into the existing platforms, there will be no meaningful opportunity for other firms to compete with better privacy and data security practices.

Social Media & Data Breaches

The massive stores of personal data that social media platforms collect and retain are vulnerable to hacking, scraping, and data breaches, particularly if platforms fail to institute critical security measures and access restrictions. Depending on the network, the data at risk can include location information, health information, religious identity, sexual orientation, facial recognition imagery, private messages, personal photos, and more. The consequences of exposing this information can be severe: from stalking to the forcible outing of LGBTQ individuals to the disclosure of one's religious practices and movements.

Without federal comprehensive privacy legislation, users often have little protection against data breaches. Although social media companies typically publish privacy policies, these policies are wholly inadequate to protect users' sensitive information. Privacy policies are disclaimers published by platforms and websites that purport to operate as waivers once users' "consent" to them. But these policies are often vague, hard to interpret, full of loopholes, subject to unilateral changes by the platforms, and difficult or impossible for injured users to enforce.

EPIC's Work on Social Media Privacy

For more than a decade, EPIC has advocated before Congress, the courts, and the Federal Trade Commission to protect the privacy of social media users.

Beginning in 2008, EPIC warned of the exact problem that would later lead to the Facebook Cambridge Analytica scandal. In Senate testimony in 2008, then-EPIC President Marc Rotenberg stated that, "on Facebook … third party applications do not only access the information about a given user that has added the application. Applications by default get access to much of the information about that user's friends."

In 2009, EPIC and nine other public interest organizations filed a complaint with the FTC detailing how Facebook changed its privacy settings to begin disclosing information to third-party applications and the public which users had sought to keep private. Facebook implemented these changes without obtaining affirmative consent from its users or even giving them the ability to opt out. In 2011, the FTC announced that Facebook had settled charges that it deceived users by failing to keep its privacy promises and credited EPIC with providing the factual basis for its complaint against Facebook.

In 2014, EPIC filed a complaint with the FTC alleging that Facebook "altered the News Feeds of Facebook users to elicit positive and negative emotional responses." Facebook had teamed up with researchers to conduct a psychological experiment by exposing one group of users to positive emotional content and another group of users to negative emotional content to determine whether users would alter their own posting behavior. The study found that "emotional states can be transferred to others via emotional contagion, leading people to experience the same emotions without their awareness." EPIC alleged that the researchers who conducted the study "failed to follow standard ethical protocols for human subject research." EPIC further alleged that Facebook engaged in unfair and deceptive practices in violation of Section 5 of the FTC Act by not informing users that they were potentially subject to behavioral testing. Finally, EPIC alleged that Facebook's psychological study violated the 2011 FTC Consent Order by misrepresenting its data collection practices.

In 2014, when Facebook entered a deal to acquire the text-messaging application WhatsApp, EPIC and the Center for Digital Democracy filed a complaint with the FTC urging the Commission to block Facebook's acquisition of WhatsApp unless adequate privacy safeguards were established. Although the FTC approved the merger, the Commission sent a letter to Facebook and WhatsApp notifying the companies of their obligations to honor their privacy promises. In 2016, WhatsApp announced its plans to transfer users' personal information to Facebook for use in targeted advertising.

In March 2018, news broke that Facebook had allowed Cambridge Analytica, a political data mining firm associated with the Trump campaign, to access personal information on 87 million Facebook users. EPIC and a coalition of consumer organizations immediately wrote a letter to the FTC urging it to investigate this unprecedented disclosure of personal data. The groups made clear that by exposing users' personal data without their knowledge or consent, Facebook had violated the 2011 Consent Order with the FTC, which made it unlawful for Facebook to disclose user data without affirmative consent. The groups wrote that, "The FTC's failure to enforce its order has resulted in the unlawful transfer of [87] million user records … [i]t is unconscionable that the FTC allowed this unprecedented disclosure of Americans' personal data to occur. The FTC's failure to act imperils not only privacy but democracy as well."

EPIC also submitted an urgent FOIA request to the FTC following the Cambridge Analytica revelations. The request sought all the privacy assessments required by the FTC's 2011 Order and all communications between the FTC and Facebook regarding those privacy assessments. Following the FTC's release of heavily redacted versions of the assessments, EPIC filed a Freedom of Information Act lawsuit to obtain the full, unredacted reports from the FTC.

In 2019, following a proposed settlement between the FTC and Facebook in connection with the Cambridge Analytica breach, EPIC moved to intervene in *United States v. Facebook* to protect the interests of Facebook users. EPIC argued in the case that the settlement was "not adequate, reasonable, or appropriate."

In 2020, following President Trump's threat to effectively ban social network TikTok from the United States, Oracle reached a tentative agreement to serve as TikTok's U.S. partner and to "independently process TikTok's U.S. data." In response, EPIC sent demand letters to Oracle and TikTok warning both of their legal obligation to protect the privacy of TikTok users if the companies entered a partnership. The deal would have paired one of the largest brokers of personal data with a network of 800 million users, creating grave privacy and legal risks.

"Absent strict privacy safeguards, which to our knowledge Oracle has not established, [the] collection, processing, use, and dissemination of TikTok user data would constitute an unlawful trade practice," EPIC wrote. In 2021, the Oracle-TikTok deal was effectively scuttled.

Also in 2020, EPIC and coalition of child advocacy, consumer, and privacy groups filed a complaint urging the Federal Trade Commission to investigate and penalize TikTok for violating the Children's Online Privacy Protection Act. TikTok paid a $5.7 million fine for violating the children's privacy law in 2019. Nevertheless, TikTok failed to delete personal information previously collected from children and was still collecting kids' personal information without notice to and consent of parents.