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CHAPTER 1

THE PAST, PRESENT AND FUTURE OF SOCIAL MEDIA IN PROJECT MANAGEMENT

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1.1 WHAT IS SOCIAL MEDIA?

In the modern era, people spent an increasing period of time online either communicating with others or searching for information or for entertainment. As per recent estimates, around 3.6 billion people were active on social media worldwide in 2020 and it is forecasted to be almost 4.41 billion by 2025 (Statistica, 2022). An individual on an average spends more than two hours per day on social media (Global Web Index Social Flagship Report, 2019) as they increasingly use it for connecting with their friends and colleagues as well as for entertainment, news, information, socializing, self-status seeking (Park et al., 2009). Research on organizations claim that social media has also been used for creating gradual political change, animating social movements and sometimes even toppling and forming governments as seen with the Cambridge Analytica scandal which developed psychographic profiles based on users' social media data to strategically influence behaviour using targeted political advertisements (Cadwalladr & Graham-Harrison, 2018).

Information can be exchanged online in two ways. Web 1.0 considers only one-sided exchange of information, while web 2.0 considers a two-way exchange of information. Social media can be defined as 'a group of internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content' (Kaplan & Haenlein, 2010). It involves peer-to-peer networks which are corporative, decentralised and network pushed (Dufty, 2012). Social media covers a broad range of tools that enable the two-way exchange of information. Twitter, Instagram, and Facebook are often highlighted as the most common form of social media. However, many one-way communication mediums are now being extended to enable two-way communications and hence can also be classified as social media. For

example, digital news articles used to provide one-way information to its readers currently also enable replies and engagement from its readers and can be classified as social media (Ninan et al., 2022). Additionally, emails which were considered as part of one-on-one digital communication is currently bordering social media with the advent of group emails and their replies. It is also important to recognize that while social media can easily be categorized as a digital tool, it is wholly about people (Marken, 2007) as in how they use technology for establishing and maintaining relationships. So, in contrast to traditional media, social media enables multiple way communications, compiles user-generated evolving content, allows active involvement and is less expensive (Nikolaidou & Papaioannou, 2018).

After introducing social media, this chapter discusses the advantages of social media and why projects need social media for addressing some of its concerns. Then the chapter summarizes some current research in social media covered in this book covering internal stakeholders, external stakeholders and guidelines for education and research. This chapter also provides some directions for future research and development in the use of social media for project management both by practitioners and researchers.

1.2 ADVANTAGES OF SOCIAL MEDIA

The advantages of social media can be classified into its reach, its different forms and tools, and its diverse impacts. Each of these is described below.

1.2.1 Reach

The biggest advantage of social media emerges from its digital transmission of data to the masses. It is a vehicle to transmit information to the public and to the traditional media in the shortest time frame (Queensland Police Service, 2011). The subsequent reduced costs of coordination and the non-hierarchical nature of interaction are highlighted as some unique advantages of social media (Boyd and Ellison, 2010). This enables social media to act as a platform where the common man can raise their voice – be it expressing themselves or raising their concerns.

Social media platforms also enable the collection and analysis of real-time public discussions related to an event (Kwak et al., 2010). The discussions allow comparisons between different perspectives of an issue (Zaglia, 2013), and therefore, is a platform that allows non-noisy stakeholders, who do not have the means to conduct or rally or express themselves in the news media, to be heard (Royer, 2000). Since the platform is part of web 2.0, it offers one-to-one, one-to-many, or many-to-many interactions between users who can create, archive and retrieve user-generated content (Salmons, 2014). In social media, communication is interactive, networked and fluid between those who generate and receive content (Bechmann & Lomborg, 2013).

The reach of social media is amplified as these platforms have an emotional echo chamber effect, wherein emotions can be freely and publicly expressed, and become amplified as others react to them and express their own emotions (Toubiana & Zietsma, 2017). A viral social media post by a group of actors can disrupt organizations and their resource allocations, either positively or negatively. Mobile social media on smartphones further expands the reach of social media by providing a ubiquitous communication environment at the fingertips that enable people to stay connected and keep updated anytime and anywhere (Bingham and Conner, 2015). The reach of social media is significant considering the ease of use, sense of control and the opportunity for all users to learn and improve (Ritz et al., 2019).

1.2.2 Different forms and tools

Different forms of data such as text, photos and videos are supported in social media platforms. Currently emojis, gifs, and memes are also being widely used in the social media space. This is in stark contrast with conventional media outlets such as newspapers which have only text and pictures. Different combinations of the data such as video and text, picture and text, video and picture, etc., can have different implications. For example, the use of video and text in a social media page increases trustworthiness of the service rendered (Fileri, 2016).

Different social media tools can also be used for different purposes. For example, LinkedIn is about identity and reputation and is used for jobs, Facebook enables building and maintaining relationships and is used for connecting friends, YouTube enables creating and sharing video content along with user engagement through comments, Twitter enables 140-characters short

messaging and is used for conversations, Quora involves questions and answers and hence is a repository of peer knowledge, Instagram enables sharing of photos and acts as a photo blog, etc. There are seven broad categories of social media as recorded in Sterne (2010) and Nikolaidou and Papaioannou (2018). First, forums and message social media enable an exchange of thoughts, opinions or experiences. These include social media websites such as Quora, google groups and the erstwhile Yahoo answers. Second, review and opinion social media enable sharing reviews, feedbacks and opinions regarding a particular service. These include social media websites such as TripAdvisor. Third, social networks social media connect people who share common interests. These includes Facebook for networking among friends or LinkedIn for professional networking. Fourth, blogging social media involves posting news or sharing personal opinions and interests. These include WordPress and LiveJournal. Fifth, microblogging social media involves a shorter version of blogging such as the 140-character short posts in Twitter. Sixth, bookmarking social media involves saving, organizing and sharing internet bookmarks. These include Del.ici.ous and StumbleUpon. Finally, media sharing social media involves a dedicated space for photos and videos. For example, Instagram for photos and YouTube for videos. The trust level can be different for each social media platform. For instance, consumers may trust the reviews and ratings published in Facebook more rather than in Tripadvisor.com, because the reviewer can be a person in their social network with a public profile where they provide other information as well (Dwivedi et al., 2021). Thus, the choice of social media platforms depends on the use case of the consumers (Thompson, 2017).

1.2.3 Diverse impacts

Social media is an evolving area, and it can have diverse impacts and serve a variety of purposes (Lindsay, 2011). Traditionally social media was used to connect friends, but now are used in diverse use cases such as for example, polling for decision making. Since transactions on social media are now computer-mediated and indexed, researchers and practitioners can now observe behaviours that were previously unobservable, which can be modelled and managed (Varian, 2014).

Social media can be a tool to build or to destroy. It can trigger disruptions and lead to legitimacy crises for organizations, institutions and realms, and destabilize existing arrangements (Barros,

2014). Social media has been identified to have played an important role in the Arab spring destabilizing existing institutional arrangements in countries (Comunello & Anzera, 2012) and is a frequent tool for protests and activism (Valenzuela, 2013). With the advent of social media, powerful organizations and institutions are being brought down by people who used to be powerless such as bloggers or even anyone with a social media account (Ronson, 2015).

Social media can also be used for marketing and branding. Organizations are no longer confined to traditional advertising such as printed media, banners, publicity, or endorsements and now leverage the power of Web 2.0 through social media (Sivertzen et al., 2013). Social media is the place where people are connected for entertainment and a social media advertisement or engagement can have a lasting impact on the users (Ninan et al., 2019). Organizations engage with consumers and influence consumer perceptions of the brand in these social media websites or apps (Brodie et al., 2013). By using user-generated content, social media enhances the bond between the consumer and the organization (Geurin and Burch, 2017) by influencing consumer's attitudes, receiving feedbacks to improve products or services (Algharabat et al., 2018) and thereby achieve brand goals such as improved brand awareness and increased sales at lower costs (Dwivedi et al., 2021).

Social media thus is more than just a set of tools to use, but a larger network of people tied together through virtual and offline connections (Freberg, 2021). There can be other impacts of social media which we are still unaware of due to lack of research or the rapidly changing nature of the media. Dwivedi et al. (2021) highlights that social media is on a perpetual beta mode with the consistent release of new functions and platforms making change a constant. The fast rate of change in social media can lead to different blooms cycles resulting in fragmented knowledge across different social media platforms (Felix et al., 2017). Even for impacts such as the well-researched marketing impacts of social media, Canovi & Pucciarelli (2019) records that owners recognize its social, economic and emotional benefits, but are far from exploiting its full potential.

1.3 WHY PROJECTS NEED SOCIAL MEDIA?

With the advent of robotics and automation, most of the workforce is engaged in projects resulting in projectification (Jensen et al., 2016). A project setting is peopled at all levels, with

people working for the project, such as managers and engineers, or people being affected by the project, such as communities and project affected persons (PAP) (Tutt and Pink, 2019). Due to this, Packendorff (1995) calls project management as a social activity with people at the centre of all interactions. With the advent of internet escalated by the Covid-19 induced lockdowns, many interactions between people regarding projects are in social media.

Most megaprojects have a social media presence either by their own initiative in support of the project or by some special interest groups against the project. Ninan et al. (2019) studied social media posts on Twitter and Facebook posts of a project and highlighted the effect it has on the project community. The authors highlight how posts that appeal to the community are instrumental in changing the community to advocates of the project. Along with semi-structured interviews, the authors highlight how such social media interactions were instrumental in winning support for the project activities on-site. Lehtinen (2021) calls projects to plan a communication strategy by framing social media discourses around issues of sustainability and entertainment, all while using a positive, inclusive and helpful tone. In project settings, social media posts along with its comments and likes can be a valuable source of data to track member reaction and the organization's response to it (Toubiana & Zietsma, 2017). More in-depth research using online naturalistic data can help us understand the digital construction of organizational identity (Johansen, 2016) in projects.

Social media can be used by stakeholders, including employees and community members, who have traditionally been marginalized to voice their concerns to organizations in a way that is visible to others (Lewis et al., 2014). Lobo and Abid (2020) studied Facebook and Twitter posts of the interest groups that act against the project and how they mobilize to achieve their vested interests. In their study, an author became a member of the interest group's Facebook site as a non-participant observer to receive alerts when new posts are added. They highlight the use of social media by the interest groups to cohere, empower, and mobilize stakeholders, and thereby, create a strong collective identity against the project. Thus, social media offers plenty of online naturalistic data for researchers in the project management field to study multiple interactions which can help the research community to understand how projects and resistance groups organize and disorganize. Also, the multiple data support in social media which includes textual, video, interactive affords more opportunities into gaining insights into project organizing (Ninan et al.,

2020). Videos and images of implementation including aerial views and drone footage of the construction site can increase social media reactions, comments, and shares (Lehtinen, 2021).

There are also unintended impacts while using social media. For example, in their study of the use of social media for external stakeholder management in an infrastructure project, Ninan et al. (2021) records the impact on project personnel rationalities such as the perception of the project as important with an overemphasis on time and an acceptability of public inconvenience. For internal stakeholders Winter & Chaves (2017), registered an increase in the productivity of the project teams using social media. Social media can also be used for providing real time information for project management decisionmakers. Project managers expect information in the real time and social media provides information in different forms and formats much faster enabling monitoring and updating information in real-time, through more intuitive interfaces (Levitt, 2011). Social media can also be used for requirements management such as by sharing acceptance criteria and photos for approvals (Daemi et al., 2020). For internal stakeholders, social media can also be used for effective communication, knowledge sharing, and coordination (Ma et al., 2021).

Thus, social media can be used for multiple purposes in project settings including community discussions (Lobo & Abid, 2020; Williams et al., 2016), providing real-time updates on project (Ninan et al., 2019), public opinion mining (Zhou et al., 2020), researching best practices (Ninan et al., 2020), building a targeted community for collaboration, requirements management (Daemi et al., 2021) and even for evaluating the benefits of a project (Mathur et al., 2021). Since data is considered as the new oil, social media in projects can be considered as a new ore that should be mined, processed and used for the benefit of society. Practitioners can harness the power of society media to create projects that provide benefits for society. Researchers can use social media to study the interaction between people across project settings to understand projects and improve their practice (Ninan, 2020). More research is needed to understand the diverse impacts and use cases of social media in project settings, an envelope this book seeks to expand.

Even with the diverse use cases of social media in project settings, research by Azhar et al. (2019) highlights social media applications are not utilised widely in the construction project sector. Some of the barriers to the use of social media in project settings include lack of corporate strategies and policies, the requirement of increased resource, a lack of project teams buy-in, the

possibility of information overload, privacy considerations, and the lack of a proven business case (Harrin, 2016). However, there is increasing evidence that the pace of adoption of new ICT in construction is often determined by the benefits perceived by users and other project stakeholders (Gajendran and Perera, 2017). Hence it is important for researchers to study the diverse impacts of social media and how social media can contribute to making projects generate more value for the society.

1.4 PAST, PRESENT AND FUTURE DIRECTIONS

Social media is used for understanding and addressing some of the concerns in project settings. The review of the existing research and directions for future research which constitute the contents of this book is depicted in Figure 1.1.

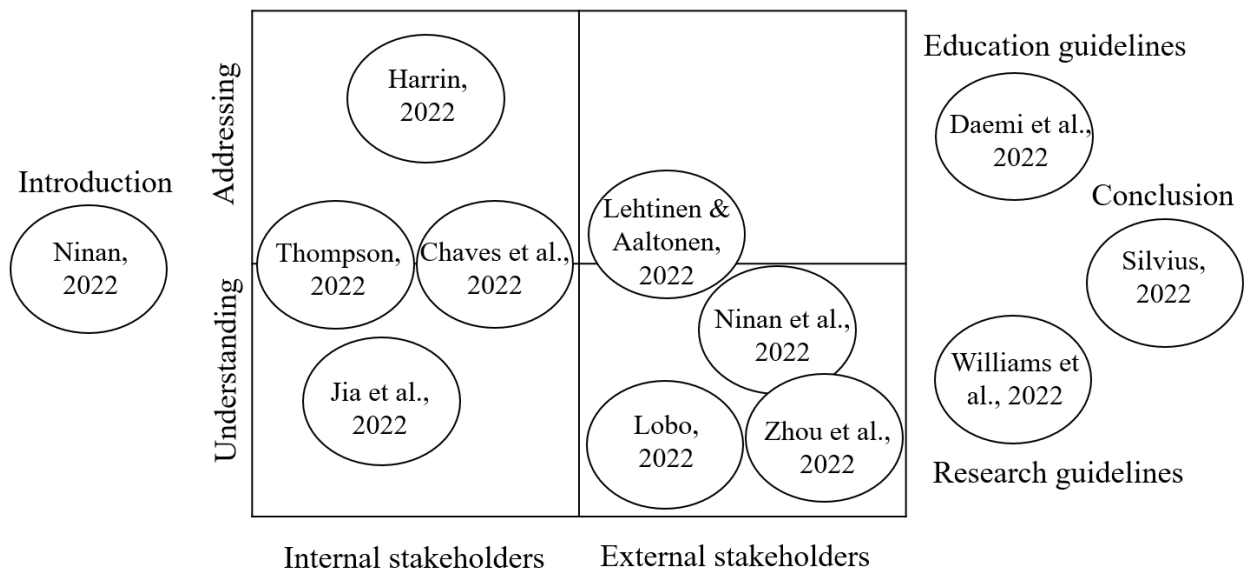


Figure 1.1: Structure of the book

(Alt Text: Structure of the book shown in a matrix framework covering internal stakeholders, external stakeholders, education guidelines and research guidelines)

This book consists of 12 chapters with this chapter acting as the introduction and Silvius (Chapter 12) being the conclusion chapter. Firstly, chapters discussing social media use for internal stakeholders include Thompson (chapter 2), Chaves and colleagues (Chapter 3), Jia and colleagues (Chapter 4) and Harrin (Chapter 5). Secondly, chapters discussing social media use for external

stakeholders include Lobo (Chapter 6), Ninan and colleagues (Chapter 7), Zhou and colleagues (Chapter 8), and Lehtinen and Aaltonen (Chapter 9). Finally, the book also has chapters discussing guidelines for education regarding social media by Daemi and colleagues (Chapter 10) and guidelines for research on social media by Williams and colleagues (Chapter 11). Within all these three domains, there is a need to understand practices of the project and behaviours of the stakeholders to address concerns and improve projects.

We also cover the use of social media by different projects. Chaves and colleagues (Chapter 3) studies social media use by Information Technology projects and Lobo (Chapter 6), Zhou and colleagues (Chapter 8), and Ninan and Colleagues (Chapter 7) studies social media use by infrastructure megaprojects. Different social media are also covered in this book. Ninan and colleagues (Chapter 7), Lobo (Chapter 6) studies Twitter, Harrin (Chapter 5) studies Facebook and Clubhouse, and Zhou and colleagues (Chapter 8) studies SINA Weibo. While Lobo (Chapter 6) and Ninan and colleagues (Chapter 7) uses qualitative analysis of social media data, Zhou and colleagues (Chapter 8) use quantitative data analysis of social media data.

1.4.1 Internal stakeholders

Internal stakeholders, such as the organization's employees, the contractor building the project, or the designer of the project, have a contractual relationship with the owner of the project and reply on it to enforce a claim (Winch et al., 2007). Social media can help to understand the internal stakeholder issues and address them.

Thompson (chapter 2) discusses how digitalization in projects through social media can improve project management practice. She uses theories from systems thinking and organisational learning to understand the practice of communication among internal stakeholders in project settings. The types of social media used and the different activities in a project they are used for are uncovered. She then proposes that social media can be used to address some of the current issues in internal stakeholder management such as digital sharing of tacit and factual knowledge and thereby learning in project settings.

Chaves and colleagues (Chapter 3) discusses how social media is used in the home-office work period due to Covid-19 from a senior project worker's perspective. They distinguish between

active, passive, formal, and informal communications and map which social media tool is used for each of these in project settings. They highlight that social media can address some of the challenges by providing a transparent medium for communications and knowledge sharing. They record the presence of a team culture in the use of social media for internal stakeholders and call for more research on improving information security, confidentiality and developing a formal knowledge management process.

Jia and colleagues (Chapter 4) discusses how social media is used for knowledge management considering the temporary and urgency nature of project settings. Social media can enable knowledge management at the individual, team and project level by leveraging its visibility, editability, persistence, and association. They highlight how social media is used for knowledge acquisition, knowledge sharing, and knowledge integration.

Harrin (Chapter 5) considers how social media can be used for addressing some of the challenges of internal stakeholders in project settings. The chapter offers a reflexive account of her role in the informal mentoring of project employees in multiple curated online spaces such as Facebook and Clubhouse. She notes that social media offers informal support, peer-to-peer mentoring, continuous professional development, and knowledge sharing opportunities for project delivery professionals. In the chapter, she offers some guidelines and practical tips on setting up and running a successful project management professional's community in social media.

There is more work to be done on understanding and addressing concerns of internal stakeholders in project settings. Social media and its multiple affordances (Ninan et al., 2020) offers significant opportunities to transform the project environment, both in improving its productivity and work culture. Future research can study social media platforms such as LinkedIn and project management specific groups to understand recruitment, the impact of project management certifications, and the role of peer testimonials in influencing recruitment.

1.4.2 External stakeholders

External stakeholders include stakeholder's peripheral to the project such as owners of the land from whom the land is acquired, those who are inconvenienced by the construction noises, vibrations, diversions, etc. and those who stand to benefit from the project improving the services

(Ninan et al., 2021; Viitanen et al., 2010). Since they do not have any contractual relationships with the client, they rely on regulators, political influence or public campaigns to enforce a claim (Winch et al., 2007). Social media can help to understand the external stakeholder issues and address them.

Lobo (Chapter 6) investigates the role of social media in managing external stakeholders in the High Speed Two (HS2) project, UK. The Twitter posts of wildlife and environmental activists are studied to understand the concerns of these external stakeholders. She notes that the issues that concern external stakeholders can be discerned by examining posts on social media which could be used to create a framework for project managers to better manage interactions with and responses to external stakeholders.

Ninan and colleagues (Chapter 7) highlights how social media can be used to improve project operations considering the case of metro rail projects in Australia and India. They develop a framework for engaging with the users of an infrastructure project during the operation phase using the big data from social media. The Twitter data can be used to identify day-to-day technical issues, collate suggestions to improve, and monitor live sentiments of the project. They even propose a data science initiative delivery framework for capturing the voice of customer during operation phase.

Zhou and colleagues (Chapter 8) records how online public opinion can be understood in megaprojects considering the Hong Kong-Zhuhai-Macao Bridge. Web crawler was adopted to acquire data from SINA Weibo social media platform to understand the sentimental tendency and topic variation across different stages of the project. They note that public opinion analysis during the earlier stages of a project can provide reference to public opinion guidance and prediction in the future thereby improving the performance of the megaproject.

Lehtinen and Aaltonen (Chapter 9) discusses how social media can be used for value creation and distribution considering the external stakeholders. They develop a conceptual framework of engagement and communication that project organizations can adopt when using social media for external stakeholder engagement. The DICE model - Disengager, Informer, Communicator,

Enfranchiser, captures the different project organization's roles in using social media for external stakeholder engagement.

More research is required to address the concerns of external stakeholders in project management. Social media offers a unique platform as it provides the necessary reach and flexibility required to bring together vast and diverse external stakeholders together to talk about the megaprojects. Future research can explore how external stakeholders engage in these social media pages and how more value can be created for the society by projects playing an active role in these social media engagements.

1.4.3 Guidelines for education and research

In the modern era, people spent a lot of time on social media platforms both for entertainment and work. As discussed earlier social media is the future of project management since projects are interventions in society with multiple interactions with people. There is a need for guidelines to educate future managers on the effective use of social media. Additionally, the rapid growth in digital data enabled by social media provides ample research opportunities (Wiedemann, 2013). There is a need for guidelines for researchers in using social media.

Daemi and colleagues (Chapter 10) mentions a lack of experience and confidence by project professionals in using social media to address which they suggest a social media unit for project management students. A well-defined unit to teach social media use in project management is recommended to build the necessary social media competency. They propose various topics that can form part of the social media for project management unit. There needs to be more concrete guidelines on social media education by institutions and social media data use by researchers since their use in different forms is increasing across projects. Project management educators have to include social media as part of the curriculum for professionals in the area. The syllabus should be open ended considering the multiple affordances and diverse use of social media platforms. Education should aim to cultivate an adaptive mindset, a willingness to engage in continuous learning, and an ability to visualize and implement social media initiatives, among the project practitioners. As researchers and educators in the area of project management, it is our duty to

support practitioners with insights and to include relevant topics relevant to the modern era in our curricula.

Guidelines for practice is another area that needs to be developed for social media. Practices of manipulating social media data through fake news and reviews for an organization's vested interests is prevalent. For example, a hotel was caught posting several positive reviews for its hotels acting as a customer and have been ordered to pay \$3 m for manipulating TripAdvisor reviews (The Guardian, 2018). Suitable guidelines for practices have to be set up for the project's use of social media. Responsible use of social media should consider the integration of ethical and responsible use of social media to achieve the strategic objectives of the organization. It should place people at its centre and meet their expectations.

Williams and colleagues (Chapter 11) highlight the need for researchers to also be responsible while using social media data. While there is a focus on reproducibility and inspection of the data for improving the credibility of findings this can have moral and ethical implications. They develop a framework for responsible use of this data to support research and practice in project management. More researchers are being drawn to social media data considering its rich, longitudinal, and digitally indexed nature (Ninan, 2020). There is a range of traditional and modern qualitative and quantitative approaches, such as questionnaires, interviews, focus groups, observation, secondary analysis, official statistics, and ethnography as well as more social media-specific approaches such as content analysis applied to social media platforms, social media-based focus groups, social media netnography and virtual ethnography, and social media analytics that can shed light to the practice of the project and behaviour of stakeholders. Online naturalistic inquiry or ethnographic practices on social media can inform project management practices in cases where informants are not all that helpful, either by being not willing to share information or when they don't know the information (Gehman et al., 2018). Advances in digital research methods has to be developed to analyse the qualitative and quantitative data in social media to make sense of project management in this digitalized 21st century. The variety of research approaches to study social media is still limited and we need novel approaches to project management research (Drouin et al., 2013) to study the reach, means and impact of social media in project settings. However, researchers have to consider the ethical and moral responsibilities of using the data for qualitative and quantitative analysis.

Finally, education, practice and research should take a transdisciplinary perspective equipping every person with the ability to develop the skills to successfully navigate the digital social world while considering the numerous known and unknown implications of any intervention.

1.5 CONCLUSION

With the advent of Covid-19 and the subsequent work from home, project businesses happen on social media and therefore organization can therefore no longer ignore these artifacts and needs to access digital communication as a critical data source for understanding contemporary organizational phenomena. Social media is changing the way projects are managed and researchers and practitioners need to look at social media to understand projects in the 21st century.

After defining social media, this chapter records the advantages of social media. It has extensive reach, has different forms and tools, and has diverse impacts. Due to these advantages, social media is used in different ways in project settings such as progress updates, branding and as a tool to build or destroy a project. The use cases of social media for internal stakeholders and external stakeholders are introduced and subsequently detailed in the remaining chapters of this book. The need for guidelines on the use of social media for research and in education is also introduced. Within all these three domains, there is a need to understand practices of the project and behaviours of the stakeholders to address concerns and improve projects.

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