



Kristiania

Unconsciously influenced and influential

Exploring sociotechnical influence
on social media platforms

Mathilde Hogsnes

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Abstract

This PhD project investigates how the underlying components of social media platforms facilitate the influence of commercial content. The project is motivated by the increasingly commercialization of social media platforms, where individuals are continuously exposed to and influenced by a massive amount of commercial content from businesses, influencers, friends, and acquaintances. This commercial content differs from traditional commercial developments in that it is integrated with social content on the platforms, through fun Snapchat filters, entertaining videos, and "genuine" recommendations from social media influencers. This has consequences, among other things, for individuals' ability to make informed choices, as it becomes increasingly difficult to distinguish between social and commercial content.

Based on a review of existing research, this thesis reveals a lack of theoretical understanding and studies examining influence of commercial content on social media platforms. Influence has primarily been studied as a social phenomenon, often using theories from social psychology that were developed long before social media platforms existed. As a result, what happens "beneath the surface" on social media platforms is still partly unknown. When this knowledge is lacking, we cannot fully comprehend the potential consequences.

This PhD project applies a sociotechnical theoretical perspective for designing the research question and choosing the method. It is important to examine influence through a socio-technical perspective, which, in addition to theories from social psychology, also looks at how technical

components, such as algorithms, network structures, and platform design, facilitate the influence of commercial content. In addition to these social and technical components, commercial components are investigated. Social media platforms are commercially motivated, as they profit from businesses and influencers using the platforms for commercial purposes. As a result, the platforms are shaped and developed according to commercial interests and agendas. As a consequence of this development, our social lives on social media platforms are shaped by social, technical, and commercial constructs.

The study specifically examines the social, technical, and commercial components that facilitate the influence of commercial content on social media platforms. Data collection was carried out through a qualitative case study consisting of an ethnographic content analysis on Instagram and TikTok. The results of the case study demonstrated how the influence of commercial content is facilitated by subtle, tailored, and action-oriented components. Commercial content is subtly intertwined with people's social feeds, while the technical components of algorithms and network structures tailor commercial content to each person's interests and needs. Commercial components, such as brand tags, hyperlinks, and swipe-ups, add a commercial layer to posts, driving actions for potential commercial consumption. The interplay between these three components results in sociotechnical influence, in which people become unconsciously influenced and influential. Therefore, there are conflicts of interest between instrumental outcomes such as economic profitability on the one hand and societal and individual outcomes on the other.

The outcomes of sociotechnical influence show, among others, how individuals—by using social media platforms—turn into unconscious critical players in the influence of commercial content. This phenomenon results in commercial value for businesses and social media influencers without people’s conscious consent. Because of algorithms, network structures, and platform design, every action taken by a person plays a critical role in deciding the spread of information. This project also argues for how interaction with and the publication of commercial content have become internalized norms of social media platforms. The result is an intertwining of not only social and commercial content but also the social and commercial aspects of people’s lives.

Theoretically, this PhD thesis contributes to Information Systems research by investigating influence on social media platforms using a sociotechnical approach. Specifically, it introduces sociotechnical influence as a theory to examine commercial development on social media platforms. The study further builds on existing literature on social media platforms.

The study concludes with practical implications, specifically for individuals and society. For individuals, I argue about how people have become passive receivers of a narrow range of commercial content and unconscious critical players in the influence exerted by commercial content. Further, the commercial development on social media platforms creates difficulties in refraining from engaging with the commercial message. For society, the thesis has found issues regarding commercial transparency, as people are not provided with a transparent picture of the content they interact with and consume, thereby limiting their ability to make informed decisions. Finally, I address how commercial development

on social media platforms leads people to increasingly define themselves through the consumption of material goods and find value in their ability to purchase products and services. Overall, the thesis contributes insights into the increasingly commercialized environments of social media platforms.

Sammendrag

Dette ph.d.-prosjektet undersøker hvordan de underliggende komponentene i sosiale medieplattformer legger til rette for påvirkning av kommersielt innhold. Prosjektet er motivert av den stadig mer kommersialiserte utviklingen av sosiale medieplattformer, der enkeltpersoner kontinuerlig eksponeres for og påvirkes av en økende mengde kommersielt innhold fra bedrifter, influensere, venner og bekjente. Det kommersielle innholdet skiller seg fra tradisjonell kommersiell utvikling ved at det blandes med det sosiale innholdet på plattformene, gjennom morsomme Snapchat-filtre, underholdende videoer og «genuine» anbefalinger fra influensere. Dette har konsekvenser for blant annet individenes evne til å ta informerte valg, ettersom det blir stadig vanskeligere å skille mellom sosialt og kommersielt innhold.

Basert på en gjennomgang av eksisterende forskning, har denne avhandlingen avdekket en mangel på teoretisk forståelse og studier som undersøker påvirkning på sosiale medieplattformer. Påvirkning har for det meste blitt undersøkt som et sosialt fenomen i litteraturen, ofte ved hjelp av teorier fra sosialpsykologien, som ble utviklet lenge før sosiale medieplattformer eksisterte. Som et resultat av dette er det delvis ukjent hva som skjer "under overflaten" på sosiale medieplattformer. Når denne kunnskapen mangler, kan vi ikke fullt ut forstå de potensielle konsekvensene.

Dette Ph.d.-prosjektet bygger på et sosioteknisk teoretisk perspektiv for utforming av forskningsspørsmålet og valg av metode. Det er viktig å undersøke påvirkning gjennom et sosioteknisk perspektiv, som i tillegg til teorier fra sosialpsykologien ser på hvordan tekniske komponenter, som

algoritmer, nettverksstrukturer og plattformdesign, legger til rette for påvirkning av kommersielt innhold. Å undersøke de tekniske komponentene er viktig, ettersom teknologi påvirker blant annet hvem vi samhandler med, og hvilken kommersiell informasjon vi eksponeres for. I tillegg til disse sosiale og tekniske komponentene, er plattformene kommersielt motivert, ettersom de tjener penger på at bedrifter og influensere bruker plattformene til kommersielle formål. Dermed formes og utvikles plattformene i henhold til kommersielle behov. Som et resultat av denne utviklingen formes våre sosiale liv på sosiale medieplattformer gjennom sosiale, tekniske og kommersielle konstruksjoner.

Spesifikt undersøker studien de sosiale, tekniske og kommersielle komponentene som muliggjør påvirkning av kommersielt innhold på sosiale medieplattformer. Datainnsamlingen ble gjennomført gjennom en kvalitativ case-studie bestående av en etnografisk innholdsanalyse på Instagram og TikTok. Resultatene fra casestudien viser hvordan kommersielt innhold konstant og subtilt flettes sammen med det sosiale innholdet på plattformene. De tekniske komponentene som algoritmer og nettverksstrukturer skreddersyr det kommersielle innholdet til personens interesser og behov, mens kommersielle komponenter som merkevaretags og hyperkoblinger legger til rette for kommersielle kjøp «i nuet». Samspillet mellom disse tre komponentene resulterer i sosioteknisk påvirkning hvor mennesker blir ubevisst påvirket. Det oppstår dermed interessekonflikter mellom kommersielle utfall på den ene siden og samfunnsmessige og individuelle utfall på den andre siden.

Funn peker også på hvordan enkeltpersoner, ved å bruke sosiale medieplattformer, blir til ubevisste aktører i påvirkning av kommersielt

innhold, noe som resulterer i kommersiell verdi for bedrifter og sosiale medier-påvirkere uten folks bevisste samtykke. På grunn av algoritmer, nettverksstrukturer og plattformdesign, spiller hver handling en person tar en kritisk rolle i spredningen av informasjonen. Studien argumenterer videre for hvordan interaksjon med- og publisering av kommersielt innhold har blitt en internalisert norm for sosiale medieplattformer. Ettersom enkeltmennesker blir eksponert for en økende mengde kommersielt innhold i deres sosiale rom, påvirker dette innholdet de konsumerer og likeledes det de selv publiserer. Dette resulterer ikke bare i en sammenkobling av det sosiale og det kommersielle innholdet, men en sammenkobling av de sosiale og kommersielle aspekter ved folks liv.

Gjennom en sosioteknisk tilnærming bidrar doktorgradsavhandlingen til forskningsbasert kunnskap om påvirkning og sosiale medieplattformer. Konkret introduserer prosjektet sosioteknisk påvirkning som en teori som kan anvendes for å undersøke kommersiell utvikling på sosiale medieplattformer. Forskningsprosjektet bidrar likeledes med kunnskap om hvilke implikasjoner den kommersielle utviklingen på sosiale medier har for enkeltmennesker og samfunn. For enkeltmennesker viser studien hvordan folk har blitt passive mottakere av et smalere mangfold av kommersielt innhold, mulige uvitende kritiske aktører i påvirkning av kommersielt innhold, og begrenset mulighet til å avstå fra å engasjere seg i det kommersielle budskapet. På samfunnsnivå, argumenterer studien for hvordan sosiale medieplattformer er et miljø der det er store utfordringer knyttet til kommersiell transparens. Enkeltmenneskers evne til å ta informerte beslutninger kan begrenses ettersom de ikke blir presentert for et transparent bilde av innholdet de samhandler med. Studien viser også hvordan sammenkoblingen av det sosiale, tekniske og det kommersielle

kan ha implikasjoner for folks sosiale interaksjoner og liv, ettersom det blir vanskeligere å skille mellom autentiske sosiale og kommersielle handlinger på sosiale medieplattformer.

List of Publications

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Content

1	Introduction	4
1.1	<i>Theoretical Background and Motivation</i>	6
1.2	<i>Research Approach.....</i>	14
1.3	<i>Contributions.....</i>	16
1.4	<i>Structure of the Thesis.....</i>	19
2	Literature Review.....	21
2.1	<i>Search, Selection, and Analysis.....</i>	21
2.2	<i>Concepts Identified in Current Literature</i>	26
2.2.1	<i>Social Components</i>	28
2.2.2	<i>Technical Components.....</i>	35
2.2.3	<i>Commercial Components.....</i>	39
2.3	<i>Research Gap.....</i>	43
2.4	<i>Theoretical Motivation</i>	45
3	Theoretical Perspective	47
3.1	<i>The Sociotechnical Perspective in Information Systems.....</i>	47
3.2	<i>A Sociotechnical Perspective on the Study of Influence on Social Media Platforms</i>	52
3.2.1	<i>Social Components</i>	54
3.2.2	<i>Technical Components.....</i>	56
3.2.3	<i>Commercial Components.....</i>	61
3.3	<i>Summary of the Chapter.....</i>	63
4	Research Methods	64
4.1	<i>Interpretivism</i>	64
4.2	<i>The Case Study.....</i>	65
4.3	<i>Ethnographic Content Analysis</i>	69
4.3.1	<i>Social Media Influencer Selection</i>	70
4.3.2	<i>Coding Approach.....</i>	72

4.3.3 Data Analysis.....	76
4.3.4 Ethical Considerations and Limitations	78
4.4 <i>Reflections on the Researcher’s Role</i>	81
4.5 <i>Summary of the Chapter</i>	84
5 Results.....	85
5.1 <i>Components Facilitating the Influence of Commercial Content on Social Media Platforms</i>	86
5.1.1 Social Components	86
5.1.2 Technical Components.....	92
5.1.3 Commercial Components.....	96
5.1.4 Sociotechnical Components.....	100
5.2 <i>Summary of the Chapter</i>	105
6 Discussion	106
6.1 <i>Subtle, Tailored, and Action-Oriented Components</i>	106
6.2 <i>Unconsciously Influenced and Influential</i>	109
6.3 <i>Theoretical Implications</i>	114
6.3.1 Social Influence Research.....	114
6.3.2 <i>Social Media Platform Research</i>	117
6.4 <i>Practical Implications</i>	119
6.4.1 Individual Level.....	120
6.4.2 Societal Level	122
6.5 <i>Summary of the Chapter</i>	124
7 Conclusion.....	125
7.1 <i>Concluding Remarks</i>	125
7.2 <i>Reflections on the Study Limitations and Future Work</i>	127
8. References	131

List of Attachments

A Paper 1: Unconsciously Influential. Understanding sociotechnical Influence on social media.

B Paper 2: Exploring Influencers' Commercial Content on Instagram.

C Paper 3: A Commercial Playground: Exploring TikTok Influencers' Commercial Content Practices.

1 Introduction

“Who is here for Prime?” shouted influencers KSI and Logan Paul in front of a large audience of followers as they promoted their energy drink, Prime Hydration. Youngsters wore Prime T-shirts at the event—one carried a two-meter-high Prime poster onto the tram, while a pool of youngsters posted TikTok videos from the event, thus unconsciously contributing to the brand’s income of \$250 million in 2022 (Valinsky, 2023, as cited in Hogsnes et al., 2023, p. 40).

Over the past two decades, social media platforms have transformed various aspects of society (Ahmed & Vaghefi, 2021; Bello Rinaudo et al., 2022; Dwivedi et al., 2018), including how individuals interact, form relationships, and seek information (Bello Rinaudo et al., 2022), as well as how they access entertainment (Kaya & Bicen, 2016). People use social media to maintain existing social connections (Boyd & Ellison, 2007) and connect with others and with communities they might not otherwise encounter. Today, social media serves as an extension of individuals' social spaces (Salehan & Negahban, 2013). However, these platforms are also commercially motivated, with technologies such as algorithms, network structures, and platform design being developed with commercial interests and agendas in mind (Carter, 2016; Cotter, 2019).

Social media influencers like Logan Paul and KSI exemplifies this development. People follow them because of their engaging content, personal qualities, and their ability to connect with others (Gross & Wangenheim, 2022). On the other hand, these social media influencers strategically use social media platforms to achieve commercial gains. In

practice, they post commercial content and capitalize on their influence to drive peoples purchases (Cao & Belo, 2023). In addition, in order for their commercial content to be visible on platforms, they have made it “their business” (Cotter, 2019, p. 896) to understand the algorithms that enhance visibility, thereby increasing the influence of their commercial messages. These commercial practices are encouraged by social media platforms, which are technically designed with commercial agendas in mind. Social media platforms earn money by enabling businesses and influencers to use their platforms for commercial purposes (Carter, 2016). In practice, platforms set the rules for commercial activities, and businesses and social media influencers are active participants.

Consequently, social media platforms have evolved into spaces where commercial content is seamlessly integrated within peoples’ social environments, exposing them to large amounts of commercial content alongside personal and social interactions. Despite this, there is limited understanding of how the influence of commercial content is facilitated on social media platforms. When this knowledge is lacking, we cannot fully comprehend the potential consequences. This PhD thesis is driven by the need for an in-depth understanding of the commercial development of social media platforms, specifically how these platforms facilitate the influence of commercial content. The theoretical background and motivation of the thesis will be presented in the next section.

1.1 Theoretical Background and Motivation

This PhD thesis is motivated by the need for a deeper understanding of how the underlying components of social media platforms facilitate the influence of commercial content. A sociotechnical perspective within the IS community is applied to address this goal. During the 1950s, the sociotechnical perspective emerged as a new way of thinking that bridges the divide between socially oriented approaches advocated by psychological and organizational disciplines and technically oriented approaches advocated by computer science disciplines (Sarker et al., 2019 p. 697). The sociotechnical perspective emphasizes the interplay between social and technical components as two mutually interacting entities (Bostrom & Heinen, 1977; Mumford, 1983). Technical components consist of hardware and software, which are created by humans, while social components involve individuals and groups who develop and use these artifacts within various social contexts (Ryan et al., 2002). A joint optimization of both technical and social components is expected to lead to improved instrumental and humanistic outcomes (Sarker et al., 2019). As such, in line with the sociotechnical perspective, the underlying components of social media platforms should include both people and groups who develop and use these platforms within various social contexts and the technology itself that is created by humans and that shapes how people use such platforms.

Sociotechnical approaches have been applied in IS research to enhance the understanding of principles of working life quality (Mumford, 1983), to comprehend information technology (IT) and its relationship with individuals and social collectives (Bostrom & Heinen, 1977), to examine

how politics influences the development of technologies (Monteiro & Parmiggiani, 2019), and to clarify the consequences of the foundational concepts being enhanced by technology (Scott & Orlikowski, 2014), to name a few. While at the core of the IS discipline, however, social and technical components are often investigated as separate entities (Sarker et al., 2019; Scott & Orlikowski, 2014). Studies tend to focus on social or technical aspects, such as how technologies can be developed or improved. Some communities focus on technologies as merely the *silent* context in which social developments occur. As a result, the ability to theorize and understand complex digital developments has not been able to keep up with the development taking place in practice. As technologies increasingly shape social realities, examining both technical and social aspects is important to fully understand the complexities arising in real-world situations.

Social media platforms are technologies that have increasingly shaped social realities. Kaplan and Haenlein (2010) developed one of the most cited definitions of social media in IS research: “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” (p. 61). Web 2.0 is a term that describes how content and applications are no longer created and published by individuals but are constantly altered by people in a participatory and collaborative manner. User-generated content comprises the various media content publicly available and created by people, which is the sum of all social media use.

The development on social media platforms can be conceptualized through three emerging themes: social, commercial, and technical (Almahdi, 2024; Wang & Zahang, 2012; Zhou et al., 2013). First, social media platforms have changed society (Ahmed & Vaghefi, 2021; Dwivedi et al., 2018) in terms of how people interact, socialize, connect, build relationships, and seek information (Bello Rinaudo et al., 2022) and entertainment (Kaya & Bicen, 2016). Social media platforms have become extensions of people's social space and serve as integrated parts of their socialization (Ahmed & Vaghefi, 2021; Bello Rinaudo et al., 2022; Dwivedi et al., 2018). Second, social media platforms are technologies that shape and transform people's socialization. In contrast to socialization offline, technical components, such as algorithms, network structures, and platform design, play a significant part in defining people's social lives. For instance, the types of friendships and relationships they are recommended to seek and the information they are exposed to are facilitated by algorithms and network structures (Larson & Vieregger, 2019). Third, social media platforms have become critical arenas for commercial activities, such as networking, marketing, and advertising (Dwivedi et al., 2018). People use social media to cultivate different types of business connections, which may not necessarily be related to in-person social relationships, such as those involving companies, public figures, and social media influencers (Cao & Belo, 2023; Krause et al., 2019). According to a recent industry report, Meta Platforms had a total annual revenue of over US\$134 billion in 2023, up from US\$116 billion in 2022 (Statista, 2024). However, these platforms are not merely arenas for commercial activities to occur. They also rely on commercial activities to generate revenue and are therefore developed, shaped, and formed on the basis of commercial interests and agendas. As

such, social media platforms consist of social, technical and commercial components.

All three components shape how influence is facilitated with commercial content. On a social level, compared to offline environments, where commercial content is usually more sales oriented, social media platforms allow a more subtle integration of commercial content into people's feeds (Casaló et al., 2021; Zhang et al., 2022). For instance, businesses create entertaining videos, inspirational images, and funny Snapchat filters or polls that subtly feature their products and services (Casaló et al., 2021). Social media influencers also seamlessly integrate commercial products and services into their lifestyles. Their commercial content is designed to be as unintrusive to the user experience as possible, making such content appear subtle and integrated (Cao & Belo, 2023). On a technical level, algorithms curate personalized content by prioritizing, classifying, and filtering information based on people's past behaviors in the form of likes, comments, views, and shares (Kothur & Pandey, 2023). These actions provide insights into users' preferences and influence the type of commercial content they are exposed to (Larson & Vieregger, 2019). Moreover, network structures on social media platforms enable users' interactions (e.g., likes, comments, and views) to influence the spread of commercial content within and outside their networks (Kane et al., 2014). Likes reflect users' interests and influence the type of content they encounter. On a commercial level, social media platforms also enable the building of shopping features that enable people to shop directly from the platforms without leaving the apps.

Consequently, social media platforms have evolved into spaces where commercial content is seamlessly integrated within peoples' social environments, exposing them to large amounts of commercial content alongside personal and social interactions. These practices, are enabled social media platforms social, technical, and commercial constructs. Meanwhile, the lack of theorization of both social and technical elements is also evident in IS communities investigating social influence on social media platforms.

In fact, social influence has mostly been treated as an almost exclusively social phenomenon in the literature (e.g., Bi et al., 2019; Gobara et al., 2019; Kuan et al., 2014). For instance, many IS studies have examined the social dynamics of social media platforms and how they influence the spread of commercial content (e.g., Fu et al., 2020; Paek et al., 2011). Research has focused on how individuals influence one another based on factors such as similarity (Fu et al., 2020; Paek et al., 2011), familiarity, expertise (Fu et al., 2020), and socialization (Ham et al., 2019). For example, it has been found that people often observe and imitate the behavior of others to conform to group norms on social media (Bi et al., 2019). How individuals engage with commercial messages is often motivated by normative factors, driven by a desire for social approval and acceptance (Bi et al., 2014; Kuan et al., 2014). Such studies tend to apply theories of social influence from social psychology (Kelman, 1961) to examine the influence that takes place among people and their social connections. Studies applying these theories offer valuable insights into the norms, underlying social structures, and social relationships among people and their communities (e.g., Xi et al., 2017). Despite these insights,

however, the influence of technological development is not considered. Technologies and how people use them change how we interact and communicate with one another. For example, algorithms play a crucial role in determining the types of commercial messages that individuals encounter. They suggest potential connections to follow or befriend, as well as which brands to engage with (e.g., Instagram, 2024; TikTok, 2024). These practices were largely absent prior to the advent of social media platforms, during which individuals to a greater extent consciously sought out commercial services, in contrast to the technology-driven influence that now makes people passive recipients of information (Hogsnes et al., 2023). In addition, these platforms evolve under the pressure of commercial interests. For example, few studies have focused on how the commercial interests of social media platforms shape people's social realities, as most studies focus on social media platforms as social outlets in which commercial activities occur (e.g., Bi et al., 2019; Haenlein & Libai, 2017; Kuan et al., 2014). However, how these platforms are built and shaped is based on commercial interests and agendas. Therefore, applying new theoretical perspectives that can effectively capture and analyze the complexities and nuances of these changes is essential.

This concern has influenced studies that tend to use quantitative measures to investigate strong and weak ties among people on social media platforms (e.g., Beşer & Erdogan, 2023; Lee & Kronrod, 2020). Research applying this perspective tends to focus on how each action taken by individuals on social media platforms can significantly affect the dissemination of content within and beyond their networks (Chen et al., 2013; Klier et al., 2019; Susarla et al., 2012). For instance, in Susarla et al.'s

(2012) study on the visibility of content on YouTube, they found that peers play a pivotal role in shaping the content that others consume, whether through likes, views, or subscriptions to YouTube channels. These communities tend to view social media platforms as networks of nodes representing individuals or organizations connected through ties. The ties can be people with shared friendships, interests, or political beliefs (Beşer & Erdogan, 2023). Research using these methodologies can yield broad, generalizable insights into the ways in which individuals connect with and influence one another. This is particularly intriguing in the context of social media platforms, in which the interactions among users are interconnected. However, the application of these quantitative measures does not consider the underlying norms and complexities of people's social relationships. Additionally, the influence of commercial interests and agendas and how platforms are shaped by these factors are not considered.

The commercial component is mostly examined as a context in which influence occurs either socially (Casaló et al., 2021; Zhang et al., 2022) or technically (Handayani et al., 2018; Roy et al., 2017) in IS research. For example, IS studies have explored how people encounter strategically placed advertisements, sponsored posts, and advertorials from businesses and social media influencers (Zhang et al., 2022). Other studies have focused on specific commercial elements, such as call-to-action (CTA) buttons, including features such as *swipe-ups* and *brand tags*, which allow users to access brands and shopping options directly from their digital devices (Handayani et al., 2018). Commercial activities, such as marketing and advertising tactics, are seen as separate activities. However,

social media platforms are built and shaped on the basis of commercial agendas. For example, Instagram has its own business solution (Instagram, 2024). A person can register either as a *regular user* or a *business user*, in which the latter can access several commercial components, such as follower statistics. Follower statistics, for instance, say something about the type of content people engage with, and this, in turn, is used to plan for strategic future commercial content. Commercial activities are also integrated into people's social content through funny filters or entertaining short videos or brand tags designed by platforms to attract business users to use these platforms for commercial purposes (Instagram, 2024). There are many other examples, and those that are mentioned only describe a small piece of commercial development. However, the argument made in this thesis is that the commercial cannot be seen as something separate from the social or technical on social media platforms. All three are *equal partners* in the development of these platforms and should be understood as interconnected to fully grasp how influence is facilitated. Overall, what happens *underneath the surface* on social media platforms regarding how influence is facilitated with commercial content is partly unknown because these three essential components are investigated as separate entities.

This PhD thesis draws on a four-year case study to investigate how the underlying components of social media platforms facilitate the influence of commercial content. This thesis argues for the importance of viewing the social (social psychology) and technical components (algorithms, network structures, and platform design) of influence as mutually interactive when studying influence. Furthermore, the thesis argued for the importance of including a third component—the commercial. The commercial

development of these platforms is fundamentally shaped by interactions occurring on social media. By doing so, we can understand both the underlying norms and social relationships and the technical and commercial developments that enable such influence. The research questions, theoretical framework, and methodology are explained in the next section.

1.2 Research Approach

This research is based on an interpretive case study (Klein & Myers, 1999; Walsham, 1995) consisting of ethnographic content analysis (Altheide, 1987; Bainotti et al., 2020; Rose, 2014). In line with interpretive case studies, the theoretical framework—that is, the sociotechnical perspective—guides the research questions and methodology development (Walsham, 1995).

First, the sociotechnical perspective focuses on a phenomenon’s social, technical, and commercial components as mutually interactive and explicitly acknowledges their interdependence (e.g., Bostrom & Heinen 1977; Scot & Orlikowski et al., 2014). This thesis argues that social, technical, and commercial components should be investigated in an interconnected manner to fully grasp how influence is facilitated. In this PhD thesis, the social component consists of individuals or collectives and the relationships or interactions between or among them, which are understood through social psychology theories (Kelman, 1961). The technical component comprises the social media platform design (Purohit & Holzer, 2021), algorithms (Kothur & Pandey, 2023), and network structures (Kane et al., 2014) that shape the influence that occurs.

Commercial components are the elements to monetize, sell, promote, and advertise commercial content, which is enabled by social media platforms, such as CTA buttons, hyperlinks, brand tags and commercial information. Guided by the sociotechnical perspective, this thesis aims to answer the following research question: *How do the underlying components of social media platforms facilitate the influence of commercial content?*

An ethnographic content analysis (Altheide, 1987; Bainotti et al., 2020; Rose, 2014) guides the case study. By applying ethnographic content analysis, the thesis can study the practices taking place on social media platforms. “Content” is defined as the resources available in a network (Kane et al., 2014), while “commercial” is defined as being intended for commercial purposes, such as monetizing, selling, promoting, and advertising a product, business, or service (Merriam Webster, 2024). Social content refers to the resources available in a network without any commercial elements. The methods are described in detail in Chapter 4.

This thesis focuses on the commercial content posted by social media influencers on Instagram and TikTok as the units of analysis in the case study. Specifically, data are collected regarding how the underlying social, technical, and commercial components facilitate influence in commercial content. Social media influencers are the units of analysis because of their increase in number and influence over the past decade. Social media influencers and their social media profiles have become primary commercial channels for numerous companies (Zhang et al., 2022), especially on Instagram and TikTok (Hudders et al., 2020). Statista (2023) stated that the global influencer market was valued at US\$21.1 billion in

2023. The industry has also more than tripled since 2019. Social media influencers are relevant as units of analysis for ethnographic content analysis because they are known for intertwining social, commercial (Cao & Belo, 2023), and technical (Carter, 2016; Cotter, 2019) components in their commercial content. Socially, people follow social media influencers of personal interest to them in order to consume content about their personal and daily life updates. At the same time, social media influencers form an integral part of commercial development on social media platforms, as they make a living out of promoting commercial content on behalf of businesses (Cao & Belo, 2023). They also align their commercial content practices with technical components, such as algorithms and network structures, to maximize their influential capabilities (Cotter, 2019). The development and popularity of social media influencers have raised concerns among regulators and consumer advocates. As noted in a recent study (Cao & Belo, 2023), regulators and consumer advocates fear that people may be unable to differentiate between commercial and social content, which can be misleading. Overall, by investigating social media influencers and their commercial content as the unit of analysis, I will be able to capture essential patterns that can help us understand the influence facilitated on social media platforms.

The theoretical and practical contributions of this thesis are presented in the next section.

1.3 Contributions

This thesis makes two primary contributions to IS research, particularly social influence studies and social media platform studies. First, it

contributes theoretically by presenting a sociotechnical approach to the study of influence on social media platforms. Existing literature tends to apply theories from either social psychology (e.g., Xi et al., 2017) or network theory and social network analysis approaches (Beşer & Erdogan, 2023; Lee & Kronrod, 2020). In this thesis, however, influence is understood on social media platforms through three components: social, technical, and commercial. As such, the concept of sociotechnical influence is introduced in this work as a theory to understand the social, technical, and commercial components that facilitate influence on social media platforms. These three components are seen as interconnected, and this perspective contributes to discussions regarding influence in IS research (Beşer & Erdogan, 2023; Khan et al., 2019; Lee & Kronrod, 2020; Xi et al., 2017). This perspective not only serves to explore the influence of commercial content but also contributes to discussions about influence more broadly. It can be used to examine other developments, such as the influence of political content. I will discuss this contribution further in Section 6.3.1.

Second, by applying the sociotechnical perspective on influence, this project contributes to conversations regarding the societal implications of commercial development on social media platforms. As argued by Sarker et al. (2019), a joint optimization of both technical and social aspects is expected to lead to improved instrumental and humanistic outcomes (Sarker et al., 2019). As such, while this PhD thesis does not investigate societal implications using the case study method, the findings from investigating the underlying components facilitating the influence of commercial content will reveal insights that contribute to discussions on

societal and individual outcomes. Contributing to conversations on the societal outcomes for individual people and society is especially important, as most of IS literature exploring the commercial development of social media platforms has primarily focused on increasing profit. These studies have analyzed purchase decisions (e.g., Eggert & Weber, 2023), purchasing behaviors (e.g., Godinho de Matos et al., 2014; Xi et al., 2017), and continuance purchase behaviors (e.g., Hajli et al., 2015).

A few exceptions exist among IS researchers exploring the societal implications of social media platform usage, such as addiction (Ahmed & Vaghefi, 2021; Salehan & Negahban, 2013), compulsive smartphone use (Eichner, 2021; Wang & Lee, 2020), polarization in society (Geeling & Brown, 2023; Risius et al., 2019; Zhang et al., 2022), and technostress (Derra et al., 2022). Related to this PhD thesis, issues centered around commercial development on social media platforms have been explored in the studies by Cao and Belo (2023) and Krause et al. (2019). Krause et al. (2019) examined social media usage in connection with conspicuous consumption and overspending. According to them, social media usage can result in harmful economic outcomes, especially out of envy, when people are constantly exposed to other peoples' consumption and have endless opportunities to compare themselves with others. In investigating sponsorship disclosure in social media influencers' posts, Cao and Belo (2023) provided insights for marketers, social media influencers, social media platforms, and regulators in the influencer marketing industry. They drew attention to how social media makes it difficult for people to reflect critically on the commercial content they consume because of its subtle and integrated nature. The insights from this PhD thesis on how influence is

facilitated through social, technical, and commercial components will contribute to these conversations in IS regarding the societal and individual implications of social media platform usage, with an emphasis on commercial content.

In-depth answers to the research question are obtained using the following papers:

- Paper 1. Hogsnes, M., Grønli, T. M., & Hansen, K. (2023). Unconsciously Influential. Understanding sociotechnical influence on social media. *Scandinavian Journal of Information Systems*, 35(2), 1–34.
- Paper 2. Hogsnes, M., Grønli, T. M., & Hansen, K. (2024). Exploring influencers' commercial content on Instagram. *Journal of Interactive Advertising*, 24(2), 156–168.
- Paper 3. Hogsnes, M., & Grønli, T. M. (2023). A commercial playground. Exploring TikTok influencers' commercial videos [Manuscript submitted for publication].

1.4 Structure of the Thesis

This thesis is structured as follows.

Chapter 2. Literature Review: This chapter presents current literature related to how the underlying components of social media platforms facilitate the influence of commercial content. It begins by introducing the literature search, selection, and analysis process. The analysis concept is then presented, followed by the research gap and the theoretical motivation guiding the theoretical perspective for the thesis.

Chapter 3. Theoretical Perspective: This section provides the sociotechnical theoretical perspective of the thesis. I start by introducing this perspective and its roots in IS. I then present sociotechnical influence as a framework focusing on social, technical, and commercial components. This framework is used to frame the case study for the thesis.

Chapter 4. Research Method: This section presents the case study method used for the thesis. The chapter first introduces the study's philosophical stance and interpretivism from the hermeneutic tradition before delving into the specific methods used in this thesis. Ethical considerations, including reflections on my role as a researcher, are then addressed.

Chapter 5. Results: This chapter starts with an in-depth description of the underlying social, technical, and commercial components that facilitate the influence of commercial content. A framework of how these underlying components of social media platforms enable the influence of commercial content is then presented.

Chapter 6. Discussion: This section provides the results to answer the research question, followed by a discussion of the study's theoretical and practical implications.

Chapter 7. Concluding Remarks: This chapter contains the conclusion and suggestions for future research.

The attachments include the three research papers.

2 Literature Review

This chapter reviews existing literature related to how the underlying components of social media platforms facilitate the influence of commercial content. The research covered in this chapter is primarily from the IS discipline. However, as research on social media and its commercial development is multidisciplinary, I also found it essential to include some relevant work from other fields, such as marketing, economics, communication, and media studies. A concept-centric literature review was conducted to review current literature on this topic. The objective of this part of the thesis was to identify relevant concepts in existing literature, so I employed a concept-centric approach (Webster & Watson, 2002).

This chapter presents the findings of one research article conducted for this thesis, which is a conceptual analysis of existing literature (Attachment A). However, research articles other than those included in this study were also examined through a backward and forward search strategy (Webster & Watson, 2002) to keep up with emerging studies that have been published since the research article was conducted. Following the guidelines of Okoli and Schabram (2010) and Webster and Watson (2002), the literature review consisted of two steps: (1) a search and selection process and (2) an analysis of the literature (Hogsnes et al., 2023). Following these steps, the synthesized literature was presented, followed by an outline of the research gap and the theoretical motivation of this thesis.

2.1 Search, Selection, and Analysis

The literature search for this PhD thesis required careful preparation and the selection of suitable databases and relevant keywords, sources, and

timeframes (Okoli & Schabram, 2010; Webster & Watson, 2002). A total of three rounds of literature searches were conducted, as illustrated in Figure 1.

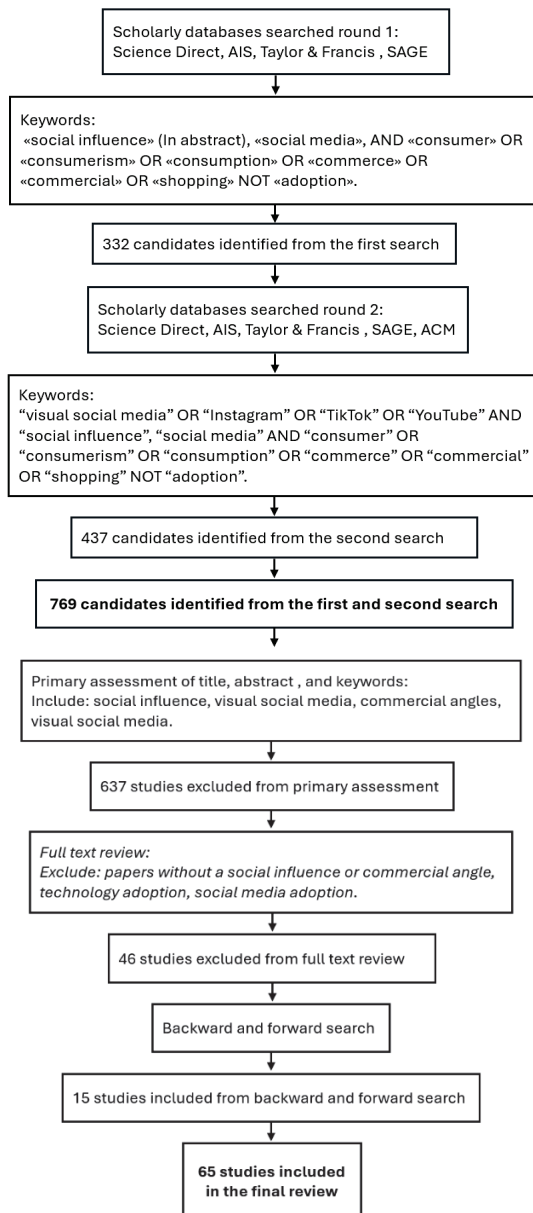


Figure 1. Overview of the literature search and selection process

In the first round, I carefully considered, in collaboration with my supervisor, the appropriate databases and relevant keywords, sources, and timeframes to identify relevant literature, as Vom Brocke et al. (2009) emphasized. Different keywords in various potential databases were explored to discover and monitor emerging terms and developments, as advised by Levy and Ellis (2006). Initially, I carried out a keyword search using Science Direct, the Association for Information Systems, Taylor & Francis, and SAGE, which contained pertinent journals and conference papers in the IS field and other relevant disciplines. I searched the literature using the following keywords: “social influence” (in the abstract) AND “social media” AND “consumer” OR “consumerism” OR “consumption” OR “commerce” OR “commercial” OR “shopping” NOT “adoption.” I chose these keywords because they captured a literature sample that met specific selection criteria (Hogsnes et al., 2023). See attachment A for more details regarding the first search and selection process.

A collection of research articles, work in progress, and extended abstracts published since 2010 in all journals and conference proceedings was gathered. This approach was taken to capture the diversity of the topic, as suggested by Webster and Watson (2002). A total of 332 potential candidates were identified.

After searching, I conducted a second round of literature search because of the lack of studies investigating visual-specific social media platforms, such as Instagram and TikTok, identified in the first round. I performed another search using the following keywords: “visual social media,”

“Instagram,” “TikTok,” “YouTube,” “Snapchat,” “social influence,” “consumer,” “consumerism,” “consumption,” “commerce,” “commercial,” “shopping,” excluding “adoption.” To include more technical papers, I also added papers from the Association for Computing Machinery database. This step ensured diversity in the research articles related to the study. After the search, I identified 437 potential candidates. A total of 769 candidates were identified from the two search processes.

The thesis followed up with a two-round inclusion and exclusion process, as demonstrated in Figure 1 (Hogsnes et al., 2023). First, the articles were evaluated on the basis of their titles, abstracts, and keywords to ensure their relevance. The exclusion of the term “adoption” was necessary because established commercial practices were relevant to the study, not the initial stages of using social media platforms. The thesis included papers that focused on the commercial aspects of social influence on social media platforms, specifically mentioned the term “social influence” in their titles, abstracts, keywords, or primary texts, and concentrated on social media platforms with visual-centric features. Papers investigating Facebook were also included, given its ownership of Instagram, a leading platform for visual interaction. Following this search and selection process, 96 papers met the criteria (Hogsnes et al., 2023). See Attachment A for more details.

The second inclusion and exclusion process involved a full-text review of all 96 papers from the primary assessment. In this phase, papers that did not have a commercial angle were excluded, and so were papers that did not adopt a social influence perspective, such as those investigating

technology adoption and social media adoption. Following this process, 50 papers met the criteria (Hogsnes et al., 2023).

I conducted backward and forward searches (Webster & Watson, 2002) on the selected articles, adding six relevant articles. Out of 769 potential candidates, 56 were chosen from the first and second search and selection processes. See Attachment A for more details.

I conducted a third round of literature search when writing the PhD thesis to keep up with emerging studies that have been published after the research was conducted (Hogsnes et al., 2023). A backward and forward search strategy (Webster & Watson, 2002) was applied on the basis of the selected articles from the first and second search and selection processes, adding 9 relevant articles. A total of 65 articles were chosen from the first, second, and third search and selection processes.

The analysis of the 65 identified articles aimed to synthesize existing literature on the topic and obtain insights into existing concepts investigated. A rigorous qualitative process was applied on the basis of an open, axial, and selective coding strategy to search for connections in the data materials and categorize them, capturing the essence of and trends in the data (Strauss & Corbin, 1998). I read each article carefully and broke down the data into discrete parts in Excel, primarily identifying each paper's influential components. The study then followed up with axial coding to draw connections between the data using a color-coding approach. I assigned similar colors to show patterns with specific linkages. Finally, I chose one central category for each pattern that connected the

codes, capturing the essence of trends in the data (Strauss & Corbin, 1998). See Attachment A for more details (Hogsnes et al., 2023).

Additionally, I extracted information regarding the actor(s) investigated in each study, and the platforms investigated. The term “actors” refers to both individuals and businesses, such as social media influencers, companies, and brands. See Attachment A for more details.

2.2 Concepts Identified in Current Literature

As presented in Section 2.1, the primary objective of the concept-centric literature review was to identify existing research that has investigated how the underlying components of social media platforms facilitate the influence of commercial content. Therefore, the primary objective of the analysis was to analyze the components investigated in each paper. Table 1 presents an overview of the three main components identified from the analysis, namely, social, technical and commercial (selective coding) components, their characteristics, the actors involved, and the platforms on which they operate. The components were not mutually exclusive. (see attachment A for more details).

<i>Components (Selective codes)</i>	<i>Examples of characteristics and subcomponents (open codes)</i>	<i>Platforms</i>	<i>Actors</i>	<i>Number of studies</i>
Social	Social structures, norms, and connections between actors (e.g., similarity,	Facebook, Instagram, Snapchat, and TikTok	Social media influencer, peers,	43

	familiarity, identification, and envy)		and businesses	
Technical	Human-created tools, such as hardware and software (e.g., network structures, algorithms, and platform design)	Facebook, Instagram, and Snapchat	Social media influencer, peers, and businesses	21
Commercial	Components to monetize, sell, promote, and advertise (e.g., call-to-action buttons, hyperlinks, brand tags and informative commercial messages)	Facebook, Instagram, Snapchat, and TikTok	Social media influencer, peers, and businesses	16

Table 1. Components of social media platforms facilitating the influence of commercial content

Social components, which comprise individuals or collectives and their relationships or interactions, such as social structures, norms, and connections between individuals, are discussed in existing literature. These components enable the influence of commercial content. Technical components encompass human-created tools, such as platform design, algorithms, and network structures, which shape the influence that occurs. Commercial components are commercial artifacts enabled by social

media platforms' design, such as brand tags, hyperlinks, and CTA buttons, and commercial information exchange among actors, such as visible brand labels or textual captions with product information (Hogsnes et al., 2023).

Three primary actors were identified: (1) peers, (2) social media influencers, and (3) businesses. Peers can be defined as friends, family, acquaintances, and consumers who are not driven by any commercial agenda but who influence those around them. They tend to discuss their consumption choices privately and share their experiences with products and services publicly (Hogsnes et al., 2023). Social media influencers are public figures, such as celebrities, creators, or YouTubers, who have a specific commercial agenda and are well known to a niche group of people. They interact with their followers and promote commercial content (Hogsnes et al., 2023). Businesses refer to organized groups of people who have specific commercial purposes and who build relationships with them strategically and organically through their public social media profiles. This category includes companies, brands, businesses, advertisers, and marketers (Hogsnes et al., 2023).

Each of the social, technical, and commercial components is detailed in the sections that follow.

2.2.1 Social Components

Literature exploring the components that facilitate the influence of commercial content in the IS field primarily focuses on social dynamics (Table 1). Research has examined how peers influence one another based on factors such as similarity (Fu et al., 2020; Paek et al., 2011), familiarity,

expertise (Fu et al., 2020), and socialization (Ham et al., 2019). For example, it has been found that people often observe and imitate the behavior of others to conform to group norms on social media. Ham et al. (2019) noted that peers share and engage with commercial content as a means of socializing and building relationships. Their motivations are often normative and driven by a desire for social approval and acceptance (Bi et al., 2014; Kuan et al., 2014). Consequently, on social media platforms, individuals tend to seek out and replicate their peers' behaviors, such as clothing choices and restaurant selections, which inform both their online and offline actions to fit into a group or adhere to social norms (Hogsnes et al., 2023).

Individuals can also share product and service information with their peers updates about their daily lives, which often include their consumption choices (Rhue & Sundararajan, 2019). Existing research has shown that the rise of social media platforms has led regular individuals to display their consumption choices prominently. For instance, one intriguing study found that as people increasingly share aspects of their lives on social media, their commercial choices become visible to their peers (Rhue & Sundararajan, 2019). Kunst and Vatrappu (2018, p. 1) referred to this phenomenon as “socially shared consumption,” suggesting a trend in which more individuals share their consumption experiences on social media platforms. Similarly, Minh et al. (2024) observed how ordinary users post videos containing commercial messages on TikTok. On platforms such as TikTok, individuals commonly recreate challenges and produce duet videos with thousands of others. The content they replicate is often commercially focused, stemming from their experiences with products and

allowing them to exert commercial influence without any profit motive (Minh et al., 2024).

Many of these studies highlight social media influencers and influential factors, such as similarity, familiarity, and likability (Aljasir, 2019; Argyris et al., 2020; Sokolova & Kefi, 2020). People are more likely to follow social media influencers who resemble themselves (Argyris et al., 2020; Sokolova & Kefi, 2020) and those they admire (De Jans et al., 2020). Social media influencers have an impact through parasocial interactions (Farivar et al., 2019; Sokolova & Kefi, 2020), which create an illusion of friendship between the influencer and their followers (Sokolova & Kefi, 2020). Although direct interaction between influencers and their followers is rare, the relationship can evoke a sense of genuine friendship for followers, as they engage with the influencers' daily lives through their social media content. Influencers provide valuable insights by sharing personal experiences or recommendations related to the products they promote (Zhang et al., 2022), seamlessly integrating commercial content into their lifestyle posts and making it appear subtle and cohesive. Cao and Belo (2023) explored the fusion of social and commercial content, emphasizing the difficulty of distinguishing between the two. Their study on social media influencers found that commercial posts are often designed to blend with regular personal content, which makes it challenging for viewers to identify sponsored versus unsponsored posts. Consequently, individuals may overlook advertising in influencer marketing, rendering commercial content less noticeable in their feeds. In marketing and advertising literature, research on the role of social media influencers and commercial disclosure indicates that individuals engage with influencers based on

personal interests (Audrezet et al., 2020; Gross & Von Wangenheim, 2022) and tend to perceive influencers as acting independently rather than on behalf of marketers (Borchers & Enke, 2022). These studies suggest that social media fosters social comparison and influences peoples behavior (Hogsnes et al., 2023).

Current literature has explored how businesses leverage entertainment, creativity, and emotional appeals by using real-life stories and quotes that evoke feelings and humor (Casaló et al., 2021). They often “upload visually inspiring content (e.g., real-life stories, quotations) that might support people in their daily lives” (Casaló et al., 2021, p. 422). Businesses also “join the conversation through brand content that is presented in various advertising formats, such as videos, photos, games, polls, and blogs” (Wiese et al., 2020, p. 84). By encouraging people to engage with their content, businesses foster connections that lead individuals to post about their brands and cultivate a sense of attachment and commitment (Casaló et al., 2021). Overall, businesses exert influence by creating content rooted in social elements, such as creativity, connectivity, and entertainment. They actively participate in social conversations and integrate these exchanges into their commercial content strategies (Hogsnes et al., 2023). From a business perspective, people’s interactions carry significant commercial value. Various studies have examined the types of commercial content that attract the most engagement from people (Casaló et al., 2021; Colliander & Marder, 2018). For instance, Casaló et al. (2021) emphasized that businesses should participate in social conversations by sharing visually inspiring content, such as real-life stories or quotes, that can support their followers’ daily lives. Furthermore, Colliander and Marder

(2018) found that *amateur* and *credible* snapshots from Instagram users are more effective in generating engagement than images with a studio aesthetic (Hogsnes et al., 2023). Table 2 below provides an overview of the actors identified in each study, the subcomponents identified in each study and related references (see attachment A for more details).

Actors <i>(n= number of studies)</i>	Subcomponents <i>(Open codes)</i>	Practice examples	Authors
Social media influencers (n=19)	Similarity, trust, attractiveness, likability, Credibility, admiration, physical appearance, identification, social comparison, envy, socialization, expertise, entertainment, visual aesthetics, creativity, para-social relationship, positive emotions, content production, content distribution, interaction, personal appearance, authenticity,	<p>“All consumers considered celebrities as a trustworthy source of information online.” (Djafarova & Rushworth, 2017, p. 5)</p> <p>“The goal of an social influencer marketing campaign should be to demonstrate the social influencer’s familiarity and authenticity</p>	(Aljasir, 2019; Argyris et al., 2020; Audrezet et al., 2020; Belanche et al., 2019; Borchers & Enke, 2022; Casaló et al., 2021; Colliander & Marder, 2018; De Jans et al., 2020; Djafarova & Bowes, 2021; Djafarova & Rushworth, 2017; Farivar, 2019; Jin & Ruy, 2020; Paek et al., 2011; Sokolova & Kefi, 2020; Xiao et al., 2018; Yang & Ha, 2021; Zhang et al., 2022).

	blurred-boundary advertisements, affective commitment, opinion leadership.	(Argyris et al., 2020, p. 13)	
Peers (n=21)	Social comparison, normative influence, social enhancement, social relationships, similarity, social presence, social conversation, trust, familiarity, perceived proximity, subjective norms, entertainment, source characteristics, expertise, site commitment, interactivity, maintaining interpersonal interconnectivity, aesthetic, purposive value, entertainment, self-discovery, self-management, connection ,	<p>“Social shopping intention was regressed on perceived member familiarity, closeness, similarity, and expertise” (Fu et al., 2020, p. 13)</p> <p>(..) consumption and purchase behaviors become increasingly visible to their peers, spawning a new form of digitally enabled conspicuous consumption (Rue &</p>	(Alarifi et al., 2015; Bi et al., 2019; Dinulescu & Prybutok, 2021; Fu et al., 2020; Friedrich, 2016; Gobara et al., 2019; Hajli et al., 2015; Ham et al., 2019; Jeon et al., 2018; Kunst & Vatrapu, 2018; Kwahk & Ge, 2012; Li et al., 2019; Li et al., 2014; Liu et al., 2016; Minh et al., 2024; Ng, 2013; Paek et al., 2011; Qiu et al., 2023; Rhue & Sundararajan, 2019; Wiese et al., 2020; Xi et al., 2016; Zhechev & Sekulova, 2024).

	empathy, moral sentiments, closeness, cognitive states, emotional expressions, credibility, hedonic (entertaining value), Perceived behavioral control, attitude, user generated content, socially shared consumption	Sundararajan, 2019, p. 1127)	
Businesses (n=4)	creativity, emotions, credibility, entertainment, social CRM.	“Managers (...) could upload visually inspiring content (e.g. real-life stories, quotations) that might support their followers in their daily lives (...)” (Casaló et al., 2021, p. 422)	(Alt & Reinhold, 2012; Casaló et al., 2021; Colliander & Marder, 2018; Wiese et al., 2020).
Number of studies= 43			

Table 2. Overview the social subcomponents identified in each study, the actors investigated, and related references (Hogsnes et al., 2023).

2.2.2 Technical Components

In addition to research investigating social components, many studies identified from the conceptual analysis have investigated technical components, such as network structures or network effects (Table 1). These studies emphasize how people are part of a complex, interconnected network on social media platforms, in which every action they take influences the spread of information inside and outside their networks. Information systems research has explored how businesses should use this effect by constantly finding ways to make people interact with their content (e.g., Khan et al., 2019). Thus, these studies highlight how one person on social media has influential value by simply liking, commenting on, and viewing commercial content, as such actions will spread the information around in their networks. Each action taken by individuals on social media platforms can significantly affect the dissemination of content within and beyond their networks (Chen et al., 2013; Klier et al., 2019; Susarla et al., 2012). For instance, in Susarla et al.'s (2012) study on the visibility of content on YouTube, they found that peers play a pivotal role in shaping the content that others consume, whether through likes, views, or subscriptions to YouTube channels. They noted that the videos posted by a channel must initially attract a group of early adopters, which would then influence how rapidly the content would spread throughout the population. Interestingly, everyday social media users, without conscious awareness, become key influencers in shaping commercial content (Chen et al., 2013; Klier et al., 2019; Susarla et al., 2012) (see attachment A for more details).

Existing literature has also investigated how social media influencers actively customize their content to leverage the technical aspects of platforms in order to enhance their influence. According to Hutchinson (2020), influencers create content that aligns with the algorithms driving the platforms they use to distribute their content. They base their content practices and decisions on feedback from their followers while also creating content to satisfy the algorithms driving the platforms in which they distribute their content (Hutchinson, 2020). Additionally, Cotter (2019) discovered that influencers strategically determine optimal timeframes to post commercial content in order to maximize their visibility based on Instagram's rating algorithms. In essence, social media influencers adapt their strategies to the rules dictated by user engagement and platform algorithms (Hogsnes et al., 2023).

Other technical components, such as videos, photos, games, polls (Wiese et al., 2020), and tools (Roy et al., 2017) are identified in existing literature as components to captivate and entertain individuals while wielding influence on the latter (Wiese et al., 2020). For example, Roy et al. (2017) introduced a tool designed to assist marketers in identifying the most effective seeding nodes (peers) within a network and establishing optimal paths for their advertisements. Chen (2013) posited that interconnected relationships create new marketing opportunities for effective audience outreach. Klier et al. (2019) argued that a customer's value extends beyond the revenue they generate to include their network effects. In essence, existing research has found that businesses recognize the impact of network effects on their platforms and strive to create engaging content that encourages regular user interaction in order to exert influence. Table 3

provides an overview of the actors identified in each study, the subcomponents, and related references (see attachment A for more details).

Actors (N= number of studies)	Subcomponents (Open codes)	Practice examples	Authors
Social media influencers (N=6)	Network effect, network structures, engagement, outreach, sentiment, and growth), Cross-promotion, algorithms.	<p>“Influencers emphasize the importance of gathering information about how algorithms function to learn the rules of the game. They view this knowledge gathering process as part of being an influencer and often refer to it as ‘research’” (Cotter, 2019, p. 902).</p>	(Arora et al., 2019; Cotter, 2019; Hutchinson, 2020; Susarla et al., 2012; Yoganarasimhan, 2012; Song & Tang, 2015).
<p>“The digital first personality also has the technical skills, or can seek out those skills, to align their content production with any given platform’s algorithm to ensure it will receive increased</p>			

		visibility” (Hutchinson, 2020, p.1297).	
Peers (N=13)	Network effect, network structures, Symbolic actions, substantive actions, trust in algorithms, homophily, reciprocity, betweenness, centrality, closeness, centrality, search engines	<p>“Weak-tie references to consensus bring to mind a larger and more diverse group of consumers (...).” (Lee & Kronrod, 2020, p. 368)</p> <p>“Preference for conformity and homophily and (ii) the role of social networks in guiding opinion formation and directing product search and discovery” (Susarla et al., 2012, p.23)</p>	(Beşer & Erdogan, 2023; Chen et al., 2013; Chandrasekara et al., 2019; Gandhia & Muruganatham, 2015; Ghose et al., 2019; Godinho de Matos et al., 2014; Khan et al., 2019; Klier et al., 2019; Lee & Kronrod, 2020; Libai et al., 2010; Roy et al., 2017; Wu et al., 2020).
Businesses (N=3)	Influence measures (Engagement, outreach, sentiment, and growth), trust measures, sentiments, captions, time of	“Engagement, outreach, sentiment, and growth play a key role in determining the social influencers”. (Arora et al., 2019, p. 86)	(Arora et al., 2019; Roy et al., 2017; Taneja et al., 2021; Wiese et al., 2020).

	postings, type of content	“As marketers try to leverage the power of social networking, precise identification of highly trusted actors in a network who are in an optimal topographical position to aid in viral advertising would be critically important”. (Roy et al., 2017, p. 280)	
Number of studies = 21			

Table 3. Overview the technical subcomponents identified in each study, the actors investigated, and related references (Hogsnes et al., 2023).

2.2.3 Commercial Components

Some studies have investigated commercial components, in addition to social and technical ones (table 1). Existing IS research has shown that peers tend to post product reviews and engage actively with commercial content on social media platforms. These actions become influential because people browse previous reviews, comments, and the number of likes and shares to guide their decisions (Oumayma, 2019). In this case, the individuals behind the comments need to be relevant and may be influential because of the objectivity of their commercial experiences. As commercial interests do not drive peers, their recommendations are

generally perceived as more trustworthy than those of individuals with commercial motives. Therefore, peers are regarded as authentic sources of product information because of their lack of commercial bias (Hogsnes et al., 2023).

Additionally, on platforms, such as Instagram and TikTok, individuals are exposed to strategically placed ads, advertorials, and sponsored posts from businesses and social media influencers (Zhang et al., 2022). They can observe others' purchasing behaviors, align these with their own preferences, and provide businesses with feedback about their products and services (Ren, 2015). Existing literature investigating commercial components has revealed how businesses use commercial features to engage with their target audiences and boost sales. One key feature identified from the analysis is the CTA button, including swipe-ups, brand tags, or similar types, which enable people to access brands and shopping spaces directly from their digital devices. By employing these buttons, businesses prompt individuals to interact with or purchase their products and services when discovering content. According to Handayani et al. (2018), the use of such features has been proven to increase sales and customer engagement effectively (Hogsnes et al., 2023).

Conversely, studies have explored how social media influencers appear as trustworthy source[s] of information online. For example, Aljasir (2019) found that people follow social media celebrities because of the interesting things they broadcast, to be introduced to new things (...)” (p. 22). However, their study showed that social media influencers must be perceived as experts; they must be respected and trustworthy in their field in order to be

influential with the commercial content they endorse. Carter (2016) argued that social media influencers explicitly affiliate themselves with nonhuman entities, such as brand tags and topical hashtags. They link their content to pages where people can purchase the products, thereby increasing the visibility of commercial messages. Table 4 provides an overview of the subcomponents identified in each study, the actors investigated, and related references (see attachment A for more details).

Actors <i>(N= Number of studies)</i>	Subcomponents <i>(Open codes)</i>	Practice examples	Authors
Social media influencers (N=4)	Brand tags, hashtags, message quality, argument strength, information involvement, explicit sponsorship disclosure.	“users understand and manipulate their influence by positioning their followers (branding) and by explicitly affiliating themselves with non-human entities such as brands and topical hashtags (hustling)” (Carter, 2016, p1).	(Aljasir, 2019; Carter, 2016; Chao & Belo, 2023; Xiao et al., 2018).
		“They follow social media celebrities because of the interesting things they broadcast, to be introduced to new things (...)” (Aljasir, 2019, p. 22)	

Peers (n=9)	Revenue leaders, Visibility of online reviews, recognition, information search, message quality and argument strength, informational gains and ease of accesses, utilitarian motivations, expertise	“Consumers look for previous reviews and comments, number of likes and shares to help them in the decision making.” (Oumayma, 2019, p. 6)	(Haenlein & Libai, 2017; Huang et al., 2011; Jeon et al., 2018; Oumayma, 2019; Paek et al., 2011; Ren, 2015; Sedera et al., 2017; Wiese et al., 2020; Xi et al., 2017).
Businesses (n=3)	CTA-buttons, media richness, Social CRM, social media e-newsletter intervention.	“Advertising campaigns using Call-to-action (CTA) buttons in certain age groups only affects their purchase intentions.” (Handayani et al., 2018, p. 54)	(Handayani et al., 2018; Huang et al., 2018; Young et al., 2017).
Number of studies = 16			

Table 4. Overview of the commercial subcomponents identified in each study, the actors investigated, and related references (Hogsnes et al., 2023).

The research gap and theoretical motivation are presented below.

2.3 Research Gap

A review of the concepts in current literature in this section shows that many communities within the IS field have examined the influence of commercial content on social media platforms (Djafarova & Rushworth, 2017; Xiao et al., 2018; Zhang et al., 2022). However, the review of existing literature (Table 1) reveals that the influence on social media is often regarded as a social phenomenon. Notably, 43 out of 65 studies have primarily focused on social components, highlighting aspects such as similarity, identification, parasocial interaction, and envy in relation to the influence exerted by peers, businesses, and social media influencers (Fu et al., 2019; Kuan et al., 2014). Another category consists of technical components, which encompass 21 studies identified in the conceptual analysis (Table 1). These studies have focused on network structures, algorithms, and platform design, including visual artifacts, games, and polls (e.g., Chen et al., 2013; Klier et al., 2019). Lastly, commercial components represent the category with the fewest studies (Table 1), exploring the context in which influence occurs through elements such as CTA buttons, product reviews, swipe-ups, brand tags, and engagement strategies (Handayani et al., 2018).

This chapter reveals that studies rarely examine the interconnectedness of social, technical, and commercial components, with only a few exceptions. For example, Cotter (2019) explored social and technical components by investigating how social media influencers participate in the *visibility game*—that is, by understanding the rules of social media platforms and using algorithms to enhance their visibility. Similarly, Hutchinson (2020) examined what they termed the *digital first personality*, focusing on the new

roles emerging within social media because of software that automatically gathers and influences user behavior. In the context of social, technical, and commercial approaches, Carter (2016) studied the *sociotechnical shape of influence*, exploring the social media influencer industry through interviews with marketing professionals, tool developers, and platform users. Carter (2016) argued that the relationships among platform developers, marketing agencies, and individual users constitute a complex sociotechnical system. Social media platforms are continuously modified and negotiated over time, reflecting business needs, technical constraints, and user behaviors. In their work, Carter (2016) argued that social, technical, and commercial factors are central to the development of social media platforms and how these systems shape the meanings of social concepts, such as influence. While Carter's (2016) study examines the social, technical, and commercial components, what happens with these three components on the platforms in practice still remains unknown.

Furthermore, commercial elements are mostly examined as a context in which influence occurs. As such, commercial elements are rarely viewed as equal partners of social and technical components in shaping the processes of influence on social media platforms. This PhD thesis aims to address the gap in the literature regarding the interconnectedness of social, technical, and commercial components by investigating how these three foundational components of social media platforms facilitate the influence of commercial content. By doing so, it seeks to clarify the patterns occurring underneath the surface on social media platforms, which are essential for understanding how influence occurs with commercial content.

2.4 Theoretical Motivation

In addition to the lack of studies on social, technical, and commercial components, the review of existing literature demonstrates a clear pattern in theoretical perspectives. 43 studies from the review examined social components (Table 1). Most of these studies applied theories of social psychology (e.g., BI et al., 2019; Kuan et al., 2014; Xi et al., 2017) to explore the dynamics of influence. These studies tend to apply theories of social influence (Kelman, 1961) to examine the influence that takes place among people and their social connections. Research applying these theories offers valuable insights into the norms, underlying social structures, and social relationships among people and their communities. However, understanding the way in which commercial or technical components of social media platforms shape the processes of influence requires more than just focusing on theories developed before the emergence of social media.

While theories from social psychology have been dominant, studies have also investigated social media platforms as networks of nodes representing individuals or organizations connected through ties. The ties can be people with shared friendships, interests, or political beliefs (Beşer & Erdogan, 2023; Chen et al., 2013; Klier et al., 2019). Research applying these approaches can bring broad and generalizable insights into how people are connected with and influenced by one another. However, the underlying norms and complexities in people's social relationships and the driving commercial forces shaping the social media environment are not considered by viewing people and their relationships through these quantitative metrics.

Theoretical concepts from marketing literature, such as electronic word of mouth (Liang & Turban, 2011; Qiu et al., 2023), social customer relationship management (e.g., Alt & Reinhold, 2012), and influencer marketing (Chao & Belo, 2023; Zhang et al., 2022), have also been investigated. However, these theories are mostly examined to understand the context in which influence occurs. One exception is Carter's (2016) study, which belonged to the computer science discipline and employed the sociotechnical perspective in methodological considerations.

This thesis argues for the importance of adopting a sociotechnical perspective to study how the components of social media platforms facilitate the influence of commercial content. By doing so, we can understand the underlying norms, social relationships, and technical and commercial features that form such influence. The sociotechnical theoretical perspective is presented in the next chapter.

3 Theoretical Perspective

This chapter presents the theoretical perspective adopted in this thesis to investigate the underlying components that facilitate the influence of commercial content on social media platforms. The sociotechnical perspective in the IS field is first introduced before a discussion of how it is applied in this thesis.

3.1 The Sociotechnical Perspective in Information Systems

The sociotechnical perspective emerged during World War II when researchers Eric Trist, Ken Bamforth, and Fred Emery assisted soldiers with psychological injuries in their recovery into civilian life (Trist & Bamforth, 1951). During the same period, these researchers performed field studies in the British coal-mining sector at the Tavistock Institute (Rice & Trist, 1952; Trist & Bamforth, 1951). They found that the techniques and tools they developed could also improve work in organizations across multiple industries, particularly benefiting employees with limited job satisfaction and personal growth. Thirty years later, also connected with the Tavistock Institute, Enid Mumford called attention to the importance of both technology and people. Mumford (1983) found that this equal focus guarantees the technological efficiency of technological and work systems in the workplace and promotes attributes that enhance employee job satisfaction. In other words, recognizing social and technical components will result in fulfillment, improved work quality, and people's ability to exceed expectations in the workplace.

Additional sociotechnical viewpoints were evident in the work of Bostrom and Heinen (1977), who examined IT and its connection with individuals

and social collectives. This perspective concentrates on the design of computer-based IS. In this context, the interaction between social and technical dimensions is studied, for example, to investigate the conflict between workers' and managers' interests. In their study, Bostrom and Heinen (1977) were critical of how production engineers view a working system as a technical system for production. The authors argued that this perspective overlooks the fact that their designs include many social decisions made unintentionally while trying to optimize a technical aspect.

Likewise, sociotechnical approaches have been employed to explore organizational change (Markus & Robey, 1988) and IS strategy and implementation, such as examining the relationship between managerial agency and social structure (Sahay & Walsham, 1997). Sociotechnical approaches have also been adopted to analyze the relationship between technological and organizational concerns, such as the social shaping of technology (Monteiro & Hanseth, 1996). At its core, the sociotechnical perspective underscores that technologies are never merely natural but are infused with interests (Monteiro & Hanseth, 1996).

Fast forward, Mitleton-Kelly (2005) provided interesting insights into complexity theory in organizational design. Mitleton-Kelly (2005) was critical of the focus on structural aspects in organizations, arguing that it is crucial to consider all key conditions as an interconnected whole, in which various dimensions interact and influence one another. In organizational restructuring, social, cultural, technical, political, economic, and other relevant conditions must be given attention. Ultimately, this can

significantly change ideas, behaviors, thinking patterns, work methods, and personal dynamics.

Sociotechnical perspectives also facilitate the emergence of sociomaterial thinking (Leonardi, 2012; Orlikowski & Scott, 2008) and actor–network theory in IS (Latour, 2005; Law, 1992; Suchman, 2007). For instance, Law (1992) described actor–network theory as distinctive because it emphasizes that networks are materially heterogeneous and argued that society and organizations would not exist if they were simply social. Agents, texts, devices, and architectures are all generated in, form part of, and are essential to the social networks of society. He put *knowledge* in inverted commas because it always takes material forms. Furthermore, Latour’s (2005) argument focused on how facts are always constructed. He stated that we tend to limit the social to humans and modern society, forgetting that the social is much more than that.

Overall, the sociotechnical perspective consists of various interpretations, forms, and traditions that all contribute to insights into the relationship between social and technical elements. The relationship between the social and the social and the technical is argued to be at the center of the IS discipline (Sarker et al., 2019). However, it has been found (Orlikowski & Iacono, 2001; Sarker et al., 2019; Scott & Orlikowski, 2014) that recent IS research tends to examine social and technical elements as if they were distinct entities.

While this trend is prevalent, there are exceptions in recent research, as evidenced by the works of Goh et al. (2011), Grønsund and Aanestad

(2020), Monteiro and Parmiggiani (2019), Scott and Orlikowski (2014), and Weerasinghe and Wijethunga (2022), as also noted in one of the research articles for this PhD thesis (Hogsnes et al., 2023). Monteiro and Parmiggiani (2019) investigated the application of the internet of things in marine environments. From a sociotechnical perspective, they argued that the digital domain is inherently political. They stressed the need for researchers in science and technology studies and related fields to investigate how platforms are maintained through political interests. Another example is Goh et al. (2011), who applied a sociotechnical perspective to obtain insights into how work routines and technology develop while implementing a healthcare IT system. Their work demonstrated how the success of healthcare IT interventions is significantly affected by existing work patterns. They argued that neglecting to account for both social and technical components in theoretical explanations can result in conflicting and potentially misleading outcomes regarding technological implementation. As another example, Scott and Orlikowski (2014) studied the consequences of anonymity in reviewing, rating, and ranking organizational services on Trip Advisor (Scott & Orlikowski, 2014).

Although some exceptions exist, studies applying sociotechnical perspectives remain limited. Scott and Orlikowski (2014) highlighted that many investigations into social concepts tend to overlook how technology influences and shapes these concepts. In their research on social media, they argued that many studies rely on theories developed prior to the birth of social media. According to Sarker et al. (2019) and Scott and Orlikowski

(2014), there is a pressing need to challenge academic practices that maintain a division between social and technical aspects.

This disconnect is also noticeable in IS research concerning social media platforms and social influence. As identified in the literature review in Chapter 2, influence on social media platforms has frequently been viewed solely as a social phenomenon. Information system studies investigating how people are influenced to purchase products and services, for example, have primarily investigated these issues by applying theories from social psychology (e.g., Bi et al., 2019; Kuan et al., 2014). These theories (e.g., Kelman, 1961) were developed long before the development of social media platforms and thus did not consider how technology such as algorithms, network structures and platform design and commercial interests shaped influence. While theories from social psychology have been dominant, quantitative metrics and models have also been used to investigate influence. These approaches offer broad insights into how people are connected and influenced (Beşer & Erdogan, 2023; Chen et al., 2013; Klier et al., 2019). However, they overlook the underlying norms, complexities of social relationships, and the commercial forces shaping the social media environment.

This thesis argues that there is a lack of focus on commercial components. As found in the literature review (Chapter 2), the commercial components of social media platforms have mainly been treated as a context in which influence occurs in IS. Theoretical concepts from marketing literature, such as electronic word of mouth (Liang & Turban, 2011; Qiu et al., 2023), social customer relationship management (e.g., Alt & Reinhold, 2012), and

influencer marketing (Chao & Belo, 2023; Zhang et al., 2022). However, as mentioned in the introduction to this thesis, social media platforms are not merely arenas where commercial activities occur. Platforms rely on commercial activities to generate revenue and are formed, shaped, and developed on the basis of commercial interests and agendas. As a result, in addition to technical and social elements, commercial components are critical facets that shape social concepts, such as influence. Section 3.2 describes the sociotechnical perspective applied in this PhD thesis in detail.

3.2 A Sociotechnical Perspective on the Study of Influence on Social Media Platforms

This PhD thesis applies the sociotechnical perspective, as outlined in the studies by Bostrom and Heinen (1977), Markus and Robey, (1988) Monteiro and Hanseth, (1996), Rice and Trist, (1952), Sahay and Walsham, (1997), Sarker et al., (2019), and Trist and Bamforth, (1951), in which the focus is on the interplay between technical and social components. Specifically, this perspective is applied to study how underlying social, technical, and commercial components facilitate the influence of commercial content on social media platforms.

In alignment with the viewpoints of Bostrom and Heinen (1977), Mumford (1983), and Sarker et al. (2019), the harmony between the social and the technical (and the commercial, which is included in this thesis) contributes with insights into instrumental outcomes, such as economic profitability, and humanistic outcomes, such as quality of life. As such, by investigating social, technical, and commercial components, this work contributes

insights into how their interplay leads to these outcomes. With this approach in mind, I developed a preliminary framework to illustrate the theoretical perspective for this thesis (Figure 2).

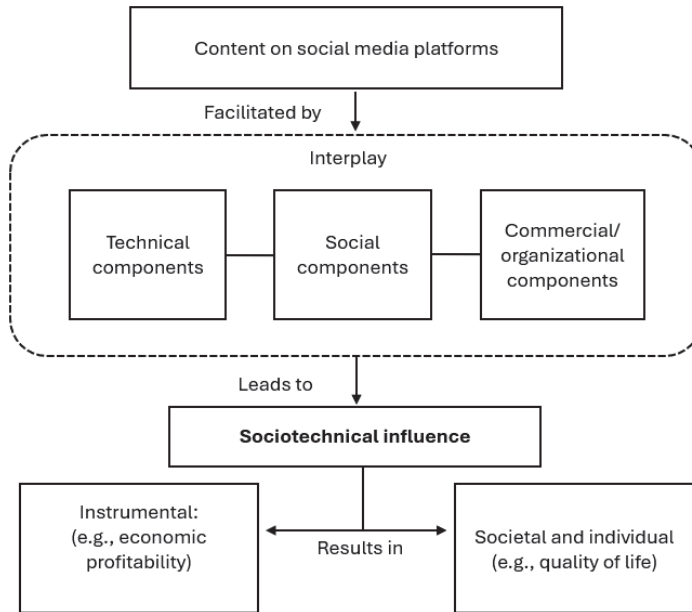


Figure 2. Preliminary framework of how the sociotechnical perspective is applied in this PhD thesis

The framework demonstrates that content on social media platforms is facilitated by an interplay of technical, social, and commercial components. The technical components investigated are social media platform design (Purohit & Holzer, 2021), algorithms (Kothur & Pandey, 2023), and network structures (Kane et al., 2014). The social components consist of individuals or collectives and the relationships or interactions between or among them, which are understood through social psychology theories (Kelman, 1961). Lastly, the commercial components include

activities enabled by commercial interests on the platforms, such as brand tags, hyperlinks, and CTA buttons in commercial content. While this thesis specifically emphasizes commercial content, commercial components can alternatively be referred to as organizational components when applying this framework to non-commercial content, such as political- or health-related content. This interaction among the three components leads to the sociotechnical influence of content, which ultimately leads to instrumental outcomes, such as economic profitability, and societal and individual outcomes, such as quality of life. In this PhD thesis, I focused specifically on how the sociotechnical influence of these three underlying components results in societal and individual outcomes. This focus is made because existing studies have mostly investigated instrumental outcomes (e.g., Bl et al., 2019; Kuan et al., 2014). The social, technical, and commercial components are described in detail below.

3.2.1 Social Components

Social influence refers to the various ways in which individuals alter their behaviors, thoughts, or attitudes because of the influence of others. Social influence theory can be traced back to Herbert Chanoch Kelman (1961), a professor of psychology in social ethics, who identified three primary processes of social influence: compliance, identification, and internalization. According to Kelman, compliance occurs when an individual conforms to the expectations of significant persons or influential figures in their lives. It takes place when an individual accepts the influence of another person or group because the individual hopes to achieve positive reactions from that other person or group. The individual adopts this behavior not because they believe in the content but because they

expect to gain specific rewards or approval and avoid punishments or disapproval. The concept of compliance can also be related to social categorization (Tajfel, 1979). People categorize others into social groups to simplify their understanding of the world. Concepts such as *posh*, *hipster*, and *edgy* are developed to describe a person's clothing style and habits, creating certain expectations, hopes, and fears for people who belong to or strive to belong to these categories. Thus, the influence derived from compliance is due to the social satisfaction of accepting it (Kelman, 1961).

Identification occurs when a person seeks to establish or maintain a connection with another person or group (Kelman, 1961). As suggested by Kelman, this connection may be rooted in reciprocity, in which an individual aims to fulfill the other party's role expectations, which are, in return, met by the expectations of a group whose members are in a reciprocal relationship. Alternatively, identification may be based on modeling, in which an individual seeks to assume the other person's role or part in order to emulate or become more like that other person (Kelman, 1961). Identification can be further seen through social comparison. Festinger (1954) demonstrated how social comparison guides an individual's place in society. People typically evaluate the group to which they belong in comparison to other groups. The closer the group is to themselves in terms of the dimensions on which they compete, the more relevant the social comparison becomes, and the more they need and want the positive outcome.

Internalization accepts influence because the influential message aligns with a person's value system (Kelman, 1961). In contrast to identification

and compliance, internalization occurs unseen when a person does not necessarily understand an influence when experiencing it. The person adopts the behavior that they are influenced by because it is congruent with their value system (Kelman, 1961). In exploring the internalization of norms, Scott (1971) described how societal norms shape one's inner self, which could also be reversed. Internalized norms, such as personal traits and moral values, are part of an individual's persona. Additionally, Scott (1971) argued that role models could affect an individual's internalization. For instance, a person with a role model who exhibits specific moral values is likely to internalize these values. Internalization helps individuals define who they are and create their own identities and values within a society that has already established a set of values and practices as the norm. Kelman's theory, which was developed in 1956 and comprises three processes, has been widely used by various communities in IS research (e.g., Chandrasekara & Sedera, 2018; Wang, 2013). In this PhD thesis, social influence theory is applied to investigate the social components of social media platforms that facilitate the influence of commercial content.

In the next section, building on these insights, I discuss the technical components of influence, including platform design, network structures, and algorithms.

3.2.2 Technical Components

Technologies on social media platforms significantly affect how people interact and receive information, thereby shaping the influence taking place. This impact is attributed to platform design (Purohit & Holzer, 2021), algorithms (Kothur & Pandey, 2023), and network structures (Kane et al.,

2014). Each social media platform uses designs that influence how people connect through a variety of channels using textual, audio, or visual elements, such as photos and videos (Dorsch, 2020). Instagram primarily features images and videos as its main form of content (Dorsch, 2020). People can upload posts as single photos, videos, or carousels (a combination of photos and videos), and most of the content is viewed on the home feed (Instagram, 2024). TikTok is primarily focused on video and audio content (Minh, 2024). People mostly create and upload short videos with quick cuts and engageable sounds, such as music. They can also use text-to-speech, writing down a message that the platform automatically turns into a voice, or speaking themselves on top of the video. As such, TikTok is less about receiving information from personal connections and more about receiving engageable content that suits people's interests.

On both Instagram and TikTok, captions are attached to the visual content. Captions are texts that usually complement the visuals. They can include informative messages, personal information, or stories related to the visual images or videos (Dorsch, 2020). They can also include technical artifacts, such as hashtags (Dorsch, 2020) or emojis (Kannasto et al., 2023). Emojis offer possibilities for expressing emotions through visual non-word elements. They can strengthen presentations, replace missing facial expressions, convey additional meanings to the text, or convey messages, such as communality, sarcasm, or different greetings, without any text (Yarchi et al., 2021, as cited in Kannasto et al., 2023). A hashtag is an essential medium for social media communication (Dorsch, 2020) and can be understood as a # sign and a character string (e.g., #happytobehere). By using these characters, a person marks a specific keyword to help those

who may be interested in the topic find it (Halavais, 2017). Hashtags can be used strategically to draw attention to posts. For example, social media influencers and businesses use hashtags for their content to be viewed by many.

Technologies also drive interactions on social media platforms. People can interact with posts on social media platforms by liking, commenting on, sharing, or simply viewing content (Instagram, 2014; TikTok, 2024). TikTok has additional features, such as *titch* and *reply to another video*, which have led to the development of various norms and practices on the platform. The latter feature allows people to respond publicly to other users by creating new content. Replying to other people's videos has become a normative interaction practice on TikTok, unlike on Instagram, in which public interaction typically happens through likes, comments, and shares. The primary feeds (*for you feed* on TikTok) are the central design features and the reward elements (Purohit & Holzer, 2021), in which people are continuously rewarded with new content to view, like, comment on, or share.

Aside from intentional interactions, unconscious engagement occurs on the basis of the network structures of the platform (Kane et al., 2014). Network structures can be defined as social structures consisting of nodes and ties. Nodes represent individual actors, such as persons or businesses using social media, while ties denote their connections, such as friendships, shared interests, beliefs, or sexual relationships (Kane et al., 2014), as also noted in one of the research articles for this PhD thesis (Hogsnes et al., 2023). A network structure emphasizes the connections

and positive relationships among these nodes based on their ties. On social media platforms, the ties linking the nodes are not isolated but interconnected, providing a mechanism for these nodes to indirectly influence one another (Lee & Kronrod, 2020). This online space contrasts with offline environments, where conversations are usually direct. For instance, by commenting on or simply viewing a video on TikTok, individuals unconsciously influence the dissemination of information to a large group of unknown people and become an integral part of a network of those engaging with the same content.

A fundamental goal of IS is to examine the overall structure of these interconnected networks and how content circulates within them. For instance, IS research has explored the concept of strong and weak ties (e.g., Beşer & Erdogan, 2023; Lee & Kronrod, 2020). Strong ties denote directly connected individuals, such as family, friends, and acquaintances, while weak ties indicate an indirect or no connection with others (Beşer & Erdogan, 2023; Lee & Kronrod, 2020). The degree to which weak and strong ties are influential depends on the platforms in which they are present. For instance, on platforms such as Instagram, Facebook, and Snapchat, people can choose whom to follow and, therefore, whom to potentially be influenced by. Other platforms, such as TikTok, share many similarities with the aforementioned platforms, in which people can follow personal and online connections. On TikTok, people mostly use the *for you feed* to show videos based on their interests and needs, calculated by the TikTok algorithm (more details on algorithms are provided later in this section). Instagram and Facebook are primarily used to communicate with people whom users know and have strong ties with. By contrast, TikTok is seldom

employed for this purpose; instead, it is used to interact with people with whom a user has weak ties (Beşer & Erdogan, 2023).

Social media platforms are built on algorithms. Social media algorithms are instructions for solving specific problems or performing tasks, such as searching and sorting (Balaji et al., 2021). They are based on machine-learning techniques that recognize and learn from calculating people's interactions and engagement patterns. They curate and rank content based on people's preferences and behaviors (Agung & Darma, 2019) to provide them with content that resonates with their preferences (Kothur & Pandey, 2023). The content that people encounter on social media platforms is determined by search and sorting algorithms that prioritize content based on relevance, engagement, and other metrics. Engagement includes people's previous likes, comments, or views, people they have interacted with, and the content they search for. The applied algorithm also considers the timing of their engagement, the duration of their interactions with specific content, and their interactions with specific people or businesses. For instance, the TikTok algorithm considers past videos that people have interacted with, the accounts and hashtags they follow, location and language preferences, and the type of content they create (Zulli & Zulli, 2022). The Instagram algorithm is based on big data and machine-learning technologies that aim to address peoples' needs (Nguyen et al., 2021). Specifically, it is designed to favor the most engaging content to maximize the time that users spend on the platform (Agung & Darma, 2019). Nguyen et al. (2021) reported that the functions of the Instagram algorithm can be categorized into various points, such as exposure and interaction, ban mechanism, and hashtags (Agung & Darma, 2019). The more a person

engages with a particular type of content, the more likely it is that the rating algorithm will show similar content (Shin et al., 2022). In sum, algorithms, network structures, and platform design are investigated in this PhD thesis as the technical components that facilitate the influence of commercial content.

3.2.3 Commercial Components

Social media platforms, such as Instagram, Snapchat, and Facebook, allow businesses to strategically display advertisements on people's feeds (Eggert & Weber, 2023; Nagvanshi et al., 2023). Businesses use these platforms as commercial tools to advertise their products and services. Their advertising strategies include banner ads, embedded videos, animations, brand sites, surveys, classified ads, and sponsored ads (Ahmed & Raziq, 2017 in Nagvanshi et al., 2023). They select target audiences based on the latter's use of and interaction with social networks, which is facilitated by social media algorithms (Larson & Vieregger, 2019; Shin et al., 2022). In this way, businesses show ads to people who are likely to be interested in the content.

In addition to displaying ads, businesses often collaborate with social media influencers for commercial purposes. Social media influencers may post sponsored content, as they have been paid by businesses; they showcase specific products or services to influence their audiences in exchange for commercial gains (Müller et al., 2018). In these posts, social media influencers are required to disclose sponsored content to their audiences to be transparent about their commercial motives. In other cases, they do not inform their audiences of a commercial collaboration

(Cao & Belo, 2023), often referred to as “hidden sponsored posts” (Hogsnes et al., 2024). Some social media influencers also display products and services as genuine recommendations. This can be the case among regular people on social media who may disclose personal consumption patterns (Kunst & Vatrapu, 2018). Individuals may likewise interact with their peers through commercial reviews and recommendations (Liang & Turban, 2011; Qiu et al., 2023). This thesis refers to all types of posts containing commercial elements as *commercial content*.

As social media platforms have become increasingly commercialized, they have implemented technologies that encourage businesses to post commercial content that is commercially action oriented (Eggert & Weber, 2023). For example, platforms such as Instagram and TikTok have brand tags, which are often used by influencers to link businesses to their posts (Instagram, 2024; TikTok, 2024). A brand tag can be added to a video or textual caption, directing users to where the product or service can be purchased. These platforms also offer hyperlinks attached to photos and videos, allowing users to access business pages directly. In addition, Instagram uses “shoppable photo tags” (Eggert & Weber, 2023, p. 2). This feature enables shopping for items people see in photos and videos without leaving the platform. Researchers have described these components as CTA features (Mejtoft et al., 2021). Businesses and social media influencers can leverage CTA features to drive measurable and analyzable sales. A CTA typically involves three main components: capturing the user’s attention, enabling the user to act, and prompting the user to take the desired action from their perspective. A CTA can take

various forms and can be designed in different ways, such as using buttons to direct users to a commercial page or using small input forms to collect user data directly within the CTA component (Mejtoft et al., 2021). Overall, these commercial activities enabled by social media platforms to monetize, sell, promote, and advertise are investigated in this thesis as commercial components that facilitate the influence of commercial content.

3.3 Summary of the Chapter

This chapter has presented the theoretical perspective for the thesis. The underlying social, technical, and commercial components have been discussed on the basis of the sociotechnical perspective from IS literature. Specifically, I have applied the three processes of social influence from social psychology (compliance, identification, and internalization), in addition to technical components (algorithms, network structures, and platform design). Social psychology processes help in comprehending the complex, nuanced, and underlying forms of influence based on people's social connections and norms. Technical components encompass human-created tools, such as platform design, algorithms, and network structures, that shape the influence that occurs. Commercial components are commercial activities enabled by social media platforms, such as brand tags, hyperlinks, and CTA buttons. The research methods used in this PhD thesis are presented in the next section.

4 Research Methods

This chapter begins by presenting the epistemological position of this thesis. An explanation of the case study method follows, which involves the methodological approach. Finally, the limitations are described, followed by ethical reflections regarding my role as a researcher in this PhD project.

4.1 Interpretivism

This study uses an interpretive approach rooted in a hermeneutic tradition (Klein & Myers, 1999; Walsham, 1995). In IS, research can often be classified as positivist, critical, or interpretive (Chua, 1986). First, positivist research is often based on quantifiable measures of variables, hypothesis testing, and conclusions about a research problem, which can be generalized from a representative sample to a stated population (Orlikowski & Baroudi, 1991). Second, critical research mainly focuses on providing social critique and bringing to light societal issues and conditions (Hirschheim & Klein, 1994). Third, interpretive methods of research in IS are “aimed at producing an understanding of the context of the information system, and the process whereby the information system influences and is influenced by the context” (Walsham, 1993, pp. 4–5). The interpretive approach is based on the idea that people’s knowledge of reality is gained through social constructions, such as language, consciousness, shared meanings, documents, tools, and other artifacts (Klein & Myers, 1999). Interpretive research is highly dependent on the context in which it is conducted, and the researcher’s interpretation of the data can significantly affect the results. This means that evidence is contextualized, with accompanying assumptions, criteria, rules of membership, and participation, and is somewhat subjective and open to disagreement.

The PhD project is based on hermeneutics, as introduced by Klein and Myers (1999). In hermeneutics, human understanding results from considering the interconnected meanings of individual parts and the whole they form. The whole consists of “the shared meanings that emerge from the interactions between them” (Klein & Myers, 1999, p. 71). This perspective has influenced the approach to the unit of analysis. If I had taken a positivistic approach, I would have focused on evidence to prove a hypothesis (among others), and my pre-knowledge of commercial development on social media would have been perceived as a source of bias and thus a hindrance to proper knowledge. While the positivist approach prefers value-free positions, hermeneutics recognizes that people’s pre-understanding of a phenomenon is necessary for their understanding (Klein & Myers, 1999). As such, by taking an interpretive perspective, the present study presents evidence that is highly dependent on critical reflections on the social and historical backgrounds of the topic.

The fundamental principle of hermeneutics also considers the importance of critical reflections on the relationship between the researcher and the subjects under study, including the construction of the data, sensitivity to contradictions between theoretical principles and actual findings, and possible biases in the collected narratives (Klein & Myers, 1999). I reflect on these aspects further in Section 4.3.

4.2 The Case Study

A case study guided the research for this PhD project. Case studies can be positivist, interpretive, or critical, depending on the assumptions about the

nature of knowledge. As presented above, I opted for an interpretive case study derived from a hermeneutic tradition (Klein & Myers, 1999; Walsham, 1995) to investigate how the underlying components of social media platforms facilitate the influence of commercial content. A case study is an inquiry that investigates a contemporary phenomenon in its real-life context (Yin, 1994).

To explore how the underlying components of social media platforms facilitate the influence of commercial content, I selected the commercial content posted by social media influencers on Instagram and TikTok as the case. As presented in Chapter 1, social media influencers have significantly increased in number over the past decade, becoming primary commercial channels for many companies, particularly on Instagram and TikTok (Hudders et al., 2020; Zhang et al., 2022). Influencers intertwine social, commercial, and technical elements in their content, attracting followers interested in their personal lives while promoting commercial content (Cao & Belo, 2023; Carter, 2016; Cotter, 2019). This results in a relevant and interesting case for my PhD thesis.

This thesis applies a sociotechnical perspective from the IS community as an initial theoretical guide to design and conduct the data collection. Furthermore, the sociotechnical perspective as a final product of the research is used by developing concepts and building on theories on influence and social media platforms. In interpretive studies, the theoretical perspective can be applied as an initial guide for designing and carrying out data collection. The researcher uses the selected theory as an initial basis for the study. The theory then gives a clear direction for the

research, which can preclude other directions (Walsham, 1995). The theoretical perspective can also be applied to create the final product of the research by developing concepts and building on the theories used (Walsham, 1995).

Interpretive research tends to rely heavily on qualitative data, emphasizing subjectivity and pre-knowledge (Klein & Myers, 1999). Qualitative research often begins with an observation of a problematic situation. This concern drives descriptive work to understand perspectives related to the root causes of the situation in which actors are involved (Wynn & Hult, 2019). Many relevant qualitative methods can be used in interpretive case studies, such as interviews, focus groups, or observational methods. One relevant method could be to conduct interviews with social media users, social media influencers, businesses, and platform designers to obtain a broad understanding of how platforms are used by individuals with different interests. This could help identify conflicts of interest between people applying social media for socialization purposes and businesses and platform designers who have commercial agendas. Other relevant methodological approaches could be to apply an ethnographic study and spend time in a relevant community over time. For example, it would be interesting to follow a specific community, such as the community of social media influencers, over a long period to understand how they, for example, balance commercial and personal interests and how they work with the technical components of platform design, algorithms, and network structures. Overall, these examples could have been relevant to understanding how the underlying components of social media platforms facilitate the influence of commercial content. However, for this PhD

thesis, I was particularly interested in the practices taking place on these platforms. As such, I was inspired by methods that enabled online observation. Digital ethnography is a method situated under interpretivism and is rooted in ethnography. Ethnographers explore people's everyday realities and interpret these lived experiences (Pink et al., 2016). Ethnographers aim to make sense of lived experiences and the meanings ascribed to them by individuals (Pink et al., 2016). Digital ethnography is based on the same principles but in an online context. Digital ethnographers process the collection of texts and graphics made available in digital mediums and make sense of the meanings portrayed through such texts and graphics (Hine, 2000).

Ethnographic content analysis (Altheide, 1987; Bainotti et al., 2020; Rose, 2014) guided the case study. I focused on how social, technical, and commercial components were intertwined in commercial content. According to Altheide (1987), ethnographic content analysis is contrasted with conventional or quantitative content analysis and is used to document and understand the communication of meaning, as well as to verify theoretical relationships. I conducted the content analysis on the two most popular platforms for social media influencers: Instagram and TikTok (Hudders et al., 2020). By applying these methods, I investigated the interdependent meaning of the commercial content they displayed in the context of the historical background of commercial development on social media platforms, in line with interpretive viewpoints (Klein & Myers, 1999). The ethnographic content analysis consisted of two separate research articles (see Attachments B and C).

Researchers can adopt any degree of involvement in conducting interpretive case studies. A study can be undertaken from a neutral perspective, which involves observation from a distance without becoming involved with the individuals studied. Alternatively, researchers may actively participate in the group or organization under study, even if only for a limited period (Walsham, 1995). I performed the ethnographic content analyses from a neutral perspective in which I, as the researcher, observed the data from a distance without becoming involved with the individuals in the study. I further analyzed the data through open axial and selective coding (Strauss & Corbin, 1998) for both methods. In the following two sections, I present the data collection and in-depth analysis for each method. I then reflect on ethical perspectives and my role as a researcher carrying out an interpretive study.

4.3 Ethnographic Content Analysis

To answer the research question, I applied ethnographic content analysis (Altheide, 1987; Bainotti et al., 2020; Rose, 2014). I chose ethnographic content analysis, as this method allowed me to directly access the commercial content that social media influencers post. Content analysis is a useful heuristic method for describing communicative messages. It involves manual coding, which has been shown to have good validity because it allows researchers to consider text and image context and social embeddedness (Altheide 1987). Furthermore, the manual coding allowed me to interpret the contexts and meanings of the texts and images (Altheide, 1987) in line with the sociotechnical perspective presented in Chapter 3.

The process of ethnographic content analysis involved three steps: (1) social media influencer selection, (2) coding approach, and (3) analysis. In the following sections, I describe each step in detail.

4.3.1 Social Media Influencer Selection

The thesis employed specific criteria to choose influencers for the study:

1. I focused on female social media influencers (aged 18–34 years) on Instagram from Norway, Sweden, and Denmark, as this age group dominates the influencer industry, according to Statista (2021). As most research has focused on the US and Southeast Asian markets, I chose to concentrate on Scandinavia (Abidin et al., 2020).

2. I selected the fashion and beauty industry, as it is the most prominent market in the influencer marketing industry (Statista, 2021).

3. I chose social media influencers based on their numbers of followers to obtain a broad pool of influencers. I followed the categorization developed by Abidin (2021) specifically for the Scandinavian market, which classifies social influencers into micro-influencers (1,000–10,000 followers), influencers (10,000–500,000 followers), macro-influencers (500,000–1 million), and mega-influencers (1 million + followers). Each category represents different commercial roles, which likely use diverse approaches to display commercial content. I applied this categorization to identify a broad pool of social media influencers. For more details regarding these categorizations, see Attachments B and C.

To identify candidates based on the criteria, I used Klear (2021), an artificial intelligence influencer marketing tool that marketers use when searching for influencers. Using the tool, I applied filters, such as “female,” “18–34,” “fashion,” “beauty,” “Sweden,” “Norway,” and “Denmark,” to ensure a selection that fit the criteria on Instagram and TikTok. To confirm that the candidates met the criteria, I used a second tool named Inzpire.me (2021), an influencer marketing platform that provides insights into social media influencers’ Instagram profiles, including their demographics and engagement. Using both tools ensured that the candidates were appropriate (Hogsnes et al., 2024; Hogsnes & Grønli, 2023). For more details regarding the tools used to identify the candidates, see Attachments B and C.

	Micro (1,000– 10,000)	Influencer (10,000– 500,000)	Macro (500,000–1 million)	Mega (1 million +)	Total
Instagram	9	9	8	7	33
TikTok	9	9	9	3	30
Number of social media influencers investigated = 63					

Table 5. Social media influencer selection

In total, 63 social media influencers were selected for the study: 33 on Instagram and 30 on TikTok. On Instagram, nine micro-influencers and influencers were chosen, with three representing each Scandinavian country. Eight macro-influencers and seven mega-influencers were selected (three Swedish and three Danish per category). Because of the lack of representation in these categories, it was possible to analyze only two macro-influencers and one mega-influencer from Norway (Hogsnes et

al., 2024). On TikTok, 10 social media influencers from each Scandinavian country were chosen. Three micro-influencers, three macro-influencers, and one mega-influencer from each Scandinavian country were selected. Because of the lack of representation in these categories, it was possible to analyze only one mega-influencer per country (Hogsnes & Grønli, 2023). For more details, see Attachment B and C.

4.3.2 Coding Approach

After identifying the social media influencers for the study, I created a set of codes to aid the ethnographic content analysis (Altheide, 1987) on both the denotative and connotative levels (Bainotti et al., 2020). Denotative refers to the literal and direct interpretation of a word or image, while connotative indicates the subjective meaning behind the content. The denotative level focuses on an objective representation of the content, such as the presence of images or videos, portraits, objects, emojis, or hashtags in captions. The connotative level delves into the subjective meaning behind the posts, which can be positive, negative, or neutral. In this study, I applied the connotative level for a more in-depth interpretation of the posts, in line with interpretive viewpoints. On this level, the meaning goes beyond the objective meanings identified on a denotative level (Hogsnes et al., 2024; Hogsnes & Grønli, 2023). See Attachments B and C for more details.

The analysis began by identifying codes on a denotative level. To create the set of codes that guide the ethnographic content analysis, I began by familiarizing myself with the 33 candidates' postings and reviewing the post features to gain a preliminary understanding of the content (Altheide,

1987). I specifically familiarized myself with their visual, audio, and textual displays and developed codes in line with these observations.

First, I observed that social media influencers posted a broad variation of commercial posts, such as sponsored posts, hidden sponsored posts, and non-sponsored commercial posts, as presented in Chapter 3.2.3. As I was interested in investigating commercial content, I began by identifying codes that enabled me to spot posts with commercial displays. A post was recognized as commercial if it had any commercial elements, such as brand tags and the visible brand table in the image or video (Hogsnes et al., 2024; Hogsnes & Grønli, 2023).

Second, I wanted to develop codes in line with the social, technical, and commercial components that facilitated influence with the identified commercial content. The focus was to identify what was represented visually (Rose, 2014), textually (Athlete, 1987), and audibly (Vizcaíno-Verdú et al., 2021) in each post. For example, regarding social components, I recognized many patterns, such as portraits of social media influencers and images of social gatherings, in the visual display. Textual elements included personal stories, recommendations, or words describing their moods. This guided two visual codes (portraits and social gatherings) and three textual codes (interactive, recommendations, and mood). Regarding technical components, I took notes on the platform design, in addition to technical elements, in the commercial posts posted by influencers. This guided two textual codes (emojis and hashtags) and three audio codes (music, text to speech, and voiceovers). The audio code was applicable only to TikTok. Regarding commercial components, by familiarizing myself

with the content that many social media influencers displayed, I observed visual images of objects, such as shoes and bags, use of brand tags, and technical components, such as hashtags and emojis. This guided one visual code (material objects) and two textual codes (brand tags and product descriptions).

All observations were discussed with my supervisors to ensure validity. However, given the study’s exploratory nature and in line with the principles of an ethnographic coding approach (Altheide, 1987), other descriptive and analytical labels were expected and allowed to emerge (Hogsnes et al., 2024; Hogsnes & Grønli, 2023). Table 6 provides an overview of the codes.

Codes for the ethnographic content analysis on a denotative level	
1	Commercial posts
2	Social components
	Visual
	Self-portraits (whole figure, half figure, selfie)
	Social gathering/setting
	Textual (captions)
Interactive	
Personal stories/recommendations	
Mood	
3	Technical components
	Textual (captions)
	Emojis
	Hashtags
	Audio
Voiceovers	
Text-to-speech	
Music	
4	Commercial components
	Visual
	Material objects
Textual codes (captions)	Brand tags
	Product description

Table 6. Code book for the ethnographic coding approach

After identifying the codes on a denotative level, I planned for the connotative level of analysis, in which the goal was to capture the subjective meaning behind each post by writing one to two lines per post in Excel (Bainotti et al., 2020). For example, while a portrait with commerce-related information in the caption is considered to be on a denotative level, the connotative level allowed me to interpret the context of the post, that is, whether the brand promoted was the influencer's own brand, a brand they co-designed or a brand they represented as an ambassador. I also identified whether they tagged brands or friends in the posts, and I inferred the emotional state of the post, such as whether it had a positive or negative tone (Bainotti et al., 2020). This process allowed me to go beyond the objective meanings identified on a denotative level.

In addition, I wrote down how both Instagram and TikTok allowed individual people to engage with the content. In this part of the data collection process, the plan was to capture the design of each platform and understand individual people's ability to respond to the commercial content to which they were exposed.

Once the steps were planned and the codes were developed, I selected the 63 social media influencers' 100 most recent Instagram posts (Hogsnes et al., 2024) and 50 most recent TikTok videos (Hogsnes & Grønli, 2023) to obtain a representative number. The coding process took three months. In line with the code book (Table 6), I coded one post at a time, as viewed, and manually wrote down (1) whether the post was commercial in nature, (2) its visual components, (3) its textual components, (4) its audio components,

and (5) the denotative level, such as the context surrounding the posts that goes beyond the first four steps. In this study, one of the social influencers on Instagram had only 78 posts, so I ended up with an Excel dataset of 3,278 posts coded for Instagram. The dataset for TikTok resulted in a total of 1,390 videos. Thus, in total, 4,668 posts were analyzed.

Overall, by considering (1) the denotative and (2) connotative levels of the content and (3) the design of the platforms regarding how to respond to the content, I gained a comprehensive and nuanced view of how social media influencers intertwined social, technical, and commercial components in the commercial content and how this facilitated influence.

4.3.3 Data Analysis

The data were analyzed on a denotative level (steps 1–4) across both platforms using a pivot diagram (Bainotti et al., 2020) to quantify the three components, namely, (1) commercial, (2) social, and (3) technical, in the visual, textual, and audio codes. I began by counting how many of the 4,668 posts contained commercial information. Next, I collected data on a social level, determining how many posts featured visual codes, such as portraits or social gatherings, as well as textual codes, such as interactive personal recommendations or emotional expressions.

The same approach was applied to analyze the technical components. Specifically, I counted how many posts included textual codes, such as emojis and hashtags; for TikTok, I also noted how many posts used audio codes, such as music, text-to-speech, or voiceovers. On the commercial level, I assessed how many posts contained visual codes, such as material

objects, and textual codes, such as brand tags or product descriptions. After compiling all the data, I presented percentage distributions (see Tables 3, 7, and 9).

On a connotative level, the one to two lines gathered per post underwent a rigorous qualitative process involving an open, axial, and selective coding strategy (Strauss & Corbin, 1998). This part of the data analysis required an in-depth approach, as the quantification provided by a pivot diagram in Excel does not enable in-depth interpretations in line with the interpretive approach essential for this PhD thesis. Open, axial, and selective coding are rooted in grounded theory. According to this theory, knowledge is seen as actively and socially constructed, with meanings of existence only relevant to an experiential world. In grounded theory, concepts are said to *emerge* from the data and become the basis of a new theory. In contrast to the codes developed on a denotative level, which are counted in Excel, the codes and open, axial, and selective coding, driven from grounded theory, allow for interpretations and new theory development from the data (Glaser, 1992). Therefore, the focus becomes on how people behave within an individual and social context, allowing for the connotative data to be analyzed in line with the interpretive perspective.

After collecting the data, I performed axial coding using a color-coding method to establish the relationships between the data. For example, many posts analyzed were in a carousel format and made by influencers posing in wearables, which had brand tags and short captions. The posts linked to this example were given similar colors in Excel. Other posts could be a single photo of luxury goods. Such posts were given similar colors

during the axial coding process. Once all the data were assigned their colors, I then looked at the codes given similar colors and created one central category for each pattern that connected the codes through selective coding (Strauss & Corbin, 1998). In the selective coding process, I created central themes for the content with specific linkages (Hogsnes et al., 2024; Hogsnes & Grønli, 2023). See Attachments B and C for more details.

In the next section, I discuss the ethical considerations and limitations of conducting ethnographic studies on social media.

4.3.4 Ethical Considerations and Limitations

While conducting research for this PhD thesis, I was mindful of several ethical considerations, especially concerning the empirical data. As noted by Thompson et al. (2021), an underlying tenet of all social research is protecting the identities of research participants. Some researchers argue that the use of publicly available data, such as social media content, even if these include personal information, does not violate privacy because the data are publicly accessible in the first place, and their usage is not a *normatively* private context (von Benzon, 2019; Wilkinson & Thelwall, 2011, as cited in Thompson et al., 2021). However, according to Thompson et al. (2021), this perspective fails to consider the growing significance of privacy concerns and ethnographers' ethical responsibility to inform and safeguard their research participants. In line with these viewpoints, I was concerned with and prioritized the privacy of the social media influencers in this study, even when their content was publicly available.

The data collection and analysis were conducted anonymously to protect the privacy rights of the social media influencers in this study, in compliance with the ethical regulations of the Norwegian knowledge sector's service provider (Sikt, 2024). I treated the collected data as if they were gathered through observation methods, as suggested by Bainotti et al. (2020). This approach involved manually coding and focusing on the posts' social, technical, and commercial elements, without recording any information that could identify the influencers studied. I analyzed the data through coding categories that were general and did not allow the identification of the users, as highlighted by Bainotti et al. (2020). These categories included codes, such as "portrait," "material objects," and "mood." This approach ensured that the influencers' identities remained protected. I also refrained from copying links to their social media profiles in the Excel sheets or gathering personal information. I neither displayed screenshots of the posts in the research papers or this thesis nor shared usernames, links to individual profiles, or any other personal information. Instead, illustrations were created by a graphic designer to help visualize the findings (Figures 4, 5, 6, 8, 10, 11, and 13).

However, as reflected by Bainotti et al. (2020), there can still be ethical issues regarding the data collection approach, as social media influencers are not always aware that their public data can be used for research purposes. People usually do not read platforms' terms and conditions, as these are often lengthy and complex, making them difficult to comprehend. However, Bainotti et al. (2020) argued that in the modern age of curtailing application programming interfaces, social media researchers must come up with new and alternative methods to keep social media research alive. I

followed the arguments made by Bainotti et al. (2020) and supported the need for innovative ways to conduct research on social media platforms while maintaining ethical standards and addressing privacy concerns (Thompson et al. 2021).

Beyond ethical considerations, there are also some limitations that must be addressed. First, the method was limited by the available content online. As such, there was a lack of data on the actors involved with the influence of commercial content. For example, it could have been highly relevant to interview actors, such as social media influencers, to gain information about how they use platforms socially, technically, and commercially. Other relevant data collection activities could be interviewing platform designers, who have knowledge of technical infrastructures and businesses using platforms for commercial purposes. However, for this PhD thesis, I was interested in capturing the practices that have taken place on social media platforms. As such, online observations enabled direct access to this form of analysis.

The data collection could have also been improved by examining a broad range of actors beyond social media influencers. As identified in Chapter 2, social media influencers do not operate in isolation; their influence is shaped by the practices of businesses and peers, which, in turn, influence their own online behaviors. For instance, social media influencers depend on individual users' engagement with the content they share. The number of likes and comments they receive directly affects the likelihood that their messages will be influential on a platform. By expanding the scope of investigation to include a wide array of actors, I could have captured more

of the complexities surrounding the influence, which would have benefited the case.

However, for this thesis, I chose to focus on the commercial content shared by social media influencers on Instagram and TikTok. By drawing on the sociotechnical theoretical perspective, I will interpret the results in line with the social context and what is known. As such, while the data collection did not contain all the information needed to explain the complex digital development on social media platforms, the interpretive sociotechnical perspective will allow for theory development that includes such complexities.

Furthermore, content analysis can present challenges in the study of reliability and validity. More reflections regarding this concern are presented in Section 4.4.

4.4 Reflections on the Researcher's Role

As I collected and analyzed data for my PhD project, I encountered several challenges, especially concerning my familiarity with the research topic. As an active social media user for the past decade, I have engaged daily with platforms, brands, and social media influencers on Instagram, Snapchat, TikTok, and YouTube. I have close friends and family members working in the influencer and social media industries. Likewise, I have five years of experience as a former marketer in Norway, working on influencer marketing from various perspectives, such as brand, organization, network, and public relations. Although my previous experience was mainly helpful, I had knowledge of the topic, so I had to be mindful of how my prior

knowledge of the industry, connections, and relationships could influence my research. I navigated these dilemmas throughout the data collection and analysis process and reflected on the validity of my research.

Such dilemmas are common when conducting ethnographic research. According to Wynn and Hult (2019), “The narrative must tie together key structural issues that reveal how this society or group ‘works.’ There is an interpretive element that is expected to be justified by data, theory, and prior research” (p. 27). In other words, ethnography is often informed by a theory or framework—in this PhD thesis, the sociotechnical perspective (Chapter 3)—which helps obtain insights from the data. Validity in interpretive ethnographic research is about ensuring that the interpretive descriptions align with the data, theory development, and existing research.

Paying close attention to validity is important to avoid making assumptions when conducting interpretive research (Altheide & Johnson, 1994). What we know, who we are, and what we consider to be evidence of our most basic assumptions or a specific claim about part of that order are central questions to be aware of. To address this issue, I followed an “ethnographic ethic” (Altheide & Johnson, 1994, p. 489) that includes five questions or issues that must be pragmatically addressed and resolved during the research. According to Altheide and Johnson (2011), the ethnographic ethic requires ethnographers to substantiate their interpretations and findings with a reflexive account of themselves and their research process.

Following the ethnographic ethic, first, I had to be mindful of the substance of the research. I ensured that my note-taking practices aligned with the larger cultural, historical, and organizational contexts in the social media and influencer industries. Second, I reflected on my relationships with the social media influencers I studied. To avoid any personal bias, I used specific tools (Klear and Inzpire.me) to select influencers on my behalf. Third, I was aware that my existing knowledge, insights, connections, and relationships within the industry could influence the development of the coded analysis. Therefore, I had meetings with my supervisor, Tor-Morten Grønli, throughout the data collection process to discuss the codes and their meanings. Fourth, I considered the role of the audience in the final product and the issue of representation. To address these points, I used the open, axial, and selective coding strategies (Strauss & Corbin, 1998) to guide the coding practices. In this way, the findings were driven by the codes, not by my personal view of the findings. Fifth, I made sure that the tone of the presentation of the results conveyed the findings in a representative and meaningful way. I specifically highlighted the objective aspects of the results (denotative) in connection with the subjective interpretations (connotative).

It is worth noting that my analysis has been influenced to some extent by my preexisting knowledge of and relationships within the topic. For interpretive researchers, their individual backgrounds and familiarity with the field can influence their interpretations. The results might have been presented differently if I had limited insight into the social media industry. Following hermeneutics, interpretivism acknowledges that people's perceptions of objects are shaped by the tools, concepts, and expectations

they use to act on and conceive them (Klein & Myers, 1999). Therefore, my existing understanding of the industry influences my interpretations. To address this bias, I adhered to the ethnographic ethic (Altheide & Johnson, 1994) and ensured that the interpretive element is justified by data, theory, and prior research (Wynn & Hult, 2019).

4.5 Summary of the Chapter

This chapter has provided an overview of the case study method used in this thesis. It has presented interpretivism's epistemological position from the hermeneutic tradition, as well as the methodology, which consists of ethnographic content analysis. Lastly, ethical considerations and limitations have been discussed, and I have reflected on my role as a researcher. The next chapter presents the study's results.

5 Results

This chapter presents the results of the PhD project, driven by the following three research articles that form the basis of this study's findings:

- Paper 1. Hogsnes, M., Grønli, T. M., & Hansen, K. (2023). Unconsciously influential. Understanding sociotechnical influence on social media. *Scandinavian Journal of Information Systems*, 35(2), 1–34.
- Paper 2. Hogsnes, M., Grønli, T. M., & Hansen, K. (2024). Exploring influencers' commercial content on Instagram. *Journal of Interactive Advertising*, 24(2), 156–168.
- Paper 3. Hogsnes, M., & Grønli, T. M. (2023). A commercial playground. Exploring TikTok influencers' commercial videos [Manuscript submitted for publication].

All three papers were written throughout the PhD project and are listed in chronological order. The three articles together contribute to realizing the objective of this thesis, which is to understand how the underlying components of social media platforms facilitate the influence of commercial content. The first paper was a literature review study presented in Chapter 2. The second and third papers were ethnographic content analyses that investigated social media influencers' commercial content on Instagram and TikTok. In the current chapter, I present the findings based on Paper 2 and 3.

5.1 Components Facilitating the Influence of Commercial Content on Social Media Platforms

The ethnographic content analysis (Hogsnes et al., 2024; Hogsnes & Grønli, 2023, in review) began by providing insights into how many of the posts analyzed contained commercial messages. Of the 4,668 posts analyzed, 2,124 (45%) contained commercial elements and were selected for in-depth analysis. These included sponsored posts, hidden sponsored posts, and non-sponsored commercial posts. Details regarding the three types of commercial content are provided in Section 3.2.3.

As presented in the theoretical perspective in Section 3, the sociotechnical perspective was applied to investigate how the underlying components of social media platforms facilitate the influence of commercial content. In line with the sociotechnical perspective, the next sections are structured around the three components of influence, namely, (1) social, (2) technical, and (3) commercial, followed by a section that presents the findings related to the interplay between these three components.

5.1.1 Social Components

After the number of commercial posts was identified, the ethnographic content analysis of the 2,124 Instagram and TikTok posts revealed patterns on a denotative level regarding social components. Specifically, the analysis determined that social media influencers posted commercial content visually through self-portraits and social gatherings. They also used social components in the texts related to their visual images in the form of personal stories, recommendations, or advice (Figure 3).

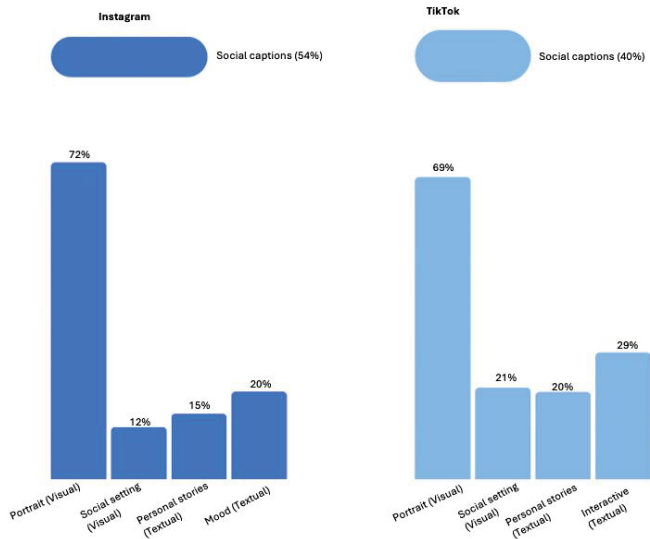


Figure 3. Overview of social components from the denotative level of analysis on Instagram (left) and TikTok (right)

It is worth noting that both platforms heavily featured self-portraits in their commercial posts, often showcasing social media influencers in selfies or striking poses. Additionally, both platforms frequently included social settings in their commercial content, such as socializing with friends, eating at restaurants, attending events, and other similar gatherings. The main distinguishing factor between the two platforms was the style of captions used. Instagram often featured captions that were more socially oriented, lacking any commercial information and sometimes consisting of a single word. TikTok’s captions were less focused on purely social elements and often had an interactive tone, creating a sense of conversation with viewers (Hogsnes et al., 2024; Hogsnes & Grønli, 2023, in review).

The portraits on Instagram were carefully crafted to showcase social media influencers posing in various stylish outfits from different perspectives. Typically set in urban landscapes, by the sea, in natural settings, or at home, these Instagram posts provided glimpses into the influencers' daily lives and environments, presenting their clothing preferences in an authentic manner. Often accompanied by brief captions conveying their moods, these posts subtly highlighted the casual and relatable nature of social media influencers' commercial content.

By contrast, the videos on TikTok had a more playful tone and frequently included dance routines set to popular music on the platform. Influencers showcased various outfits while dancing, creating content that was both entertaining and inspiring. Unlike their Instagram counterparts' subtle and casual approach to displaying commercial content, TikTok influencers seemed to focus on creating entertainment around their clothing in a more visible and direct manner. This finding was also present in the textual captions that were less solely socially oriented compared to those posted on Instagram.

Overall, on both platforms, the portrayal of commercial content appeared visually appealing. The content's inspirational, playful, and entertaining nature was dominant rather than the commercial aspect (Hogsnes et al., 2024; Hogsnes & Grønli, 2023, in review).



Figure 4. Examples of self-portraits on Instagram (left) and TikTok (right) from the connotative level of analysis (Hogsnes et al., 2024; Hogsnes & Grønli, 2023, in review)

Both platforms frequently showed self-portraits that depicted a personal commentary tone (Figure 5).



Figure 5. Examples of self-portraits and personal stories/recommendations on Instagram (left) and TikTok (right) from the connotative level of analysis (Hogsnes et al., 2024; Hogsnes & Grønli, 2023, in review)

On TikTok, these videos were often framed as tutorials offering a step-by-step guide for applying daily makeup or skincare routines, typically falling under the theme of *get ready with me*. Social media influencers engaged in one-sided conversations with their followers, seamlessly involving them in their content. These videos served as instructional tools for viewers to emulate and learn from. Similar trends were observed on Instagram, although the content was more static than that of TikTok. Instagram posts predominantly revolved around personal styles and preferences rather than instructional content about product applications. Overall, these observations highlight how social media influencers on both platforms display commercial content through a personalized lens using personal introductions or personal preferences (Hogsnes et al., 2024; Hogsnes &

Grønli, 2023, in review). In these cases, the commercial content reflects the person and their subjective experiences with products rather than the objective functions of the product. This means that the person delivering the message and the relationship between the person and the individual consuming the message play a critical role in the influence that takes place. People follow social media influencers with whom they identify, and they comply with the suggestions from them, as doing so gives them forms of social rewards. People are likely to compare themselves to the content consumed by social media influencers, and they conform to these behaviors in order to fit in with a group norm.

Beyond self-portraits, I came across many posts on Instagram and TikTok that had a daily life tone (Figure 6).



Figure 6 Examples of social settings on Instagram (left) and TikTok (right) from the connotative level of analysis (Hogsnes et al., 2024; Hogsnes & Grønli, 2023, in review)

On platforms such as TikTok, commercial content was often integrated into posts, in which social media influencers shared multiple short clips from different times of their day, providing glimpses into their daily lives. These clips showcased household chores, breakfast, work, walks, home decor, visits to restaurants and cafes, and trips to brand stores. Similarly, on Instagram, influencers presented their daily activities through a mix of photos and videos in a carousel format. In both cases, the influencers subtly integrated commercial content into their daily lives, making it a natural part of how they lived, as opposed to displaying it as something separate (Hogsnes et al., 2024; Hogsnes & Grønli, 2023, in review). Overall, commercial messages are subtly integrated into the personal lives of social media influencers. The focus of the commercial content is the social context and environment surrounding these social media influencers, with products and brands seamlessly integrated into their displayed lives. This suggests that the influence taking place is more closely linked to the social norms of the social environment rather than to the commercial message itself. Notably, because the commercial message is so subtle, it is likely to be internalized by people over time, becoming an integral part of an individual's value system and shaping their consumption behavior unconsciously.

5.1.2 Technical Components

The ethnographic content analysis reveals how social media influencers included the technical components of hashtags and brand tags in their posts. On TikTok, audio was dominant, with music, text-to-speech, and voiceovers (Figure 7).

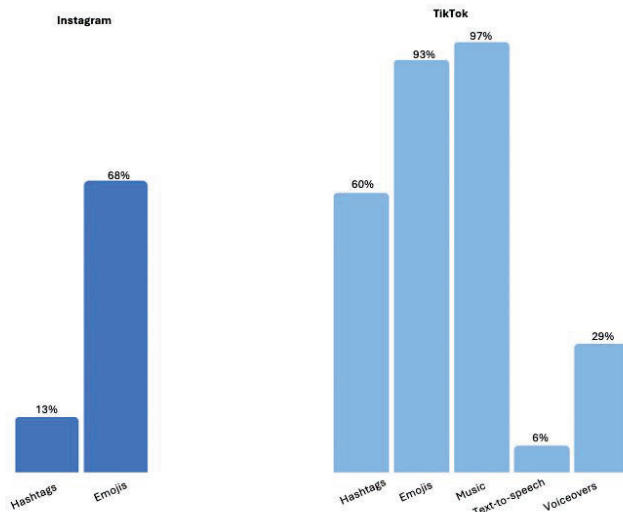


Figure 7. Overview of the technical components of commercial content on Instagram (left) and TikTok (right) from the denotative level of analysis

The use of emojis was prevalent on both platforms, and hashtags were not as widely used on Instagram as they were on TikTok. Because of TikTok’s interactive nature and algorithm-driven platform, hashtags were more extensively employed, in which people tended to follow those whose content they viewed. Additionally, commercial content on TikTok often incorporated music, adding a playful tone to the content. This finding shows how TikTok’s technical components add an entertaining layer to the commercial content posted by social media influencers (Hogsnes et al., 2024; Hogsnes & Grønli, 2023, in review).

Emojis were frequently used in conjunction with other texts or on their own to convey specific messages or emotions, often enhancing the meanings of the texts. For example, social media influencers would post pictures of

their outfits along with brief captions and emojis that emphasized their moods.

TikTok videos also often featured quick cuts to showcase multiple aspects of social media influencers' lives. Similar presentations were found on Instagram, as the carousel format allows multiple photos and videos in one post. With these types of posts, social media influencers could display various activities in just a few seconds, such as social gatherings, self-portraits, and restaurant visits, along with subtle commercial elements. Therefore, commercial content was seamlessly and indirectly integrated into their daily lives (Hogsnes et al., 2024; Hogsnes & Grønli, 2023, in review).

The next step involved identifying differences in platform design (Figure 8).



Figure 8. Examples of interactive designs on Instagram (left) and TikTok (right) (Hogsnes et al., 2024; Hogsnes & Grønli, 2023)

The platforms offered diverse ways for people to interact with them. People can engage with the content on Instagram by liking, commenting on, and sharing posts. They can share content privately with friends or publicly on their own stories or feeds and save posts for later viewing. TikTok offered more publicly interactive options. In addition to liking, commenting on, and saving videos, people can replicate them by creating response videos. On TikTok, people can also indicate their interest in the content, allowing the algorithm to personalize their feeds. Algorithm-driven personalization on TikTok was a dominant feature in deciding the content consumed by individuals. This feature was not as present on Instagram. The platforms offered diverse ways to consume commercial content (Hogsnes et al., 2024; Hogsnes & Grønli, 2023, in review). Overall, these findings demonstrate how, in addition to the subtle patterns identified in social components, the technical components also tailor commercial messages to align with an individual's interests and needs. This process of tailoring operates beneath the surface and is facilitated by algorithms that analyze a person's previous actions on these platforms. The structure of a person's social networks plays a significant role in this tailoring, as the content their peers engage with influences the types of commercial messages they encounter.

Interestingly, considering the design of Instagram and TikTok is crucial. While a social media influencer typically engages in a one-sided dialogue, as discussed in Chapter 5.1.1 regarding social components, an individual's interaction with this content is driven by actions such as likes, comments, shares, and saves. However, these interactions do more than merely represent a response to social media influencers; they also shape the

future of commercial messages, as these activities are converted into data that inform algorithms, for instance, determining content that remains visible on the platforms. Consequently, these technical components reveal that individual people are not only unconsciously influenced by social components, as previously mentioned, but that they also play an unconscious role in influencing future commercial content—something as simple as a *like* can significantly facilitate the influence of commercial content.

5.1.3 Commercial Components

The analysis further shows how social media influencers use commercial components in their commercial content (Figure 9).

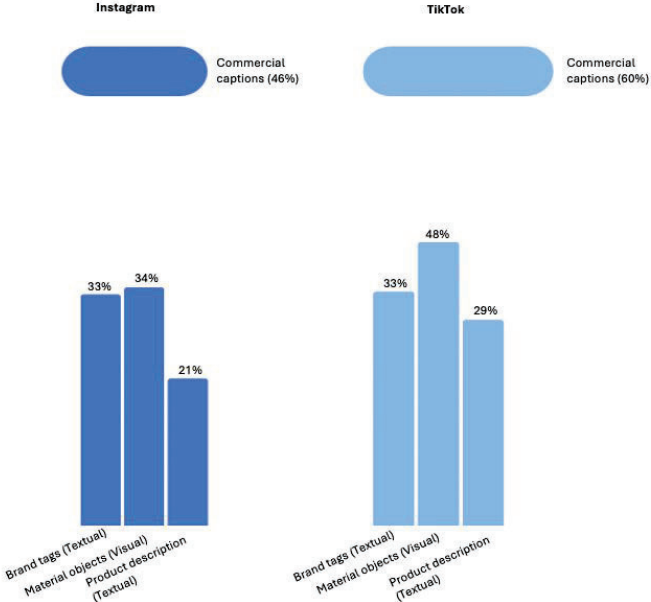


Figure 9. Overview of the commercial components on Instagram (left) and TikTok (right) from the denotative level of analysis

Similar commercial components were identified on both platforms. Interestingly, however, there were differences between TikTok and Instagram in terms of commercial captions. On Instagram, 46% contained commercial information versus 60% on TikTok. This finding shows that TikTok is more direct in its commercial display than Instagram is. It is also crucial to consider how TikTok's technical components may intensify the platform's entertaining aspects, making it less likely for people to recognize commercial captions. Furthermore, when considering the interaction-oriented aspect of TikTok, viewers should realize that the platform's commercial pattern is likely integrated into their own socialization because people tend to replicate videos, even those that are commercially motivated (Hogsnes et al., 2024; Hogsnes & Grønli, 2023, in review).

Brand tags were used in the majority of the social media influencers' posts on both platforms. These tags can be viewed as CTAs because they enable people to directly visit the brand pages of the products endorsed by the social media influencers. The brand tags were often incorporated into posts with subtle commercial messages, often presented as inspirational, entertaining, or personal (social components), while attached to the clothing that the influencers wore in the photos. For example, they might share a carousel of *a day in my life*, featuring a photo of a restaurant visit or a portrait showcasing their attire, along with a visible brand label or tag. Consequently, the post appeared subtle, but it featured tags that could drive sales by directly linking viewers to the brand pages on which the items could be purchased (Hogsnes et al., 2024; Hogsnes & Grønli, 2023, in review). An illustration is presented in Figure 10.

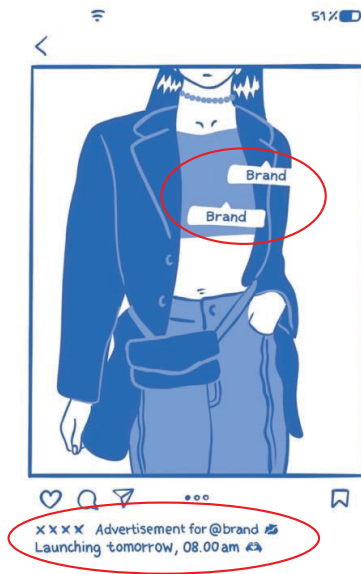


Figure 10. Example of brand tags on Instagram from the connotative level of analysis (Hogsnes et al., 2024)

There were also many material objects. Both platforms showed many posts of material objects related to portraits in which the social media influencers posed while holding the products (Figure 11).

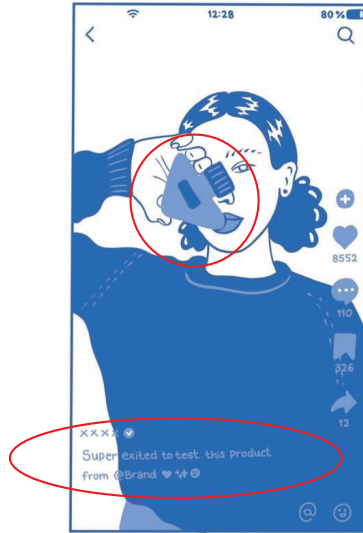


Figure 11. Example of a material object with product information on TikTok from the connotative level of analysis (Hogsnes & Grønli, 2023, in review)

Such posts often included the social media influencers in self-portraits while handling products, testing them, or discussing their expectations of them. Sometimes, they would offer reviews of how the products worked for them, or they would showcase new purchases. The posts usually featured their opinions and provided detailed information about the product ingredients. For instance, on TikTok, they would explain some ingredients in a beauty product and discuss the expected outcomes of applying such ingredients to the skin. On Instagram, this information was often included in captions, which might contain product details. Thus, overall, these posts had an informative tone compared to other patterns on the social and technical levels (Hogsnes et al., 2024; Hogsnes & Grønli, 2023, in review).

Overall, in addition to commercial content being subtle and tailored, as presented in Sections 5.1.1 and 5.1.2, commercial components result in a form of action to act on the commercial message represented in the commercial content. Such features can enable people to shop from what they see in the photos and videos without leaving the platforms. Brand tags direct individuals to brand profiles that often have shopping features enabling direct purchases. As such, the action driven by commercial components results in people purchasing commercial content that is subtle and tailored. This means that, in addition to being unconsciously influenced and influential, people act on the commercial message enabled by commercial content.

Thus far, this section has viewed the results of the ethnographic content analysis as separate categories of social, technical, and commercial components. The next section discusses the findings by examining the interplay between these components.

5.1.4 Sociotechnical Components

This PhD thesis provides a conceptual framework based on the preliminary framework (Figure 2) in Chapter 3. In this framework, the results regarding the social, technical, and commercial components are viewed in an integrated manner.

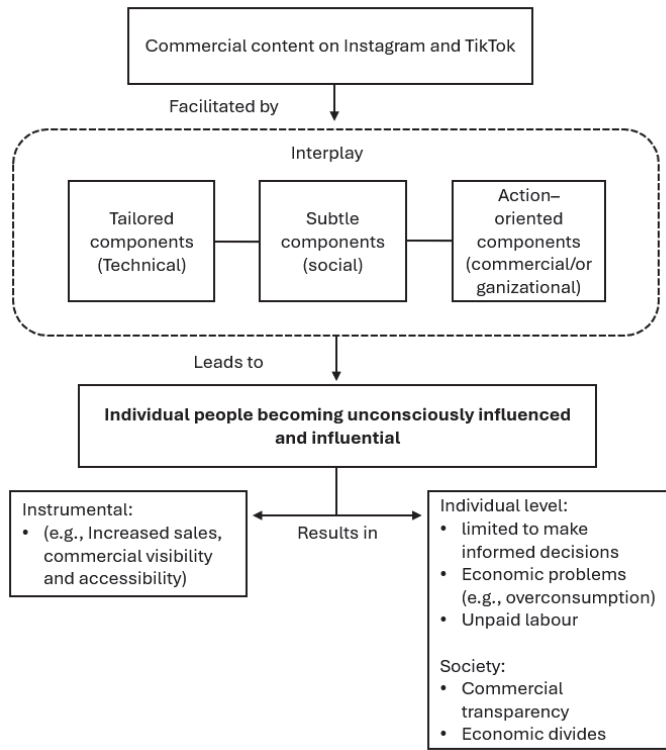


Figure 12. Framework illustrating how the underlying components of social media platforms facilitate the influence of commercial content

The framework above illustrates that by examining the commercial content posted by social media influencers as the units of analysis, this thesis has found that the underlying social, technical, and commercial components of social media platforms facilitate the influence of commercial content. As depicted in Figure 12, commercial content is influenced by the interplay between subtle, tailored, and action-oriented components. This interplay results in sociotechnical influence, in which people become unconsciously influenced and influential. As an outcome, there are conflicts of interest between instrumental outcomes on the one hand and societal and individual outcomes on the other.

Social components facilitate a subtle form of influence. On both Instagram and TikTok, the predominant nature of the commercial content posted by social media influencers was inspirational, playful, and entertaining, rather than overtly commercial, as this thesis finds. On Instagram, influencers shared glimpses of their daily lives through a blend of photos and videos presented in a carousel format. On TikTok, influencers showcased tutorial-style videos that offered step-by-step guides for daily makeup or skincare routines, commonly under the *get ready with me* theme. Additionally, it was common to see clips featuring activities such as household chores, breakfast preparation, work routines, leisurely walks, home decor, visits to restaurants and cafes, and excursions to brand stores. As the example provided in Figure 13 demonstrates, commercial content was displayed in a personal setting, that is, in a meetup with a friend, in which the commercial context was an integrated part of the displayed life.



Figure 13. Example of sociotechnical components of social media influencers' commercial content

In addition to being subtle, the technical components of these platforms enabled the delivery of subtle commercial messages to reach people who align with the content's interests and needs. This form of tailoring is facilitated through people's unconscious forms of influence. As exemplified in Figure 13, a person's ability to interact with subtle commercial content occurred by liking, commenting, sharing, or saving. Not only do these actions work as interactive components to respond to the commercial message, but they are also deciding factors in predicting the features of the commercial message. Liking, commenting, saving, or simply viewing the commercial content says something about the person's interests, feeding the algorithms and network structures with information. In the end, this action will determine the features of commercial messages on the platforms. As a result, a person's interaction with subtle commercial messages is a critical player in deciding its influential feature.

Furthermore, commercial components, such as brand tags and hyperlinks, as exemplified in Figure 13, enabled commercial action, such as direct access to the brand page. As such, in addition to people's exposure to commercial content that is subtle and tailored, commercial content includes an action-oriented element that directs a person to act on the message. For example, brand tags were used to direct a person to the consumption page, as exemplified in Figure 13.

Overall, the subtle, tailored, and action-oriented components result in the seamless blending of commercial content into people's daily lives. Social components enable commercial messages to be integrated parts of a

displayed life in which the process of influencing is decided on the basis of the social relationships and norms in various communities. The technical components tailor the content to suit a person's interests. These intensify the influence taking place, as they provide people with messages that already suit their interests. The commercial element serves as the prompt to act on a commercial message that is subtle and tailored to people's interests and needs.

These sociotechnical influences facilitated with commercial content affect how people consume and engage with such content. On the one hand, individuals unknowingly become passive receivers of commercial messages. Because of message subtlety, separating personal and commercial messages becomes challenging. This results in people's difficulty in evaluating the message, as they are not fully informed about the commercial motivation behind the post. On the other hand, individuals unknowingly actively participate in the influence of commercial content. The subtlety in the commercial messages, as the results of this thesis indicate, show that social media influencers engage in one-sided conversations with their followers through tutorials and images depicting their daily lives. Meanwhile, the tailored technical components demonstrate how peoples' interactions—such as viewing, liking, commenting, or sharing—are forms of responses to these one-sided conversations. However, these actions are far beyond providing simple responses, as they play a central role in deciding the future of the message to which they are exposed. As a result, individuals are unconsciously influenced and are influential.

5.2 Summary of the Chapter

In this chapter, I have presented the thesis results based on two of the three research articles for the PhD thesis. The three individual components—social, technical, and commercial—that enable the influence of commercial content have been discussed. I argue that these three components affect how the subtle, tailored, and action-oriented components of social media platforms facilitate the influence of commercial content. In the following chapter, the results are discussed against the research question, established literature in the IS field, and theory development. The theoretical and practical implications of the results are also provided.

6 Discussion

This chapter presents the PhD thesis results in line with existing IS research. First, I address the findings and how social media platforms have facilitated an environment in which commercial content is influenced through subtle, tailored, and action-oriented components, as presented in Section 5.1.4. These results are discussed against established literature on IS and theory development. Second, this chapter discusses how individual people have become unconsciously influenced and influential because of subtle, tailored, and action-oriented components. Finally, the theoretical and practical implications of the study are presented.

6.1 Subtle, Tailored, and Action-Oriented Components

The findings of this thesis demonstrate how the influence of commercial content is facilitated through subtle, tailored, and action-oriented components. The interconnectedness in these three components can explain the influential practices that occur on social media platforms. On a social level, social media influencers integrate commercial content on social media platforms into their social interactions, daily updates, and entertaining posts on Instagram and TikTok. Often, they incorporate personal anecdotes or simple language into their captions without overt commercial references. As a result, the influence of commercial messages tends to be subtle and focuses on the surrounding social context rather than the commercial message. Technical components make the commercial content tailored to a person's interests and needs based on that person's unconscious actions on the platform (likes, comments, and shares). On both Instagram and TikTok, the content that people consume is customized to their interests and needs. Commercial components allow

for direct access to the commercial consumption page, which drives sales and with consumption playing an important role in guiding the influence taking place. For example, the ethnographic content analysis (Section 5.1.4) demonstrated that social media influencers display commercial content in a subtle manner while using brand tags extensively, directing their followers toward commercial consumption.

However, existing literature investigating how influence occurs on social media platforms has primarily focused on social components, as found in the literature review (Table 1). Studies have highlighted aspects such as similarity, identification, parasocial interaction, and envy in relation to the influence exerted by peers, businesses, and social media influencers (Fu et al., 2019; Kuan et al., 2014). By mutualizing theories from social psychology, these studies provide valuable insights into how social media influencers, peers, and businesses exert their influence through their interactions or personal relationships with others (e.g., BI et al., 2019; Kuan et al., 2014; Xi et al., 2017). Other studies have investigated technical components, concentrating on network structures, algorithms, and platform design, including visual artifacts, games, and polls (e.g., Chen et al., 2013; Klier et al., 2019). These works tend to view social media platforms as networks of nodes representing individuals or organizations connected through ties. The ties can be people with shared friendships, interests, or political beliefs (Beşer & Erdogan, 2023; Chen et al., 2013; Klier et al., 2019). Lastly, commercial components are explored in IS studies as the context in which influence occurs through concepts from marketing literature, such as electronic word of mouth (Liang & Turban, 2011; Qiu et al., 2023), social customer relationship management (e.g., Alt & Reinhold,

2012), influencer marketing (Chao & Belo, 2023; Zhang et al., 2022), and social influence theories in the context of purchasing behaviors on social media (e.g., Wang et al., 2013).

Furthermore, the commercial is mostly studied as a context in which influence occurs. It is rarely viewed as an equal partner of the social and the technical in shaping the processes of influence on social media platforms. A few exceptions exist. Cotter (2019) explored social and technical elements by investigating how social media influencers participate in the visibility game by understanding the rules of social media platforms and using their algorithms to enhance their visibility. Similarly, Hutchinson (2020) examined what they termed the *digital first personality*, focusing on the new roles emerging within social media because of software that automatically gathers and influences user behavior. For example, Cotter (2019) and Hutchinson (2020), as mentioned in the literature review (Section 5.2), revealed how social media influencers learn the technical rules of platforms and plan and strategize their commercial content postings accordingly. In the context of social, technical, and commercial approaches, Carter (2016) studied the sociotechnical shape of influence, examining the social media influencer industry through interviews with marketing professionals, tool developers, and platform users. Carter (2016) argued that the relationships among platform developers, marketing agencies, and individual users constitute a complex sociotechnical system. Social media platforms are continuously modified and negotiated over time, reflecting business needs, technical constraints, and user behaviors.

While these studies offer valuable insights into the complexities of social media platforms enabled through social, technical (Cotter, 2019; Hutchinson, 2020), and sociotechnical components (Carter, 2016), what happens with these three components on the platforms remains unknown. Aiming to help address this gap in the literature, the case study conducted for this PhD thesis offers insight into the sociotechnical influences that occur.

The present study's ethnographic content analysis focused on how the underlying components of social media platforms facilitate the influence of commercial content on social media platforms. The influences that occur on social media platforms with commercial content are enabled through social, technical, and commercial constructs. These findings do not consider only the interactions between people who facilitate the influence. Nor do they simply consider people's interactions as networks of nodes or commercial content as a context in which influence occurs. Commercial components are more than just a context; they are applied in connection with social and technical components that shape meaning and interactions on social media platforms. The consequences of these underlying components enabling the influence of commercial content are addressed below.

6.2 Unconsciously Influenced and Influential

The study's results demonstrate that the subtle, tailored, and action-oriented components of commercial content on social media platforms result in people becoming unconsciously influenced and influential. As shown in Chapter 2, the literature review indicates that IS researchers have

investigated how businesses fit their commercial content strategies into people's feeds through positive emotional appeals in their content practices (Casaló et al., 2021; Colliander & Marder, 2018). For instance, Casaló et al. (2021) encouraged businesses to participate in people's social conversations by sharing visually inspiring content, such as real-life stories or quotations, that could support their followers in their daily lives. Wiese et al. (2020) observed that businesses could incorporate their brand content into various advertising formats, such as videos, photos, games, polls, and blogs. Existing research, as found in the literature review, has argued that people increasingly share aspects of their lives on social media, and their commercial choices become visible to their peers (Rhue & Sundararajan, 2019). Kunst and Vatrapu (2018, p. 1) referred to this phenomenon as "socially shared consumption," suggesting a trend in which more individuals share their consumption experiences on social media platforms. Similarly, Minh et al. (2024) observed how ordinary users post videos containing commercial messages on TikTok. It is common for individuals to recreate challenges and produce duet videos with thousands of other users. The content they replicate is often commercially focused, stemming from their experiences with products and allowing them to exert commercial influence without any profit motive (Minh et al., 2024). These studies offer insights that contribute to instrumental outcomes as a result of the influence of commercial content, but they do not consider how this situation may lead to conflicting interests between the commercial on the one hand and the societal and individual on the other. This PhD thesis suggests that people's display of their consumption choices is not just a conscious practice. I argue that this development, referred to as socially shared consumption, is a dominantly unconscious practice because of the

subtle, tailored, and action-oriented components that facilitate influence on social media platforms. Through the subtle yet constant intertwining of commercial content into an individual's social space, the environment may shape the person's inner self, which becomes increasingly commercially oriented. In other words, people may observe others' behaviors on social media platforms over time, which then guides their own content practices.

Furthermore, as these messages are frequently subtle in nature, individuals may not realize that they are interacting with commercial content. Given that the content is tailored to align with users' interests and needs, refraining from engaging with such messages becomes increasingly challenging. As a result, while individual people may actively consciously display their consumption choices, this influence may also largely be enabled by the internalization of commercial influence on social media platforms. Overall, while it offers many opportunities for businesses (Casaló et al., 2021; Colliander & Marder, 2018), people are not necessarily aware that their actions are a strategic practice. Their actions on social media platforms can be seen in many ways as unpaid labor because these are part of a commercial strategy that drives sales and consumption.

Furthermore, as evident from the literature review, IS researchers have a relatively long tradition of investigating network structures and network effects (e.g., Beşer & Erdogan, 2023; Kuan et al., 2014). Network effects stress how every action taken by a person on social media platforms in the form of likes, comments, shares, and saved postings, or simply by viewing content, plays a critical role in deciding the spread of information (Kane et al., 2014). Other studies (Cotter, 2019; Klier et al., 2019; Roy et al., 2017)

have noted that social media influencers and businesses align their commercial content strategies with these network structures and algorithmic preferences because they aim to maximize their influence. According to Roy et al. (2017), businesses view network structures as tools that provide them with new opportunities to determine paths for their advertisements and to undertake effective and efficient social media platform campaigns. These studies focus on the commercial as a context. They do not consider how social, technical, and commercial components altogether facilitate influence or the types of outcomes that are enabled through these practices.

While algorithms, network structures, and platform design offer many opportunities for businesses to influence commercial content, they also undermine individuals' active and conscious choices. The ethnographic content analysis in this thesis showed that social media influencers often engage in one-sided dialogues with their followers. It can be argued to be a form of illusion of friendship between the influencer and their followers (Sokolova & Kefi, 2020). In contrast to an offline interaction, however, the primary mode of response for individual people to this type of interaction is limited to technical features, such as likes, comments, shares, or reposts (for example, on TikTok). Nevertheless, these actions do not solely convey a response to influencers; they also play a critical role in shaping the reach and impact of commercial messages. In other words, the actions result in the commercial message influencing people within and outside their networks.

Individual people are more than mere customers on social media platforms, as these platforms have become essential to people's social space. However, these platforms treat individual people as customers and compromise their ability to make informed choices about the content they consume and reproduce. As commercial messages have become internalized parts of their lives on social media, separating the social from the commercial aspects of their lives can be challenging. People may contribute to the profits of businesses by reproducing commercial content without being commercially motivated or without realizing that they constitute an integrated part of a marketing strategy. On a broader societal level, people may further broadly view and define themselves through commerce and find value in their ability to purchase products and services.

Overall, this PhD thesis highlights the conflicts that arise between commercial and societal outcomes because of the influence of commercial content on social media platforms. As presented in Section 3.1, the sociotechnical perspective was used in the early works of Bostrom and Heinen (1977) to examine technological designs and explore the tensions between the interests of workers and managers. It can be argued that IS studies have not considered such perspectives in social media research, as they have mostly focused on commercial motives. This PhD thesis specifically contributes to clarifying how commercial activities on social media platforms compromise individuals' conscious actions. These implications are further elaborated in Section 6. 5.

6.3 Theoretical Implications

This study's findings have implications for theory. Specifically, the study contributes to research on social influence with a sociotechnical perspective. It also theoretically adds to research on social media platforms. These are explained in the following sections.

6.3.1 Social Influence Research

This thesis contributes to social influence research by applying a sociotechnical perspective, as outlined by Bostrom and Heinen (1977), Markus and Robey, (1988) Monteiro and Hanseth, (1996), Rice and Trist, (1952), Sahay and Walsham, (1997), Sarker et al. (2019), and Trist and Bamforth (1951). Specifically, it introduces the concept of sociotechnical influence, which includes social, technical, and commercial components. Social influence theory from social psychology (Kelman, 1961), the technical components of platform design (Purohit & Holzer, 2021), algorithms (Kothur & Pandey, 2023), network structures (Kane et al., 2014), and activities enabled by commercial interests on the platforms were investigated to understand how influence is facilitated.

Applying a sociotechnical perspective is perceived as crucial because of the complexities of influence on social media. Social media platforms can be regarded as extensions of people's social space, where they form connections, build relationships, and socialize with their existing groups of friends and families. They also follow social media influencers and businesses based on normative motivational practices. On the basis of these premises, social influence theory from social psychology (Kelman, 1961) is essential for understanding the complexities and underlying norms

of influence. However, influence is mediated by technologies, such as platform design (Purohit & Holzer, 2021), algorithms (Kothur & Pandey, 2023), and network structures (Kane et al., 2014). Commercially, platforms are also built and shaped on the basis of commercial interests and agendas. As such, they play an important role in shaping social and technical developments on platforms. In this thesis, components, such as brand tags and hyperlinks, make the influence commercially action oriented and play an important role when understanding the facilitating of influence with commercial content. Arguably, understanding how technical, social, and commercial components come together and mediate influence is essential.

In this PhD thesis, the sociotechnical perspective is guided by findings regarding (1) subtle, tailored, and action-oriented components enabling influence with commercial content and (2) individuals as unconsciously influenced and influential. For instance, Kelman's (1961) identification theory helps us understand how social media constantly exposes people to others' consumption choices and individuals whom they may identify with or look up to, such as social media influencers or peers. However, by also investigating algorithms (Kothur & Pandey, 2023) and network structures (Kane et al., 2014), I argue for how identification may be intensified because, in addition to deciding whom to follow and be influenced by, people are exposed to commercial content based on their previous actions on social media platforms. They are thus exposed to content from a narrow spectrum of information, adding a technical layer to their identification. Social media platforms and social components enable influence through compliance because so much of the commercial content that people

consume comes from their social networks. People consume others' daily life updates to guide their behaviors as they confirm and take comfort in others' choices. However, the technical components of CTA buttons may intensify the enabling of compliance because, in addition to people being influenced by commercial content integrated into social content, the content is oriented toward driving sales and consumption. Lastly, commercial content has become an internalized part of people's social space on social media platforms, as it has become part of how they display themselves. The technical components of platform design may intensify internalization because people can observe similar content constantly, which can be internalized in their value systems. Furthermore, the components result in people's actions becoming central factors driving the influence of commercial content on sales and unconscious consumption.

In IS research, most studies have investigated social influence constructs using theories developed before the advent of social media (e.g., Kuan et al., 2014; Wang, 2013). As found by Sarker et al. (2019) and Scott and Orlikowski (2014), researchers in IS tend to focus on either social or technical components as their units of analysis. In the context of social influence theory, Kelman's (1961) theory from social psychology, which focuses on compliance, internalization, and identification, has been heavily applied and provides insightful knowledge about the normative form of influence on social media, as argued by Chandrasekara and Sedera (2018). Other studies have applied network theories, social network analysis, and similar approaches to generalize the results from the large-scale interactions that social media provides. In this thesis, I was motivated to bring both strands together. I did not apply social network

analysis in methodological considerations but used algorithms, network structures, and platform design, in addition to social psychology theories, as the theoretical lens through which to analyze the qualitative data gathered in the three studies.

Beyond the topic of this PhD thesis, which is commercial content, the framework developed for this thesis (Figure 2) can also be applied to investigate other types of developments on social media platforms. Examples are political content and health-related content. The argument provided in this thesis is that social media platforms are built on social, technical, and commercial (or organizational) components that facilitate influence. This means that a similar approach can be applied to other topics as well.

6.3.2 Social Media Platform Research

This thesis contributes to social media platform research by applying the sociotechnical perspective of influence. I identified how commercial content appears subtle by focusing on the social components of social media influencers' posts. By considering the technical components of platforms, I identified how technical components add a tailored layer to commercial content, while commercial components direct people to websites or platforms to purchase products and services. As such, while this PhD thesis does not investigate societal implications in the methodological or theoretical considerations, the findings from grasping the underlying components that facilitate influence with commercial content revealed important insights. These can contribute to discussions on the tension between business interests and the interests of society and

individual people participating in this social media platform development, which is shaped by social, technical, and commercial forces.

In alignment with the viewpoints of Bostrom and Heinen (1977), Mumford (1983), and Sarker et al. (2019), the harmony between the social and the technical (and the commercial, as included in this thesis) contributes insights into instrumental outcomes, such as economic profitability, and humanistic outcomes, such as quality of life. This thesis provides insights into how there has been a missing sociotechnical focus in IS studies regarding social media platforms. As identified in the literature review, most studies have investigated commercial components as a context in which influence occurs. Commercial components are examined in the context of purchase decisions (e.g., Eggert & Weber, 2023), purchasing behaviors (e.g., Godinho de Matos et al., 2014; Xi et al., 2017), and continuance purchase behaviors (e.g., Hajli et al., 2015) in commercial contexts. As such, the tension or conflicts between commercial and societal outcomes have not been fully addressed.

This PhD study contributes to IS communities investigating the societal implications of the commercial development (Cao & Belo, 2023; Krause et al., 2019). For example, Krause et al. (2019) examined social media usage in connection with conspicuous consumption and overspending.

According to them, social media usage can result in harmful economic outcomes, especially out of envy, when people are constantly exposed to other peoples' consumption and have endless opportunities to compare themselves with others. In investigating sponsorship disclosure in social media influencers' posts, Cao and Belo (2023) provided insights for

marketers, social media influencers, social media platforms, and regulators in the influencer marketing industry. They drew attention to how social media makes it difficult for people to reflect critically on the commercial content they consume because of its subtle and integrated nature. Specifically, in this thesis, I emphasized how individuals are unconsciously influenced and influential on social media platforms. The social and commercial aspects of people's lives on social media are becoming increasingly intertwined. Commercial content has not only become intertwined into people's social feeds but has also become an integrated part of their socialization. This PhD thesis also demonstrates how every action that people take on social media has commercial implications for others in their networks. Social media platforms make commercial decisions on people's behalf by providing information based on their previous actions. People play an essential role in this issue unconsciously. As such, providing insights into how this development has implications for people and society, which is discussed in the next section, is essential.

6.4 Practical Implications

This study's findings have implications for practice at the societal and individual levels. On an individual level, three main points are discussed: how people have become (1) passive receivers of a narrow diversity of commercial content, and (2) unconscious critical players in the influence of commercial content. Further, the commercial development on social media platforms creates (3) difficulties in refraining from engaging with the commercial message. On a societal level, this thesis identifies issues concerning commercial transparency. People are not provided with a clear

picture of the content they interact with and consume, which limits their ability to make informed decisions. Furthermore, the project argues for how interaction with and the publication of commercial content have become internalized norms of social media platforms. The result is an intertwining of not only social and commercial content but also of the social and commercial aspects of people's lives.

6.4.1 Individual Level

First, unlike offline environments where individuals seek information actively, social media platforms use algorithms (Kothur & Pandey, 2023) and network structures (Kane et al., 2014) to curate and present commercial content to people. As a result, businesses, social media influencers, and platforms often make decisions on people's behalf. On the one hand, individuals can be exposed to options they may not have encountered otherwise. On the other hand, while these arguments may be valid, reflecting on what is compromised when these technologies are implemented is important to consider, as stated by Sarker et al. (2019). This project also argues for how the underlying components of social media platforms turn people into passive receivers of a narrow diversity of commercial information. This phenomenon limits their ability to make independent, well-informed, and critical decisions.

Second, underlying social, technical, and commercial components drive individuals to become unconscious critical players in the influence of commercial content. It can be argued that people willingly engage with commercial content on social media, so their involvement can be considered conscious and voluntary. However, most of the actions are

unconscious, as this thesis demonstrates. Because of algorithms (Kothur & Pandey, 2023) and network structures (Kane et al., 2014), every action that a person makes plays a critical role in deciding the spread of information. Social media influencers and businesses align their commercial content strategies with these results in mind, aiming to maximize people's interactions with the content, which determines their own influential capabilities (Cotter, 2019; Klier et al., 2019; Roy et al., 2017). As social media has become an extension of people's social space, and people worldwide spend hours on social media, it is crucial for everyone involved to be acutely aware of this unconscious role. In practice, while using social media for social reasons and not being commercially motivated, individuals, in fact, engage in unpaid labor because their activities on social media contribute to the revenues of commercial actors.

Third, the results of the case study demonstrate how commercial content is constantly and subtly intertwined with people's social feeds. The technical components of algorithms (Cotter, 2019; Larson & Vieregger, 2019) and network structures (Kane et al., 2014; Klier et al., 2019) tailor commercial content to each person's interests and needs. Call-to-action features (Handayani et al., 2018), such as brand tags, hyperlinks, and swipe-ups, add a commercial layer to the posts, driving commercial consumption. For individuals, this means that refraining from engaging with the commercial message becomes increasingly difficult. People may purchase commercial products and services that they do not need or do not serve their purposes, leading to economic problems and overconsumption.

6.4.2 Societal Level

This PhD thesis makes two main practical contributions to society. First, the study's findings show how there are issues with commercial transparency on social media platforms. The interplay of subtlety, tailoring, and action-oriented components poses significant challenges to individuals and society, blurring the lines between social and commercial content. The subtlety in commercial messages may result in difficulties understanding the commercial intent. For example, as demonstrated in Section 5, social media influencers tend to post commercial content through personal recommendations or tutorials. These posts blur the line between authentic personal updates and commercial motives, creating transparency issues that could mislead their followers about what is genuine and what is commercially motivated. Consequently, social media influencers may not accurately represent the products they promote, and their sponsored content may not reflect genuine experiences. Technical components make individuals passively receive commercial messages, while action-oriented commercial components make it increasingly difficult to resist acting on these messages. Furthermore, when people interact with the content they are exposed to, they unconsciously become influential as they determine the spread of the commercial message. This finding has implications for society, as commercial development on social media platforms does not provide a transparent picture of the content people consume or engage with, thereby limiting their ability to make informed decisions.

Second, the findings of this thesis show how commercial content has become an internalized part of people's social space. It can be claimed

that people willingly enjoy the benefits of engaging with commercial messages. As existing research has shown, people relish following their favorite social media influencers (Farivar et al., 2019), matching their commercial decisions with those of their circle of peers (Bi et al., 2019), or having the ability to connect and interact with businesses directly (Liang & Turban, 2011; Qiu et al., 2023). While these points are valid, this thesis argues that commercial content has become an internalized norm of peoples' social space. As stressed earlier, individuals may follow the actions of social media influencers on social media platforms and internalize increasingly commercialized social norms, potentially leading to a shift in their posting practices over time. While people have identified themselves through commercial goods on social media for a long time, this practice has intensified, as demonstrated by the results of this study. Commercial content has become a major part of the content that people share and interact with consciously and unconsciously. Kruse et al. (2019) noted that this type of disclosure becomes highly influential, as people constantly compare themselves to others on social media platforms. In agreement, the conceptual analysis revealed that peers are especially influential on the basis of similarity, authenticity, familiarity, and support, among other factors, which explain peer influence (e.g., Gobara et al., 2019; Ham et al., 2019).

Consequently, people may increasingly define themselves through consumption and find value in their ability to purchase products and services. This phenomenon can create divides in society because not everyone has the same economic resources to keep up with commercial pressures on social media platforms. Furthermore, suppose that social

media platforms continue their commercial development. This situation creates challenges for authentic social relationships, as grasping the motives behind people's actions on social media, whether authentic or commercially motivated, becomes difficult. As social media platforms are extensions of people's social spaces, determining whether individuals are socially or commercially motivated when socializing on such platforms becomes challenging. This issue can have consequences for authentic close and personal relationships.

6.5 Summary of the Chapter

This chapter has presented the primary findings of the thesis in response to the research question. An overview of the theoretical implications of the thesis has also been presented, primarily for research focused on social media platforms and social influence. The chapter concludes with a section outlining the study's practical implications for individuals and society. The conclusion of the thesis is presented next.

7 Conclusion

This thesis has explored how the underlying components of social media platforms facilitate the influence of commercial content. In this chapter, the main findings of the study are revisited, followed by reflections on the limitations of this thesis and recommendations for future work.

7.1 Concluding Remarks

Drawing from a sociotechnical theoretical perspective and a case study method, this study conducted ethnographic content analysis to investigate the following research question: *How do the underlying components of social media platforms facilitate the influence of commercial content?* This thesis contributes to conversations in IS research about social influence and social media platform studies. Specifically, the case study results demonstrate how the influence of commercial content is facilitated by subtle, tailored, and action-oriented components. Commercial content is subtly intertwined with people's social feeds, while technical components, such as algorithms and network structures, tailor commercial content to each person's interests and needs. Call-to-action features, such as brand tags, hyperlinks, and swipe-ups, add a commercial layer to the posts, driving actions for potential commercial consumption.

The results show how individuals, by using social media platforms, become unconsciously influenced and influential. This study uses a sociotechnical perspective to examine influence. By integrating social influence theory from social psychology (Kelman, 1961) and platform design theory (Purohit & Holzer, 2021), along with algorithms (Kothur & Pandey, 2023) and network structures (Kane et al., 2014), the project has explored the

underlying norms, social structures, and connections among people on the platforms, as well as the context in which influence occurs. Additionally, the presence of commercial elements in the information shared among actors has been investigated, such as visible brand labels in visual content or product information in textual captions. Overall, this thesis contributes to IS research by applying a sociotechnical approach to studying influence in the social media context. It also contributes to social media platform research, as existing literature has primarily focused on the instrumental outcomes of social media (e.g., Eggert & Weber, 2023; Godinho de Matos et al., 2014; Xi et al., 2017).

Finally, the thesis contributes to practice with concrete implications for people and society. On the individual level, people have become passive receivers of a narrow diversity of commercial content and unconscious critical players in the influence of commercial content. Further, the commercial development on social media platforms creates difficulties in refraining from engaging with the commercial message. On the societal level, issues of commercial transparency have been discussed. Social media platforms are environments where commercial transparency is an issue, as people are not provided with a clear picture of the content they interact with and consume, thereby limiting their ability to make informed and critical decisions. This project also argues for how interactions with and the publication of commercial content have become internalized norms of social media platforms. The results are an intertwining of not only social and commercial content but also the social and commercial aspects of people's lives. Overall, this thesis provides insights into the increasingly

commercialized nature of social media platforms and their impact on individuals and society.

7.2 Reflections on the Study Limitations and Future Work

This study has some limitations that need to be addressed. The main limitation was time constraints during the empirical data collection. This thesis focused on investigating and interpreting publicly available data, such as social media content. As this study was motivated by the implications of the increased commercialization of social media platforms, it would have been valuable to go out and have conversations with people who are affected by this development. While the thesis could not include conversations or interviews as part of the data collection, I have actively sought discussions regarding the work provided in this thesis. Over the past two years, I have participated in public media debates in which I have communicated findings with people in the social media industry, politicians, and social debaters. I have also collaborated with the Norwegian consumer and media authorities through podcast products and events, discussing and reflecting on the development of social media commercialization. As such, I have found that the work and findings are relevant and correlated with public perceptions and interests.

As mentioned in Section 4.4, the data collection could have been improved by examining a broad range of actors beyond social media influencers as the units of analysis in the case study. As stated in the literature review (Chapter 2), many actors facilitate influence on social media platforms, such as peers and businesses. By expanding the scope of investigation to include a wide array of actors, I could have captured more complexities

surrounding influence, which would have benefited the case study. However, for this thesis, I chose to focus specifically on the commercial content shared by social media influencers on Instagram and TikTok, as this phenomenon represents a development in which social, technical, and commercial elements are so tightly intertwined. Furthermore, I examined the commercial content consumed on Instagram's and TikTok's main feeds only. Especially on Instagram, there are many ways for commercial content to be consumed, such as through stories or reels. I also investigated social media influencers on TikTok and Instagram under the fashion, lifestyle, and beauty categories only, making the findings narrow in scope. Other platforms, such as Snapchat, would be interesting to explore, as they are also popular, especially among younger generations, and are increasingly commercialized.

It is important to note the difficulty in articulating what is social and what is technical on social media. I could have viewed social media platforms as sociotechnical systems, for instance, by investigating how humans shape platforms and their technologies. Instead, I opted to focus on influence as a sociotechnical process on social media platforms facilitated by underlying social, technical, and commercial components. Furthermore, defining commercial was difficult, as I was unable to uncover the motives behind the analyzed posts. However, as I was motivated by understanding the commercial content that people consume and are influenced by, I interpreted the posts from the perspectives of the content's viewers. In this way, the intention or motive behind the posts is less relevant than the influence they facilitate.

Overall, the work presented in this thesis leaves room for several avenues for future research.

First, future research in the IS discipline could investigate commercial development issues on social media platforms, such as shopping addiction, overconsumption, and commercial transparency. Because limited research in IS has investigated these topics, more attention must be directed to these issues.

Second, future research could conduct a detailed examination of specific technical components, such as CTA buttons, hyperlinks, or brand tags, as triggers of the influence wielded by commercial content. Limited studies have examined influence from a sociotechnical viewpoint (Sarker et al., 2019; Scott & Orliwinski, 2014), so I believe that conducting a detailed investigation of specific technical components and their effects on the influence taking place would be interesting.

Third, future research could explore other methods, such as conducting interviews with various stakeholders involved in social media platforms, each with their own motivations. For example, it would be interesting to engage in conversations with individual users of social media, businesses leveraging these platforms for commercial purposes, social media influencers, and platform designers to understand and build on the understanding of sociotechnical influence on these platforms.

Lastly, the commercial development of Snapchat presents a timely and relevant area for future research. Snapchat has recently adjusted its

platforms to become more commercially oriented, with social media influencers now receiving direct payments based on their content output. Given the significant amount of time that young people spend on these platforms, as well as the intertwining of social and commercial activities, further studies are needed to examine the potential consequences of this development for individual people and society.

8. References

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Attachement A

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Unconsciously Influential

Understanding sociotechnical influence on social media

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Abstract. Over the last two decades, the rise of social media platforms such as Instagram, YouTube, and TikTok has sparked a global shift in commercial practices worldwide. People are exposed to and influenced by massive amounts of commercial content carefully and strategically integrated into these platforms' social content. In addition, due to network structures, people's engagement in the form of likes, comments, and simply viewing content results in the influence of people within and outside their network. In this study, we adopt a sociotechnical perspective and study the interplay between social and technical components in how influence is exercised on social media. Specifically, we identify the actors involved in the influence of commercial content and analyse how they exercise their influence for commercial purposes. Based on our findings and analysis, we present three contributions to Information systems literature: (1) how people have become unconsciously influential in spreading commercial content, which is the premise for social media commercial success, (2) how people's social and commercial lives and contents are increasingly intertwined and (3) how this interweaving effect removes peoples' ability to reflect on the content they engage with critically. Our study draws attention to the societal outcomes caused by technologies in practice.

Key words: information systems, sociotechnical IS, social influence, social media.

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1 Introduction

“Who is here for Prime?” shouted influencers KSI and Logan Paul in front of a large audience of followers as they promoted their energy drink “Prime Hydration”. Youngsters wore Prime T-shirts at the event—one carried a two-meter-high Prime poster onto the tram, while a pool of youngsters posted TikTok videos from the event, thus unconsciously contributing to the brands’ income of \$ 250 million in 2022 (Valinsky, 2023).

Over the last two decades, there has been a rapid evolution in how people interact, from in-person conversations, telephone calls, and reading the daily newspaper to the use of social media (SM) (Rhue & Sundararajan, 2019; Salehan & Negahban, 2013). SM has become an extension of people’s social space, changed numerous aspects of society, and become a focus of information systems (IS) research (e.g., Ahmed & Vaghefi, 2021; Boroon et al., 2021; Derra et al., 2022). Communities in the IS field have especially paid attention to societal issues of SM use, such as addiction (Ahmed & Vaghefi, 2021), compulsive smartphone use (Wang & Lee, 2020), technostress (Derra et al., 2022), and physiological effects (Turel et al., 2017). Moreover, in the past few years, more attention has been directed toward its increasing commercialization (e.g., Rhue & Sundararajan, 2019).

Platforms such as Instagram, Facebook, and, recently, TikTok have gradually become increasingly commercialized (Dann, Teubner & Wattal, 2022). According to a recent industry report, sales via SM worldwide are estimated to reach \$1.298 billion in 2023 (Statista, 2023). People are thus constantly exposed to and influenced by massive commercial content. In contrast to offline environments, where commercial content is usually visibly sales-oriented, commercial content is often carefully crafted to subtly fit individual feeds (Voorveld et al., 2018). For example, businesses create entertaining videos, inspirational images and funny Snapchat filters or polls, in which products and services are subtly integrated into social content (Casaló et al., 2021). Thus, social and commercial content becomes interweaving resulting in an unconscious form of influence. Commercial content is also strategically placed on feeds based on social media algorithms (Larson & Vieregger, 2019; Shin et al., 2022), which prioritize content they calculate a person will like based on previous ‘likes,’ ‘comments,’ ‘views,’ and ‘shares.’ Such actions say something about where a person live, what they like, and whom they know (Balaji et al., 2021). More importantly for this study, the actions say something about what type of commercial content they would be interested in. The interactions are also based on network structures, which enable people’s actions (i.e., likes, com-

ments, or views) to influence the spread of commercial content inside and outside their networks (Kane et al., 2014). Likes indicate a person and their network's interests, which decide the type of content they are exposed to and cause them to become critical unconscious players in the expansion of the influence of commercial content.

Information systems research has investigated the commercial aspects of social media and is primarily concerned with increasing profit. These studies examined buyers' intentions (e.g., Fu et al., 2020), purchasing behaviors (e.g., Godinho de Matos et al., 2014; Xi et al., 2017), and continuance purchase behaviors (e.g., Hajli et al., 2015). A limited number of studies, however, have investigated the social implications of the commercialization (e.g., Rhue & Sundararajan, 2019). According to Sarker et al. (2019), technologies should benefit humans and not just economic conditions. Investigating the social implications of the development is important because people are constantly exposed to and influenced by massive amounts of commercial content that are subtly integrated into people's social content and strategically placed to suit people's interests and needs. Furthermore, people's unconscious actions on these platforms make them critical players in the influence of commercial content. Thus, it is essential to study the influence of commercial content and develop critical perspectives on the interweaving effects of commercial and social content.

Using social influence theory, this study investigates the influence of commercial content on social media. Social influence is the change in a person's behavior due to one or more persons' thoughts, feelings, or behaviors (Kelman, 1958). In IS, typical discourses investigating social influence have been based on the foundational psychological perspectives of Kelman (1958) (e.g., Gallivan et al. 2005; Kuan et al., 2014; Lee et al 2006; Wang et al., 2013). Studies have employed compliance, identification, internalization, informational, and normative social influence as the foundational operations that explain the processes of social influence in our offline world (e.g., Lee et al 2006; Wang et al., 2013). These studies offer valuable insights for understanding changes in individual behavior. In the past two decades, however, technical components such as algorithms and network structures have changed how people interact as well as how people influence one another. As Sarker et al. (2019) argued, an awareness of the interactions between a given phenomenon's social and technical components is crucial. Meanwhile, most existing articles investigating social influence theory on SM have considered social components as single units of analysis (e.g., Kuan et al., 2014; Sedera et al., 2017).

In response to Sarker et al. (2019), this study focuses on influence from a sociotechnical perspective, which emphasizes the interactions between social and technical components (Sarker et al., 2019). Social components include people, their relationships,

and their social structures, as Kelman (1958) emphasized in social influence theory. Technical components include human-created tools, such as social media algorithms and network structures mediating and changing people's interactions and, therefore, how influence is exercised (Kane et al., 2014; Khan et al., 2019). The term 'social influence' is used to refer to the theoretical perspective provided by the psychological perspectives. We use the term 'influence' when referring to the development in practice. Building on Sarker's (2019) view, we study the sociotechnical perspective in the context of commercial content on SM. We define *commercial content* as content created to commercialize, monetize, sell, promote, and advertise a product or business. We refer to social content as content created for personal interaction and entertainment, such as social gatherings, pictures with friends, and entertaining videos.

This paper addresses the following research questions: (RQ1) How does the influence of commercial content occur on social media? and (RQ2) How can we understand the interweaving effects of commercial and social content on social media? We examine possible answers to these research questions based on a conceptual analysis.

This paper contributes to information systems literature by providing insights into how people are influenced through the interconnection of social and technical components on social media. Since few IS studies have investigated social influence from such a perspective (Chandrasekara & Sedera, 2018; Kim & Hollingshead, 2015), expanding the conversations on how influence is exercised through the interconnection between its social and technical components is essential. Secondly, we contribute with insights into the interviewing effects of social and commercial content. Our research aligns with studies examining the social implications of SM (Ahmed & Vaghefi, 2021; Boroon et al., 2021; Derra et al., 2022) and contributes to our commercial focus, especially emphasizing the interweaving effect of social and commercial content.

2 Background

In this section, we introduce theories and concepts related to the process of influence and emphasize the psychological perspectives of social influence theory and key IS papers that have utilized such perspectives. Second, we present theories on network structures and algorithms as technical components shaping influence on social media.

2.1 Social influence

One of the key theories in social influence was introduced by Kelman (1958), who defined social influence as a change in a person's behavior as the result of one or more per-

sons' thoughts, feelings, communication, or behaviors. Kelman identified three main processes of social influence: compliance, identification, and internalization. Compliance is the way in which an individual accepts social influence to fit in with a group or norm. Identification involves a person acting in a certain way to gain acceptance from a particular group or individual. In internalization, an individual engages in a particular behavior because it agrees with the individual's value system. Social influence discourses on SM have typically adopted Kelman's psychological perspectives (e.g., Bagozzi & Dholakia, 2002; Gallivan et al. 2005; Kuan et al., 2014; Lee et al 2006; Wang et al., 2013). For example, Wang et al. (2013) investigated how identification and internalization may explain the growth in individuals' use of technological systems over time. Moreover, Bagozzi and Dholakia (2002) identified two critical social influence variables that impact digital community participation: group norms and social identity. They showed that intentions to participate together as a group are a function of both individual (attitudes, perceived behavioral control, and positive and negative anticipated emotions) and social determinants (subjective norms, group norms, and social identity).

Other theories of social influence such as, conformity (Cialdini & Goldstein, 2004), and informational and normative social influence (Deutsch & Gerard, 1955), have been considered in IS studies as well (e.g., Kuan et al., 2014; Xi et al., 2017). Informational and normative social influence have been used as a theoretical lens in many IS studies (e.g., Kuan et al., 2014; Xi et al., 2017). Normative social influence leads people to conform in order to be liked and accepted. People who are highly susceptible to normative social influence make decisions to gain others' approval. Informational social influence operates through internalization, which occurs when information from others can increase the individual's knowledge about certain aspects of the environment (Deutsch & Gerard, 1955). For example, in their study on decisions regarding group buying, Kuan et al. (2014) found that informational social influence applies to situations in which people make decisions based on other actions and judgments, thus treating them as sources of information. Meanwhile, normative social influence is found when people comply with others based on others' preferences or expectations.

Social influence has received considerable attention in IS communities and covers a broad spectrum of theories and concepts related to user behaviors in the digital sphere. However, socially influenced attitudes are increasingly shaped by technical components on social media. It can be difficult to clearly articulate the distinction between the social and technical components (Kane et al., 2014) of social media. Technologies include platforms and their ecosystems, virtual artifacts, or algorithms (Kaplan & Haenlein, 2010). Since we are interested in the influence that occurs, this paper focuses on algorithms (Shin et al., 2022) and network structures (Kane et al., 2014).

2.2 Network structures and algorithms

Network structures can be understood as social structures comprised of nodes and ties. Nodes are the individual actors, such as people or businesses using SM, while ties are the relationships between them, such as their friendships, shared interests, beliefs, or sexual relations (Kane et al., 2014). A network structure prioritizes connections and positive relationships among such nodes based on their ties. In contrast to our offline environment, the set of ties that link the nodes is not independent; rather, ties are interconnected, which provides a mechanism for nodes to influence one another indirectly (Zhang et al., 2017; Zhou et al., 2020). For example, by pressing the like button for specific content, people unconsciously impact the spread of information to a large group of unknown people, becoming part of a network of those who interact with the same content. Thus, the degree to which a person influences another is complex and difficult to grasp. Investigating the overall structure of these interconnected networks and how content flows within such networks (e.g., Khan et al. 2019) is a core objective of IS. Content refers to the resources available in a network, while structure refers to the identifiable patterns of nodes and ties in a network (Kane et al., 2014). IS research discusses the concept of strong and weak ties (e.g., Zhang et al., 2017; Zhou et al., 2020). Strong ties refer to directly connected individuals, such as family, friends, and acquaintances, whereas weak ties involve those with no or an indirect connection with others. The extent to which weak and strong ties appear influential depends on the platforms they operate on. Snapchat, for instance, is mostly used for communicating with strong ties, while TikTik is rarely used for this purpose and rather for interacting with weak ties (Statista, 2023). Other studies have also emphasized the concept of homophily to social network approaches because interactions on social media tend to exert a common influence on nodes within a particular network or a particular portion within the network (Li et al., 2023).

While network structures explain the structure of nodes and ties in the interconnected network of SM, algorithms refer to the set of instructions used to solve a particular problem or perform a specific task, including searching and sorting (Balaji et al., 2021). Search and sorting algorithms curate and rank content based on user preferences and behaviors (Schroeder, 2020). They use inferential analytics methods to predict user preferences, including sensitive attributes such as gender and sexual orientation (Swart, 2021). Search and sorting algorithms determine the content that people encounter on their social media profiles and prioritize content based on relevance, engagement, and other metrics. Engagement refers to people's previous likes, comments, or views, whom they interact with, and what content they search for. It also factors in the timing of their

engagement, how long they view specific content, and how much they have interacted with specific people or businesses. For example, the well-known TikTok algorithm considers past videos people have interacted with, accounts and hashtags they follow, location and language preferences, and even the type of content they create. Instead of people being exposed to videos from the people they follow, TikTok's algorithm calculates what people are likely to enjoy (Zulli & Zulli, 2022). Instagram and Facebook are often focused on peoples' engagement and search history. Based on the person's previous interactions, i.e., the type of content clicked on, liked, shared, or commented on, the algorithm will filter out the content they are not necessarily interested in and prioritize displaying specific content based on their interaction history. The more a person engages with a particular type of content, the likelier it is that the rating algorithm will show the person similar content (Shin et al., 2022). Businesses and influencers tailor their content strategies to align with these algorithmic preferences and aim maximize by giving people targeted commercial content they are likely to be interested in (Balaji et al., 2021). Thus, content is often designed for monetizable interaction.

Consequently, network structures and search and sorting algorithms influence the commercial dynamics of the platform and play a crucial role in shaping people's social environments (Ghose et al., 2019). These technical components intervene in peoples' daily lives and play a significant role in deciding the type of connections and content that influence them. In the next section, we will present the theoretical framework of the study—the sociotechnical perspective.

3 Sociotechnical perspective

The sociotechnical perspective is one of the foundational viewpoints for the information systems discipline (Sarker et al., 2019). It emerged as a new way of thinking, challenging the worldview of technologies as external antecedents to organizational and social structure and behavior (Beath et al., 2013). The sociotechnical perspective paved the way for perspectives that bridge the divide between the socially oriented approaches to solving organizational problems and the technically oriented approaches advocated by disciplines such as computer science and operations research (Davis & Olson, 1985). It focuses on social and technical components of a phenomenon as mutually interactive (Alter, 2013), and explicitly acknowledges their interdependence (Bostrom et al., 2009). The technical component is primarily a human-created tool consisting of hardware and software, data sources, and associated techniques (Ryan et al., 2002). The social component consists of individuals or collectives and relationships or interactions between or among individuals. Social components include humans and their relation-

ships and attributes, such as social capital, structures, cultures, economic systems, and best practices (Ryan et al., 2002).

According to Sarker et al. (2019), IS studies have long considered these components separate antecedents to specific outcomes. They argued that researchers have failed to do justice to the diverse ways social and technical components come together to produce specific outcomes. Furthermore, they found that IS research primarily focuses on economic conditions, which is inconsistent with the sociotechnical perspective emphasizing how technologies need to benefit humankind and not just their economic conditions. A few exceptions exist (e.g., Goh et al., 2011; Grønsund & Aanestad, 2020; Monteiro & Parmiggiani, 2019; Scott & Orlikowski, 2014). For example, Goh et al. (2011) show how work routines and technology coevolve throughout the implementation process of a healthcare IT system. Another example is a study by Grønsund and Aanestad (2020) investigating how humans and algorithms evolve as firms adopt artificial intelligence capabilities. Monteiro and Parmiggiani (2019) investigated the Politics of the Internet of Things in an oil and gas company. In a social media context, Scott and Orlikowski (2014) investigated the consequences of anonymity in reviewing, rating and ranking organizational services in Trip Advisor. They challenge the dominant social treatments of anonymity and focus on the outcomes generated by anonymity in practice. In their paper, they argued that the ability to theorize technological developments has not kept pace with practices, as there has been a tendency to use concepts, theories, and approaches developed decades earlier (Scott & Orlikowski, 2014).

Building on the request by Sarker et al. (2019) and Scott and Orlikowski (2014), our study emphasizes the importance of challenging the predominantly social treatment of influence and draws attention to the outcomes mediated by technologies in practice. Specifically, we investigate the influence of commercial content on SM by focusing on the interdependence between social and technical components. In addition, we investigate how this mediation impacts people's daily life practices (Sarker et al., 2019; Scott & Orlikowski, 2014). Specifically, we discuss and develop a critical perspective on the interweaving effect of social and commercial content. This approach is essential since social media has become increasingly commercialized over the past two decades (Dann et al., 2022; Statista, 2023). On the one hand, people are exposed to and influenced by massive amounts of commercial content subtly integrated into their social interactions and strategically placed to suit their interests and needs (Casaló et al., 2021; Voorveld et al., 2018). On the other hand, this interconnected nature makes people critical players in the influence of commercial content (Kane et al., 2014; Khan et al., 2019). Overall, SM is becoming an increasingly complex commercial environ-

ment as time passes, and it is essential to increase our knowledge of the development and its societal implications.

4 Methods

We conducted a conceptual analysis of the literature to investigate the influence of commercial content on SM. Specifically, we categorize the actors involved in this influence and identify how they exercise their influence for commercial purposes. Because our objective was to identify relevant concepts instead of providing an overview of the field, a concept-centric approach was adopted (Webster & Watson, 2002). Following the guidelines of Okoli and Schabram (2010) and Webster and Watson (2002), our literature review consisted of two steps: (1) a search and selection process and (2) an analysis of the literature.

4.1 Search and selection process

In general, literature searches consist of querying scholarly databases and conducting backward or forward searches (Okoli & Schabram, 2010; Webster & Watson, 2002). The search and selection processes in this study were planned by all three co-authors, who collectively determined the appropriate databases and relevant keywords, outlets, and timeframes to identify relevant literature (Vom Brocke et al., 2009). One co-author tested different keywords in multiple potential databases to uncover and monitor emerging terms and developments (Levy & Ellis, 2006). We found the identification of keywords particularly challenging because the researchers used multiple terms to describe distributed collaboration.

We initially conducted a keyword search using the Science Direct, Association for Information Systems (AIS), Taylor and Francis, and SAGE databases because they contained relevant journals and conference papers in the IS field and other relevant disciplines. Complete research, works in progress, and extended abstracts published since 2010 in all journals and conferences deemed relevant for capturing the diversity of the topic (Webster & Watson, 2002). The timeframe was based on the need to review research on social media platforms that facilitate the sharing of visual images, since social media platforms with a visual focus are dominant in the commercial space (Smith & Gallicano, 2015) and were developed after 2010. We applied keywords including “social influence” (in the abstract) AND “social media” AND “consumer” OR “consumerism” OR “consumption” OR “commerce” OR “commercial” OR “shopping” NOT “adoption.” We chose these keywords because they were found to capture a literature

sample that met the following selection criteria: (1) focused on the commercial aspects of social influence on social media platforms; (2) specifically mentioned the term “social influence” in the title, abstract, and keywords or body of the paper; and (3) focused on social media platforms with visual-centric features. We were especially interested in platforms with visual-centric features, such as Instagram, Facebook, Snapchat, and TikTok, as visual interactions dominate the commercial environment (Smith, 2019). “NOT adoption” was included because the term represents the initial stages of using social media platforms. Our interest, however, was focused on the established practices of commercial practices on social media.

Following this procedure, 332 potential candidates were identified. We followed this up with a two-round inclusion and exclusion process conducted by one co-author (Okoli & Schabram, 2010), as shown in Figure 1.

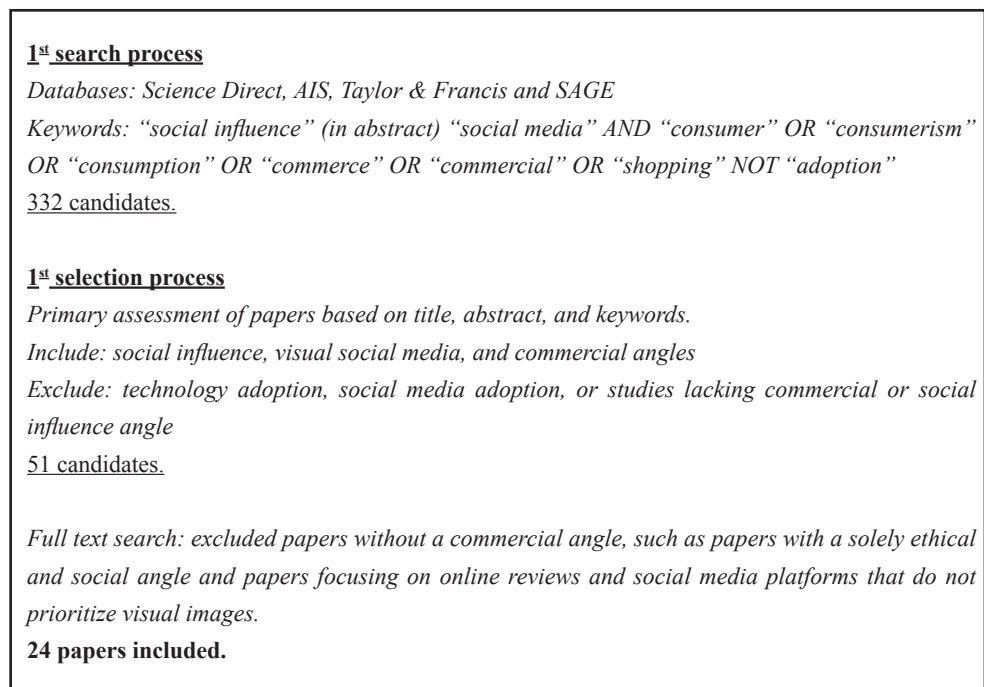


Figure 1. An overview of the first search and selection process

In the first round, the articles were judged primarily based on their titles, abstracts, and keywords to ensure that they were relevant. 281 papers were excluded, including studies investigating technology or social media adoption and those lacking commercial or

visual angles. In the second round—because our search and selection, until then, had a narrower scope—the same coauthor inspected the full texts of the 51 remaining papers to determine relevance. 27 papers were excluded because they lacked a commercial approach to social media. Moreover, papers that focused on social media platforms that did not prioritize visual images, such as Twitter, were also excluded. However, papers that were not platform-specific and those investigating Facebook were included. While visual images are not a central component of the Facebook platform, it owns Instagram, which is a leading platform for visual interaction. Facebook and Instagram have similar commercial features, so neglecting studies investigating Facebook is disadvantageous. 24 papers were found after this search and selection process.

We discovered that few papers investigated visual-specific platforms, such as Instagram and TikTok. Therefore, we conducted a second search round to ensure selection relevancy. As in the first search and selection process, one coauthor tested different search strategies in different databases to uncover emerging terms. Keywords such as “visual social media” OR “Instagram” OR “TikTok” OR “YouTube” OR “Snapchat” AND “social influence” AND “consumer” OR “consumerism” OR “consumption” OR “commerce” OR “commercial” OR “shopping” NOT “adoption” were applied. In this round, we decided to include papers from the Association for Computing Machinery (ACM) database because we believed that more technical papers would add to the diversity of our research topic. Here, 437 potential candidates were identified. The search process is shown in Figure 2.

Following our two-round selection process, all 437 papers were first judged based on titles, abstracts, and keywords. 392 papers were excluded. During the second selection process, the same coauthor read the remaining 45 papers in detail. 19 papers were excluded because they lacked a social influence perspective on the commercial activities studied. We ended up with a total of 26 papers after the second selection process.

As recommended by Webster and Watson (2002) and Levy and Ellis (2006), we performed backward and forward searches on the selected articles. Six relevant articles not included in the search and selection process were included. Of 551 potential candidates, 56 were selected for further analysis.

4.2 Analysis

The analysis was conducted by one coauthor. A review guide was utilized in the analysis, with the main objectives being to (1) categorize actors involved in the influence of commercial contents and (2) identify how they exercise their social influence for commercial purposes. ‘Actors’ refers to both individual consumers and business profiles,

2nd search process

Databases: Science Direct, AIS, Taylor & Francis, SAGE, and ACM

Keywords: “visual social media” OR Instagram OR TiTok OR YouTube AND “social influence” “social media” AND “consumer” OR “consumerism” OR “consumption” OR “commerce” OR “commercial” OR “shopping” NOT “adoption”

437 candidates.

2nd selection process

Primary assessment of papers based on title, abstract and keywords.

Include: visual social media, social influence, and commercial angle

45 candidates.

Full text search:

Excluding papers focusing on societal issues regarding visual social media usage and papers without a visual social media or commercial angle.

26 papers included.

Backward and forward search

6 papers included.

56 papers on social influence in social commerce

Figure 2. An overview of the second search and selection process.

such as companies, brands, and social influencers. In terms of exercising social influence for commercial purposes, ‘components’ refers to how the identified actors exercise their social influence through the interconnection between social and technical aspects, as requested by Sarker et al. (2019).

A rigorous qualitative process based on an open, axial, and selective coding strategy was applied to search for connections in the data material and categorize, capturing the essence of and trends in the data (Strauss & Corbin, 1998). We read each article carefully and broke the data into discrete parts in Excel, including each paper’s actors and the components of how the actors in the studies exercised their social influence. This was followed by axial coding—we drew connections between the data using a color-coding approach. Similar colors were given to patterns with a certain linkage. Finally, we selected one central category for each pattern that connected the codes from our analysis to capture the essence of and trends in the data (Strauss & Corbin, 1998).

5 Results

In the first step, we obtained an overview of the categories of actors involved in the influence of commercial content. Table 1 presents the three main actors (selective coding), their related subcategories (open coding), their characteristics, and the platforms on which they operate.

<i>Categories (Selective codes)</i>	<i>Subcategories (Open codes)</i>	<i>Characteristics</i>	<i>Platforms</i>
Social media influencers (N=20)	Influencers, celebrities, creators, YouTubers	Public personas, with a commercial agenda, well known to a niche group of people, interacting and promoting commercial content.	Instagram, YouTube, TikTok, Twitch
Peers (N=24)	Friends, family, acquaintances, consumers	People without a commercial agenda who are peers to those they influence. Members of this category tend to interact with others privately about their consumption choices, as well as publicly by sharing their experiences with products and services.	Facebook, Instagram, Snapchat, TikTok
Businesses (N=12)	Companies, brands, businesses, advertisers, marketers	An organized group of people with a particular commercial purpose who connect and build relationships with people strategically and organically through their public SM profiles.	Facebook, Instagram, Snapchat

Table 1. An overview of the categories of actors involved in the influence of commercial content (N=number of studies).

In the three sections below, we will present how each category exercises its influence for commercial purposes.

5.1 Social influencers

Table 2 shows how social media influencers exercise their social influence (selective coding). For each component (social and technical), we include their related subcomponents (open coding) and identify examples in practice.

Most studies in the field have focused on how social media influencers exercise social influence through social components such as likability, expertise, authenticity, and transparency. Social media influencers are argued to be more trustworthy and credible than traditional celebrities (Djafarova & Rushworth, 2017)—they can appear as ideal consumers, representing a lifestyle others envy (Aljasir, 2019). Similarity, likability, and homophily were especially found to be components through which these actors exercise their social influence. People tend to follow social media influencers who are similar to themselves (Argyris et al., 2020; Sokolova & Kefi, 2020) as social media is often used for inspiration seeking. Social media influencers were also found to be persuasive in their informational practices. For example, Aljasir (2019) showed that people follow them to become introduced to new products.

In addition, the papers in our analysis focused on how social media influencers actively aligning their content activities with technical components to increase their visibility. Hutchinson (2020) found that social media influencers create content to satisfy the affordances of the algorithms that drive the platforms on which they distribute their content. In this context, Cotter (2019) found that influencers calculate and identify specific time frames in which Instagram's rating functions would reward visibility. Carter (2016) found that social media influencers explicitly affiliate themselves with non-human entities such as brand tags and topical hashtags in order to increase their visibility. We also identified papers focusing on metrics that explain social media influencers' influential capabilities. Arora et al. (2020) found that people's engagement (likes, comments, and shares), outreach (views), sentiments (topics discussed), and growth are used as metrics by social media influencers to strategically work on increase their influence. In agreement, Hutchinson (2020) argued that social media influencers make their content production decisions based on the feedback from their followers (likes, comments, views). In other words, social media influencers learn the rules articulated by different people's engagement and the platforms algorithms and develop their tactics accordingly (Cotter, 2019).

<i>Components (Selective coding)</i>	<i>Subcomponents (Open codes)</i>	<i>Practice examples</i>
Social (N=20)	Similarity, homophily, peering, likability, normality, credibility, expertise, trust, relatability, envy, parasocial identification, relationships, inspirational, transparency, support, intermediation, product congruence, argument quality, information involvement, trends	“All consumers considered celebrities as a trustworthy source of information online.” (Djafarova & Rushworth, 2017, p. 5)
		“The goal of an social influencer marketing campaign should be to demonstrate the social influencer’s familiarity and authenticity (Argyris et al., 2020, p. 13)
		“They follow social media celebrities because of the interesting things they broadcast, to be introduced to new things (...)” (Aljasir, 2019, p. 22)
		“Internet-celebrities are still the primary social influence on Generation Z females’ impulse fashion purchases as they set the trends.” (Djafarova & Bowes, 2021, p. 7)
Technical (N=5)	Algorithms, content and follower engagement, outreach, sentiment, homophily	“Influencers emphasize the importance of gathering information about how algorithms function to learn the rules of the game. They view this knowledge gathering process as part of being an influencer and often refer to it as ‘research’” (Cotter, 2019, p. 902).
		(...) information to support visibility may include topics like which hashtags to use, what time to post, and how best to increase engagement” (Cotter, 2019, p. 902).
		“The digital first personality also has the technical skills, or can seek out those skills, to align their content production with any given platform’s algorithm to ensure it will receive increased visibility”. (Hutchinson, 2020, p.1297).
		“users understand and manipulate their influence by positioning their followers (branding) and by explicitly affiliating themselves with non-human entities such as brands and topical hashtags (hustling)” (Carter, 2016, p1).

Table 2. An overview of how social media influencers exercise their social influence for commercial purposes (N=number of studies).

5.2 Peers

Table 3 shows the four main components through which peers exercise their social influence in terms of commercial content. For each component, we include their related subcomponents and attach examples in practice.

Most studies in our analysis focused on the social components of peer influence emphasizing similarity, authenticity, familiarity, and support, among others, to explain peer influence (e.g., Gobara et al., 2019; Ham et al., 2019). Ham et al. (2019) found that peers share and consume commercial content to socialize and build relationships. Their motivations are normative and motivated by the need to be liked and socially approved by others (Bi et al., 2014; Kuan et al., 2014). However, peers also exercise influence via information exchange. It is common for peers to look to previous reviews and comments, as well as the number of likes and shares of a product, to help them decide (Oumayma, 2019, p. 6). In this case, the individual behind the comment is less relevant and may be influential because of the objectivity of their commercial experience.

Beyond these social elements, studies in our analysis also focused on network structures and network effects in how peers' ability to exert influence is not straightforward (Chen et al., 2013; Klier et al., 2019; Libai et al., 2010). Susarla et al. (2012) investigated how content on YouTube received visibility. They argued that peers when liking, watching, or subscribing to YouTube profiles, play a critical role in deciding the content other people view and its influence. They found that videos posted by a profile must first reach a pool of early adopters, subsequently influencing the rate at which the video diffuses through the population. According to their study, the influence at the initial stage is very sensitive to the network.

Some papers in our analysis discussed weak versus strong ties in a network of nodes. Lee and Kronrod (2020) found that weak ties evoke perceptions of a more extensive and diverse group. Their findings were in the context of consensus language, which refers to words and expressions that suggest general agreement among a group of people regarding an opinion, product, or behavior (e.g., 'everyone likes this movie'). Most studies, however, highlighted the advantage of strong ties, such as Chen (2013), who argued that "friends are more influential than followers". Beşer and Erdogan (2023) found that the degree to which strong or weak ties are influential depends on their platform. On Facebook, for example, people primarily interact with people they know. They tend to befriend friends, acquaintances, or family members (strong ties). However, On TikTok and YouTube, peers mostly view videos of interest provided for them based on the platform's algorithm. As such, peers do not necessarily use TikTok and YouTube to primarily interact with people they know; instead, they seek entertainment from peers they find intriguing (weak ties).

<i>Components (Selective codes)</i>	<i>Subcomponents (Open codes)</i>	<i>Practice examples</i>
Social (N=20)	Usefulness, support, informative, purposive, evaluations Strength of social connection, trust, source attractiveness, similarity, homophily, familiarity, expertise, closeness, centrality, diversity, enhancement, connectivity, conformity, entertainment, immediacy, and number of consumers	<p>“Consumers look for previous reviews and comments, number of likes and shares to help them in the decision making.” (Oumayma, 2019, p. 6)</p> <p>“Social shopping intention was regressed on perceived member familiarity, closeness, similarity, and expertise” (Fu et al., 2020, p. 13)</p> <p>“Consumers’ sharing motivation is not directly related to the value and quality of the shared content but more with social relationship building.” (Ham et al., 2019, p. 171)</p> <p>“Young individuals may want to respond more favorably to messages produced by someone like themselves” (Paek et al., 2011)</p> <p>(..) consumption and purchase behaviors become increasingly visible to their peers, spawning a new form of digitally enabled conspicuous consumption (Rue & Sundararajan, 2019, p. 1127)</p>
Technical (N=6)	Strong and weak ties, interconnectivity, number of consumers, immediacy	<p>“Weak-tie references to consensus bring to mind a larger and more diverse group of consumers (...).” (Lee & Kronrod, 2020, p. 368)</p> <p>(...) compliance, (ii) identification and (iii) internalization are constructs that would form a direct relationship with social influence, whereas (iv) strength, (v) immediacy and (vi) number of people are playing the role of moderators (Chandrasekara & Sedera, 2019, p. 9)</p> <p>“Friends are more influential than followers” (Chen, 2013, p.14)</p> <p>“Preference for conformity and homophily and (ii) the role of social networks in guiding opinion formation and directing product search and discovery” (Susarla et al., 2012, p.23)</p>

Table 3. An overview of how peers exercise their social influence for commercial purposes (N=number of studies).

5.3 Businesses

Table 4 shows the three main components through which businesses exercise their social influence for commercial purposes.

<i>Components (Selective codes)</i>	<i>Subcomponents (Open codes)</i>	<i>Practice examples</i>
Social (N=14)	Media richness, creativity, aesthetics, entertainment, priming, forming, sentiments, timing, content type, captions, informative. Empathy, emotions, credibility, expertise, similarity, interactivity	“Managers (...) could upload visually inspiring content (e.g., real-life stories, quotations) that might support their followers in their daily lives (...)” (Casaló et al., 2021, p. 422)
		“Advertisers should join the conversation through brand content that is presented in a variety of advertising formats, such as videos, photos, games, polls, and blogs.” (Wiese et al., 2020, p. 84)
		“Businesses attempt to create this connection with consumers by, for example, asking them to provide creative content promoting the brand to post on Instagram(...)” (Casaló et al., 2021, p. 422)
Technical (N=7)	Call to action, visual artifacts, timing, trust measures, follower engagement, outreach, sentiment	“Advertising campaigns using Call-to-action (CTA) buttons in certain age groups only affects their purchase intentions.” (Handayani et al., 2018, p. 54)
		“(…) ... advertisers should join the conversation through brand content that is presented in a variety of advertising formats such as videos, photos, games, polls, and blogs” (Wiese et al., 2020, p. 84).
		“Engagement, outreach, sentiment, and growth play a key role in determining the social influencers”. (Arora et al., 2019, p. 86)
		“As marketers try to leverage the power of social networking, precise identification of highly trusted actors in a network who are in an optimal topographical position to aid in viral advertising would be critically important”. (Roy et al., 2017, p. 280)

Table 4. An overview of how businesses exercise their social influence for commercial purposes (N=number of studies).

Our analysis found that businesses exercise the social influence of commercial content through social components such as entertainment, creativity, emotions, and credibility. Businesses are influential when promoting visually inspiring content, such as real-life stories and quotations that trigger emotions and humor (Casaló et al., 2021). Some papers have focused on businesses need to join peoples' conversations (Wiese et al., 2020) and exude credibility, expertise, and interactivity (De Jans et al., 2020). Businesses attempt to create this connection with consumers by asking them to provide creative content to promote the brand on Instagram or by generating more significant affective commitment, which could lead people to feel attached to the companies (De Jans et al., 2020).

Businesses also utilize technical features, including call-to-action. A call to action is a shopping feature that allows people to directly access brand and shopping spaces. People can then purchase products directly at the moment of influence (Handayani et al., 2018). Businesses also utilize videos, photos, games, and polls (Wiese et al., 2020), resulting in a more entertaining and enjoyable way for businesses to influence people. Our analysis also emphasizes the use of measurement tools to analyze, plan, or predict the influence of commercial content. Roy et al. (2017) developed a tool for marketers to identify the best seeding nodes in a network, determine effective paths for their advertisement, and perform more effective and efficient SM campaigns. Chen (2013) argued that interlinked relationships enable new marketing opportunities to reach people more effectively. Similarly, Klier et al. (2019) argued that a customer's value lies not only in the cash flow directly generated by them (e.g., through purchases), but also their network effects. In other words, businesses actively utilize the network effects surrounding a person as a strategy to increase their influence.

6 Discussion

In this study, we have identified actors involved in the influence of commercial content and analyzed how they exercise their influence for commercial purposes. Building on the request by Sarker et al. (2019) and Scott and Orlikowski (2014), we challenged the predominantly social treatment of influence and draw attention to the societal outcomes mediated by influence in practice. Nevertheless, how this mediation impacts people's daily life practices (Sarker et al., 2019; Scott & Orlikowski, 2014). In this section, we present three contributions to IS literature based on our findings, theoretical framework and existing literature within the field.

First, our study emphasizes how people have become unconscious critical players in the influence of products and services. As our analysis shows, people are part of a com-

plex interconnected network, where every action they take influences other people inside and outside their network (Chen et al., 2013; Khan et al., 2019; Klier et al., 2019). Additionally, businesses and social media influencers tailor their commercial content strategies to align with these network structures as well as algorithmic preferences, as they aim to maximize influence (Klier et al. (2019)). They view network structures as giving them new opportunities to determine effective paths for their advertisement and perform more effective and efficient SM campaigns (Roy et al., 2017). According to our analysis, keeping peers engaged is a critical part of the commercial environment, as their engagement is the premise of the success and visibility of commercial content (Klier et al., 2019; Arora et al., 2020). These results show how technologies have mediated into a predominantly socially perceived concept of influence and how this interconnection plays a critical role in people's everyday lives (Scott & Orlikowski, 2014). This is an essential contribution to IS literature as it provides a way for understanding the outcomes of influence in practice. Our study challenges the conversations that focus solely social perspectives of influence when studying social media. We argue that IS research should pay further attention to influence in practice, including social and technical elements in their methodological and theoretical considerations.

Secondly, we contribute with insights into how people's social and commercial lives and content are intertwined on social media. People are constantly exposed to and influenced by massive amounts of commercial content, carefully and strategically integrated into people's social content (Ghose et al., 2019). As our analysis shows, there has been an increase in the visibility of young people's purchase behaviors, ranging from 'haul' videos where peers present their consumption to more subtle forms of commercial visibility, such as restaurant visits and traveling (Rhue & Sundararajan, 2019). These insights likely stem from the notion that commercial content has been increasingly intertwined with people's social lives, affecting how people display themselves. Since existing literature on the commercial developments of SM has primarily focused on economic conditions (e.g., Fu et al., 2020; Godinho de Matos et al., 2014; Hajli et al., 2015; Jeon et al., 2017), these findings contribute with conversations regarding societal implications of the commercialization. More research is needed to develop critical perspectives on how the commercial development impacts people. Due to the rapid evolution of social media platforms and the explosion in commercial activities, we recommend focusing on the complex challenges concerning how people's social lives seamlessly today involve engaging with commercial activities.

Thirdly, our study contributes insights into how people, when using social media, are not necessarily able to reflect critically on the content they engage with. As our analysis shows, Instagram and TikTok feeds contain content that varies from social

content posted by friends, family, or acquaintances to commercial content carefully and creatively crafted to fit the persons' interests (Wiese et al., 2020; Voorveld et al., 2018). People are also unconsciously encouraged to reconstruct content through product testing. These practices are mostly perceived as enjoyable and entertaining while being a strategic business approach to leverage the influential power of social media (Roy et al., 2017). These findings have implications for IS literature since they raise critical questions regarding how people are not provided with a transparent picture of the commercial content they consume. Therefore, people cannot critically and individually reflect upon the content they engage with. This finding requires further investigations emphasizing issues centered around commercial transparency.

7 Conclusion

This study revealed the influence of commercial content on social media and discussed the interweaving effect of commercial and social content. We addressed the following research questions: *How does the influence of commercial content occur on social media?* (RQ1) and *How can we understand the interweaving effects of commercial and social content on social media?* (RQ2). Specifically, we identified the actors involved in the influence of commercial content and analyzed how they exercise their influence for commercial purposes. Our study adopted a sociotechnical perspective (Sarker et al., 2019) and provided three contributions to information systems literature. First, our study emphasized how people have become unconscious critical players in the influence of products and services. Our study challenged the dominant conversations in IS that prioritize solely social perspectives of influence when studying social media. It emphasized the importance of including social and technical elements in methodological and theoretical considerations (Sarker et al., 2019; Scott & Orlikowski, 2014). Secondly, we contributed insights into how people's social and commercial lives and content are intertwined on social media. We argued for the need to develop critical perspectives on how the commercial development of SM impacts consumers. Thirdly, our study contributed insights into how people, when using social media, are not necessarily able to reflect on the content they engage with critically. Due to the rapid evolution of social media platforms and the explosion in commercial activities, we emphasize future conversations with a primary focus on the complex challenges concerning how people's social lives seamlessly today involve engaging with commercial activities.

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Attachement B

Paper 2: Exploring Influencers' Commercial Content on Instagram

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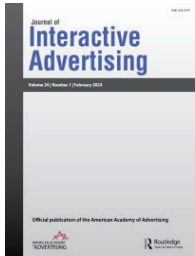


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Exploring Influencers' Commercial Content on Instagram

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ABSTRACT

This study, which explored how commercial products and services are displayed by different influencer categories on Instagram, was motivated by the need for a more transparent picture of the commercial content consumed by followers. Drawing from an ethnographic content analysis of 3,278 Instagram posts, we found that social media influencers with a minor following had a higher number and a broader variety of commercial posts. Additionally, products and services were displayed through subtle patterns, often integrated into the influencers' lifestyles and social activities. Although social media influencers with many followers had fewer commercial posts, their display of products and services was more direct and informative. The study closes a literature gap by providing a more refined understanding of social media influencers' commercial content on Instagram. It offers managerial implications based on the societal impact of the commercial content that people consume.

KEYWORDS

Commercial content; Instagram; influencer marketing; social media influencers

People worldwide spend a substantial amount of time on Instagram, primarily in search of socialization, information, entertainment, and inspiration (Voorveld et al. 2018). Simultaneously, content that aims to sell, promote, and advertise products, businesses, or services (commercial content) is constantly and subtly interwoven in people's feeds, frequently by popular social media influencers (Hogsnes, Grønli, and Hansen 2023). With the global influencer market value reaching 21.1 billion US dollars as of 2023 (Statista 2023), marketing scholars have directed their attention to how this subtle interweaving of commercial content affects people's ability to critically evaluate the content they consume (Boerman and Müller 2022; Borchers and Enke 2022; Karagür et al. 2022).

Social media influencers can be defined as regular internet users who achieve large audiences on social media through the textual and visual narration of their personal lives and lifestyles (Abidin 2021, 5). Even though much of their role involves displaying commercial content, people engage with them based on personal interests (Audrezet, De Kerviler, and

Guidry Moulard 2020; Gross and Von Wangenheim 2022) and tend to believe that influencers act individually rather than on behalf of marketers (Borchers and Enke 2022). As such, people are likely to confuse a commercially motivated message promoted by social media influencers with a personal recommendation (Boerman and Müller 2022). While influencers must follow rules and guidelines that require them to disclose a post's intent (Abidin et al. 2020), studies have revealed that people do not always notice these disclosures (Hudders, De Jans, and De Veirman 2020). In other cases, the rules are overlooked (Abidin et al. 2020). Consequently, people are exposed to and influenced by massive commercial content that they may not be able to critically evaluate. Thus, there is a need for more knowledge about the content people consume.

Although advertising scholars highlight the vital role of social media influencers in advertising (e.g., Gross and Wangenheim 2022; Tafesse and Wood 2021), most research has been conducted from an audience perspective and is concerned with the appeal

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and efficacy of advertisements (Hudders, De Jans, and De Veirman 2020). According to reviews by Hudders, De Jans, and De Veirman (2020) and Vrontis et al. (2021), limited studies have focused on the commercial content of social media influencers' posts, especially the practices among different influencer categories. In academia and in practice, it is common to categorize social media influencers on Instagram according to the number of followers they have (Campbell and Farrell 2020; Inzpire.me 2021; Klear 2021). Number of followers is an indication of how many people influencers can reach with their commercial content. Each category plays different roles in the influencer marketing field (Kay, Mulcahy, and Parkinson 2020), and their different influential capabilities are debated (Campbell and Farrell 2020; Domingues Aguiar and van Reijmersdal 2018). For example, the so-called micro-influencers (1,000–10,000 followers) are frequently understood to provide intimacy, almost like a distant friend, as they have fewer followers and brand collaborations (Campbell and Farrell 2020). In contrast, the so-called macro-influencers (500,000–1 million followers) are less intimate but play a more prominent role as information amplifiers because they reach a more extensive and more diverse base of followers (Abidin 2021). For the most part, studies have yet to investigate how different influencer categories display commercial content. A few exceptions exist (e.g., Alassani and Göretz 2019; Britt et al. 2020), and although these studies offer valuable insights, they focus on one type of sponsored post or on selected influencer categories. As such, this study contributes to the discussion by taking a broader approach, focusing on all forms of products and services and all influencer categories displaying commercial content. By taking this perspective, we can provide a broad and nuanced overview of the commercial content people consume.

This study addresses the following research question: How are commercial products and services displayed by different influencer categories on Instagram? To answer this question, we conducted an ethnographic content analysis of 3,278 Instagram posts from 33 social influencers. The data collection focused on females between the ages of 18 and 34 who are active on Instagram, as this is the dominant influencer group and Instagram is a leading platform in the industry (Statista 2023). Due to its dominance in influencer marketing, we selected the fashion and beauty domain as the specific context (Djafarova and Rushworth 2017). We focused our study on Scandinavia because most of the literature has

examined other regions, such as North America and Southeast Asia (Abidin et al. 2020). We followed a categorization scheme developed by Abidin (2021) specifically for the Scandinavian market that is based on the number of followers: micro-influencers (1,000–10,000 followers), influencers (10,000–500,000 followers), macro-influencers (500,000–1 million followers), and mega-influencers (1 million+ followers). Abidin's (2021) categorization calculates the number of followers in each category against the population and size of the Scandinavian countries. According to Abidin (2021), nano-influencers, with fewer than 1,000 followers, constitute a fifth category. However, this category is rarely considered for commercial purposes in the Scandinavian market (e.g., Inzpire.me 2021) and was not investigated in this study. We focus on Instagram "posts" in this study. Other formats such as "stories," "reels," and "channels" may be interesting to study, but posts offer the flexibility to share photos, video, carousels (multiple images or videos in one post), and longer-form captions (up to 2,200 characters) that appear permanently on the social media influencer's profile and on followers' feeds (Caldeira, Van Bauwel, and De Ridder 2021). Therefore, we considered posts to broadly represent content display and prioritized this format.

Our main findings demonstrate that micro-influencers and influencers had a higher number and a broader variety of commercial posts. Additionally, products and services were displayed through subtle patterns, often integrated into the influencers' lifestyles and social activities. Macro- and mega-influencers had fewer commercial posts, but their display of products and services was more direct and informative. The study provides two main contributions to influencer marketing literature. First, the study reveals how the increased establishment and commercialization of influencer marketing contribute to a new generation of micro-influencers. Second, we contribute insights into the subtle nature of micro-influencers' and influencers' commercial displays as opposed to macro- and mega-influencers' more direct and informative displays of commercial content. These findings close a literature gap by providing a broad and nuanced understanding of the commercial content displayed (Hudders, De Jans, and De Veirman 2020; Vrontis et al. 2021). Our study also emphasizes how the increased commercialization of the influencer industry has contributed to the complex challenges created when people's social lives are seamlessly connected to commercial activities. Although the study does not investigate commercial transparency per se,

the findings are valuable for consumer authorities and for conversations taking place in the literature (Borchers and Enke 2022; Hogsnes, Grønli, and Hansen 2023; Karagür et al. 2022) concerned with the societal implications of the consumption of commercial content.

Background

Instagram has evolved into an established marketing platform. Marketing on Instagram includes several activities, including the development of business profiles for organic interactions with customers, the strategic placement of ads (Instagram 2023), and influencer marketing (Martínez-López et al. 2020). Instagram has become increasingly valuable for marketers because they can interact directly with customers, create engaging and inspirational content, and target specific customers in their social space (Casaló, Flavián, and Ibáñez-Sánchez 2020). It is also common for marketers to collaborate with social media influencers, often referred to as “influencer marketing” (Hudders, De Jans, and De Veirman 2020), where they display products, brands, organizations, or ideas on their social media profiles (De Veirman, Cauberghe, and Hudders 2017). Marketers typically pay social media influencers to convey commercial messages on their behalf, invite them to exclusive events, or send them free products in the hope that they will showcase them on their social media influencers profiles (De Veirman, Cauberghe, and Hudders 2017). Social media influencers can also be brand ambassadors, and those with many followers develop their own brands (Rundin and Colliander 2021). Typically, the number of followers on Instagram defines an influencer’s position in the marketing field (Abidin 2021; Campbell and Farrell 2020). Because our study investigated the commercial content displayed by different social media influencer categories, our theoretical background covers three areas: influencer categories, commercial content, and display of commercial content.

Influencer Categories

It is not viable to conceptualize all social media influencers as the same (Kay, Mulcahy, and Parkinson 2020). As illustrated in Table 1, they can be divided into five main categories (Abidin 2021).

When investigating social media influencers in Scandinavia, Abidin (2021) emphasized the importance of accounting for specific categories scaled to the population. In countries such as Denmark (population 5.8 million), Norway (population 5.3 million), and Sweden (population 10.2 million), a mega-influencer has more than 1 million followers, whereas those with fewer than 1,000 followers are considered nano-influencers. Number of followers in each category estimates how many people influencers reach on Instagram versus the country’s population. Different approaches exist, such as categories based on language groups or social media platforms. One might also categorize social media influencers by the number of “likes” (Kay, Mulcahy, and Parkinson 2020) or their genre (Abidin 2021). In this study, we utilize Abidin’s (2021) categorization because it was developed specifically for Scandinavian countries and fits Instagram and the fashion and beauty industry. Nano-influencers are rarely involved in commercial collaborations in the Scandinavian market (e.g., Inzpire.me 2021) and are therefore not included in this study. From now on, we refer to all categories in general as “social media influencers.”

Studies have investigated the role of each influencer category in the influencer marketing field (Campbell and Farrell 2020; Park et al. 2021). Mega- and macro-influencers are often associated with broadcast media, where they act as information amplifiers because they reach large audiences (Abidin 2021). Macro- and mega-influencers also tend to promote their own brands or those they co-designed (Rundin and Colliander 2021), emphasizing their status in marketing. However, other studies have found that the established position of macro- and mega-influencers contributes to decreased influential power. For example, because macro- and mega-influencers are involved in a broader range of commercial collaborations, they use more professional photographs and tag more brands than micro-influencers (Alassani and Göretz 2019). This increased commercialization may decrease the perception of intimacy. Influencers are often viewed as opinion leaders (Abidin 2021) and play an essential role in the information flow (Casaló, Flavián, and Ibáñez-Sánchez 2020). Information from mass media flows through a mediation process in which influential people process the information and

Table 1. Social media influencer classifications in Denmark and Sweden (Abidin 2021, 6).

Influencer category	Followers	Role in the information ecology
Mega-influencer	> 1 million	Amplifiers of information
Macro-influencer	500,000–1 million	
Influencer	10,000–500,000	Opinion leaders
Micro-influencer	1,000–10,000	Persuasive converters
Nano-influencer	< 1,000	

transmit it to the public (Lin, Bruning, and Swarna 2018). Micro- and nano-influencers are thought to be persuasive converters (Abidin 2021). Because micro-influencers have small followings, some researchers have found that they are less likely to “sell out” than other categories (Campbell and Farrell 2020). They represent a more significant niche and appear to be more similar to those who follow them, so they tend to convey a greater sense of trust and authenticity (Campbell and Farrell 2020; Park et al. 2021). To expand on these conversations, our study explores the commercial content displayed by these different influencer categories.

Commercial Content

We define “content” as the resources available in a network (Kane, Alavi, and Borgatti, 2014) and “commercial” as intended for commercial purposes such as monetizing, selling, promoting, and advertising a product, business, or service (Merriam Webster 2024). Being a social media influencer involves displaying commercial content on social media (Gross and Von Wangenheim 2022). Influencers’ marketing value, however, is based on nonsponsored posts about their everyday lives (Gross and Von Wangenheim 2022). In contrast to commercial content, nonsponsored posts are unrelated to brands and do not include any display of brands or products. They often contain personal stories, entertainment, inspirational images, and life captures (Zarei et al. 2020). As such, social media influencers’ Instagram profiles link nonsponsored posts and those containing commercial content.

Commercial content consists of sponsored posts, nonsponsored commercial posts, and hidden sponsored commercial posts. Sponsored posts integrate brands and brand messages that are compensated by a sponsor (Zarei et al. 2020). Such posts are incentivized and influenced by companies, which have some control over the advertising message (Zarei et al. 2020). Sponsored posts tend to have captions with clear advertising messages. Captions are textual information added to a post that often aligns with the visual image or video (Caldeira, Van Bauwel, and De Ridder 2021). Marketers use captions as an advertising tool; they contain advertising messages and provide helpful information about brands and products, such as where to buy a product, where to get the best offers, or the social influencer’s experience with a product (Gross and Von Wangenheim 2022, 291).

However, the degree to which a marketer can control sponsored posts depends on the marketing activity.

Social media influencers often receive monetary rewards through complimentary products or invitations to exclusive “Instagrammable” events, in the hope that the products will be displayed (De Veirman, Cauberghe, and Hudders 2017). In some cases, it is common for marketers to refrain from declaring a commercial collaboration in their captions, even if they are paying to convey a specific message. This is called a hidden sponsored post (Zarei et al. 2020). In this case, a post may include captions with product recommendations, brand tags, or emojis, for example, but it omits captions declaring the use of monetary incentives to post the content (Abidin et al. 2020). In addition to sponsored and hidden sponsored posts, social media influencers often post about products and brands for which they receive no monetary rewards (Jorge, Marôpo, and Nunes 2018), such as by recommending a product, tagging clothing brands they wear, or tagging restaurants they visit. We refer to this as a nonsponsored commercial post. Because our study is motivated by the need to gain insight into the commercial content followers consume, we study all forms of posts in which products and services are displayed under the umbrella of “commercial content.”

Display of Commercial Content

Specific visual displays are used in photos and videos when social media influencers post commercial content. In most cases, they appear at the center of the image, displaying products or services being worn or used (Abidin 2016), such as in a selfie, whole-figure, or half-figure photo conceptualized as a “portrait” (Bainotti, Caliandro, and Gandini 2021). They also tend to display material assemblages, such as shoes or bags characterized as “material objects” at the center of a post. These portraits or material objects are photographed and combined to create “instaworthy” posts (Vanninen, Mero, and Kantamaa 2023) that align with specific Instagram visual aesthetics (Bainotti, Caliandro, and Gandini 2021). Displaying specific “settings” such as landscapes, celebrations, and general surroundings is common (Bainotti, Caliandro, and Gandini 2021). Personal captions are often attached to the visuals, often related to the influencer’s preference and identity. Hidarto (2021) found that captions include a vast amount of language intended to establish familiarity with the audience. In other scenarios, the captions include limited information, letting the photo or video “speak for itself” when the visual surroundings are essential (Vanninen, Mero, and

Kantamaa 2023). In this case, commercial elements appear through brand tags or hashtags.

In their textual and visual displays, social media influencers are concerned with creating personal intimacy or forming an intimate bond with their followers (Jorge, Marôpo, and Nunes 2018; Caldeira, Van Bauwel, and De Ridder 2021). For example, Caldeira, Van Bauwel, and De Ridder (2021) identified several visual displays of social media influencer portraits, often accompanied by captions that included brand tags or hashtags or captions that exalted the influencer's enjoyment of the brand. The motive behind such subtle commercial displays is to provide a source of inspiration and enjoyment (Djafarova and Bowes 2021). The commercial elements in this case are less direct and more subtle in nature (Campbell and Grimm 2019). Gross and Von Wangenheim (2022) refer to this type of commercial display as transformational advertising, emphasizing information about the experience of using the brand or product instead of promoting the product solely from an objective perspective.

Product information and more descriptive messages are also common in influencers' displays of products and services. Hidarto (2021) found that social media influencers tend to include written captions with descriptive information about a product's quality and "promises." Jorge, Marôpo, and Nunes (2018) found that influencers often carefully explain why they genuinely like a product. In this case, although the negotiated authenticity and commercialism are more direct, persuading followers to purchase the product is based on their own experiences (Hidarto 2021). Compared to more subtle tones, such displays contain a clear commercial message. These practices can be understood as informational advertising, based on providing rational information directly linked to the advertised brands and products.

Although research on social media influencers' commercial content display is expanding, there is a need for a broader and more refined understanding of how they display that commercial content (Hudders, De Jans, and De Veirman 2020; Vrontis et al. 2021).

Methods

We conducted an ethnographic content analysis (Altheide 1987; Bainotti, Caliandro, and Gandini 2021; Rose 2014) to investigate how different influencer categories on Instagram display commercial content. This method gave us direct access to the commercial content posted by social media influencers. It involved manual coding, which has

demonstrated good validity because it allows researchers to consider text and image context and social embeddedness (Altheide 1987). The ethnographic content analysis involved three steps: (1) social media influencer selection, (2) coding, and (3) data analysis.

Social Media Influencer Selection

First, we identified females aged 18 to 34 as the dominant group in the influencer industry (Statista 2021) in Norway, Sweden, and Denmark. Although a broader age range could have enriched the analysis, the results would not have been representative of the dominant commercial display in the industry. We focused on Scandinavia because other researchers have mainly considered the influencer market in the United States and Southeast Asia (Abidin et al. 2020). Given the rapid growth of influencer marketing worldwide, it is crucial to expand the geographic coverage of this research (Vrontis et al. 2021). Second, we selected the fashion and beauty industry because this is the most prominent market in the influencer marketing industry (Statista 2021). Third, we studied the micro-influencer, influencer, macro-influencer, and mega-influencer categories identified by Abidin (2021) and selected candidates based on their number of Instagram followers, aligned with the population and size of Scandinavian countries. We did not assess nano-influencers, who rarely participate in the Scandinavian market (Inzpire.me 2021). To identify candidates based on our criteria, we applied Klear (2021), an artificial intelligence (AI) tool used by marketers when searching for influencers because it allows demographic analysis and campaign management. We were able to apply filters such as "female," "18-34," "fashion," "beauty," "Sweden," "Norway," and "Denmark" to ensure a selection that fit our criteria. To confirm that the candidates met our criteria, we applied a second tool called Inzpire.me (2021), as there is no consensus on what defines a top influencer. Inzpire.me provides insights on influencers' Instagram profiles, such as demographics and engagement. Inzpire.me and Klear are leading platforms in the Scandinavian market's approach to influencer searches. We applied both to ensure that we found appropriate candidates.

Nine micro-influencers and influencers were selected, with three representing each Scandinavian country. Eight macro-influencers and seven mega-influencers were selected (three Swedish and three Danish per category). Due to the lack of representation in these categories, we could analyze only two macro-influencers and one mega-influencer from Norway. In total, we had 33 candidates for analysis.

Coding

We developed codes to guide the ethnographic content analysis (Altheide 1987) on both denotative and connotative levels (Bainotti, Caliandro, and Gandini 2021). The denotative analysis focused on the objective representation of the content at first glance, such as whether the post contained a picture or a video, whether the post contained a portrait or a material object, and whether the caption included emojis or hashtags. The connotative analysis determined whether there was an association different from the literal meaning. At this level, the subjective meaning behind the posts was essential (Bainotti, Caliandro, and Gandini 2021). We developed six steps to guide our coding on these two levels.

Codes on the denotative level involved five steps. The first step identified the number of commercial posts (sponsored, nonsponsored, and hidden sponsored) posted by the different influencer categories. The second step identified commercial captions to increase our knowledge of whether the post contained a clear commercial message. A caption was recognized as commercial if it contained brand tags, visible brand labels, or commerce-related information. The third step identified the format of each commercial post, distinguishing among single photos, single videos, and carousels (a combination of both).

The fourth and fifth steps developed visual and textual codes of the commercial posts identified in the first step to identify how each influencer category displayed commercial products and services. Our goal was to identify what each photo, video, and carousel represented both visually and textually, that is, the textual elements in the captions attached to the post. We familiarized ourselves with the 33 candidates' postings by reviewing the features of their posts to gain a preliminary understanding of the content (Altheide 1987). We recognized many portraits of themselves as selfies or full-figure or half-figure photos. We also recognized many images of objects and social gatherings. One coauthor made brief notes about standard features, and we discussed our observations with one another to ensure their validity. This led to the development of three visual codes: portrait, material object, and setting. Regarding the textual codes, we found six main patterns: emojis, hashtags, brand tags, product descriptions, texts describing personal opinions about the products, and texts describing the influencer's mood. Given the exploratory nature of ethnographic coding (Altheide 1987), other descriptive and analytical codes were expected and allowed to emerge (Bainotti, Caliandro, and Gandini 2021).

The sixth step involved gathering information on a connotative level. At this stage, we described the subjective meaning behind each post in one or two lines, using Excel (Bainotti, Caliandro, and Gandini 2021). Specifically, the goal was to grasp the commercial context, such as what the post represented beyond the objective meanings identified in the first five steps. For example, on a denotative level, we identified a portrait in carousel format with commerce-related information in the caption, whereas the connotative level allowed us to consider the surroundings of the post and whether it promoted the influencer's own brand or a brand the influencer co-designed or represented as an ambassador. We also identified whether the influencers tagged brands or friends in the posts and the emotional state of each post, such as whether it had a positive or negative tone (Bainotti, Caliandro, and Gandini 2021). Including both levels gave us a broad and nuanced view of how each influencer category displays commercial content.

Table 2 provides an overview of the six steps we followed on a denotative and a connotative level.

Once the steps were planned and the codes were developed, we started coding the posts of the 33 selected social influencers. To get a representative number, we selected their 100 latest Instagram posts. The coding process took three months, coding one post at a time in Excel as it was viewed. One of the social media influencers in the study had only 78 posts, so we ended up with a data set of 3,278 coded posts for data analysis.

Data Analysis

The data were first sorted into four separate Excel sheets with data from each influencer category (micro,

Table 2. Codes developed for the ethnographic content analysis.

Codes		
Denotative level:		
1	Commercial posts	
2	Commercial captions	
3	Format	Photo Video Carousel
4	Visual codes	Portrait Material objects Setting
5	Textual codes	Hashtags Brand tags Emojis Descriptions Personal taste Mood
Connotative level:		
6	Commercial context behind the post	

influencer, macro, mega). Then the data were analyzed on a denotative level (steps 1–5) using a pivot diagram (Bainotti, Caliandro, and Gandini 2021) to count the following: (1) number of commercial posts, (2) number of commercial captions, (3) format (photo, video, or carousel), (4) visual codes used (portrait, material object, setting), and (5) textual codes used (hashtags, brand tags, emojis, descriptions, personal taste, mood). Once all the data were counted, we calculated the percentage distributions.

On a connotative level, the one to two lines of description for each post underwent a rigorous qualitative process involving an open, axial, and selective coding strategy (Strauss and Corbin 1998) to capture patterns in the commercial context for each influencer category. After the data were gathered, we performed axial coding, drawing connections between the data using a color-coded approach. We examined all four Excel sheets (micro, influencer, macro, mega) and assigned similar colors to data with a certain link. For example, many of the posts showed influencers posing in a carousel format, in wearables with brand tags, accompanied by short captions. All these posts were coded with a similar color. Once all the data were color-coded, we analyzed the data assigned similar colors and created one central category for each pattern that connected the codes (Strauss and Corbin 1998). In this way, we could identify patterns of how each influencer category displayed commercial content.

Two of the authors discussed and evaluated the denotative and connotative levels of analysis to ensure the validity by performing an “ethnographic ethic” (Altheide and Johnson 1994, 587). The ethnographic ethic included five elements the authors considered during data collection and analysis: (1) the substance of the analysis, such as the relationship between the observed commercial content and its considerable cultural, historical, and organizational contexts; (2) the relationship between the author conducting the analysis and the commercial content analyzed; (3) the point of view when rendering an interpretation of the ethnographic data; (4) the role of the reader in the final product; and (5) the authorial style used to render the description or interpretation.

Results

This section presents our findings regarding how each influencer category on Instagram displays commercial products and services.

Micro-Influencers

We began our analysis of micro-influencers by identifying the percentage of commercial posts. Of 900 posts analyzed, 501 contained commercial elements. Thus, micro-influencers had one of the highest percentages of commercial posts, with 56%. Of the 501 posts, 215 contained commercial captions (43%), making micro-influencers the category with the lowest percentage of commercial captions. In the next step we identified the format, visual codes, and textual codes used in micro-influencers’ commercial posts (Figure 1). The patterns were not mutually exclusive.

On a connotative level, we identified four main patterns: portraits displaying wearables (n = 351), daily life captures (n = 72), close-ups of material objects (n = 49), and portraits applying material objects (n = 29). The two dominant patterns are explained in greater detail.

First, many posts included portraits displaying one or multiple wearables (Figure 2). The surroundings in these posts were usually a big city, the seashore, or at home, intended to display wearables as inspirational

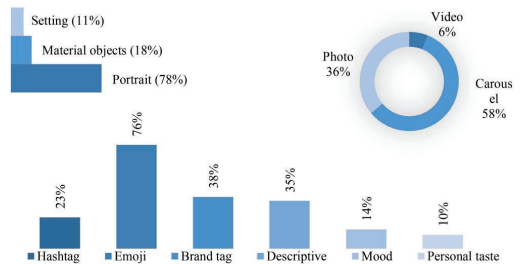


Figure 1. Overview of format, visual codes, and textual codes displayed by micro-influencers.

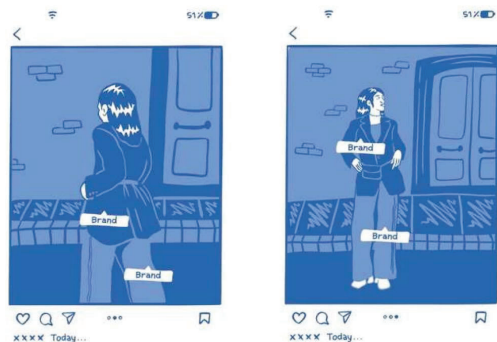


Figure 2. Example of micro-influencers’ dominant commercial display.

daily life captures. Commercial elements usually appeared only in brand tags attached to the micro-influencers clothing. The images were generally accompanied by short captions with single emojis and brand tags; they rarely featured commercially descriptive elements. An interesting finding was that micro-influencers tended to tag a broader variety of brands, and they also tended to tag public relations agencies in their posts. Second, we identified that micro-influencers posted carousels displaying daily life captures. These posts often included photos and videos representing a day or a week in the influencers' lives, and commerce often appeared as tags in what the micro-influencers were wearing. Such posts rarely included long descriptive text related to commercial collaborations with brands.

Influencers

Out of 900 posts analyzed, 552 contained commercial elements (61%). Influencers were thus the category with the highest percentage of commercial postings. Of the 552 posts, 243 contained commercial captions (44%). We then calculated the percentage of visual formats, visual codes, and textual codes displayed in their commercial posts (Figure 3). The patterns were not mutually exclusive.

On a connotative level, we identified five main patterns: portraits displaying wearables ($n=309$), close-ups of material objects ($n=121$), social events and gatherings ($n=62$), daily life captures ($n=41$), and portraits applying material objects ($n=19$). The two dominant patterns are explained in greater detail.

First, like the micro-influencers, influencers displayed many commercial posts showing wearables from multiple angles to highlight their taste and clothing preferences. In contrast to micro-influencers, however, influencers included more textual elements describing their taste. Second, the large number of

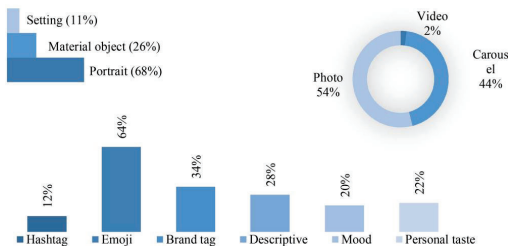


Figure 3. Overview of format, visual codes, and textual codes displayed by influencers.

single photos displaying material objects distinguished influencers from the other three categories (Figure 4).

In these posts, the commercial product was generally centered in the photo, with visible brand labels, but the post's context was not necessarily commercial or sales oriented. The captions of such posts rarely described a commercial collaboration, and brands were not necessarily tagged. However, a common feature of these posts was that most of the products promoted were from luxury brands, such as Chanel and Dior. Most of the captions included a single emoji or a short sentence describing the influencer's taste, such as "My favorite." In this pattern, there seemed to be a connection between the product displayed and the influencer's preferences; rather than promoting brands to others, these posts used an object to promote the influencer's profile.

Macro-Influencers

As in the other two categories, we began by identifying the percentage of commercial posts. Out of 800 posts analyzed, 371 contained commercial elements (46%). Surprisingly, macro-influencers were the category with the lowest percentage of commercial posts. Of the 371 commercial posts, 174 contained commercial captions (47%). We then calculated the visual formats, visual codes, and textual codes used in their commercial posts (Figure 5). The patterns were not mutually exclusive.

On a connotative level, we identified five main patterns: portraits displaying wearables ($n=224$), social



Figure 4. Example of influencers' dominant commercial display.

activities (n=65), close-ups of material objects (n=23), portraits applying material objects (n=32), and sponsored posts with clear advertising messages about their own brands (n=27).

Like the other influencer categories, macro-influencers had an overwhelming number of posts showing themselves posing in wearables from multiple angles in either a single photo or a carousel format (Figure 6).

However, in contrast to micro-influencers, macro-influencers often attached longer and more descriptive captions related to commercial collaborations. In some cases, the products displayed were also more visible in their posts. In contrast to the other categories, macro-influencers' photos were more "professionally" constructed, and there was often a clear advertising message. Interestingly, some posts by macro-influencers included a clear advertising message about their own brands.

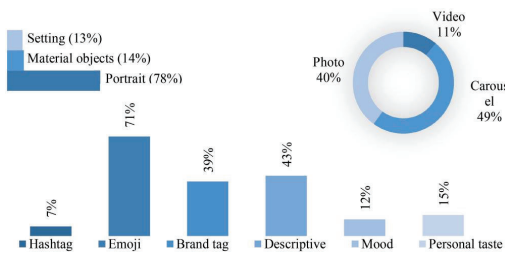


Figure 5. Overview of format, visual codes, and textual codes displayed by macro-influencers.

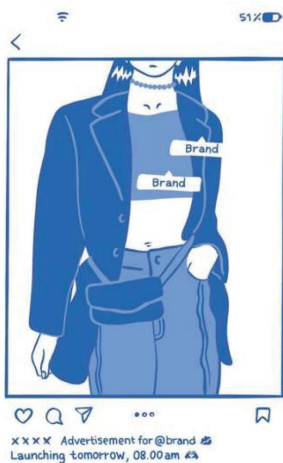


Figure 6. Example of macro-influencers' dominant commercial display.

Mega-Influencers

Of 678 posts analyzed, 325 contained commercial elements (48%), and 166 of these 325 posts contained commercial captions (51%). Mega-influencers thus had the highest percentage of commercial captions. Figure 7 shows the distribution of formats, visual codes, and textual codes used by mega-influencers. The patterns were not mutually exclusive.

Mega-influencers posted portraits displaying wearables (n=135), social activities (n=72), close-ups of single material objects (n=51), advertisements with a clear sponsored message about their own brands (n=44), and portraits applying material objects (n=20).

Mega-influencers' extensive use of descriptions in their posts was an exciting finding that contrasted with the practice of influencers, who often attached personal opinions such as "My favorite" or "Love this bag." We also discovered that mega-influencers had fewer variations in brand collaboration, and many posts displayed their own brands. Such posts had a clear sponsorship message and usually included portraits followed by a close-up of the product. Like the patterns identified among macro-influencers, mega-influencers' portraits displayed wearables in a more "professional" manner (Figure 8).

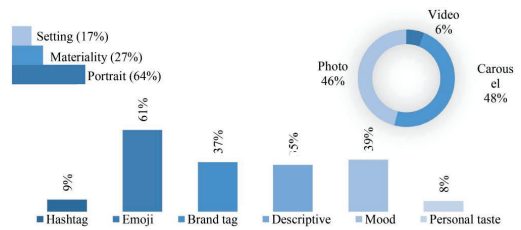


Figure 7. Overview of format, visual codes, and textual codes displayed by mega-influencers.



Figure 8. Example of mega-influencers' dominant commercial display.

Discussion

Having presented our findings on how each influencer category displays products and services, in this section we take an integrated perspective and discuss how our findings measure up against established literature in the field. Specifically, we present two main contributions to influencer marketing literature, followed by a discussion of the implications and limitations of our study and topics for future research.

First, our study demonstrated that micro-influencers and influencers display a higher number and a broader variety of commercial posts. Studies have argued that micro-influencers are less commercially active or that they facilitate greater intimacy compared with other categories (Campbell and Farrell 2020; Djafarova and Rushworth 2017; Kay, Mulcahy, and Parkinson 2020; Park et al. 2021). For example, Kay, Mulcahy, and Parkinson (2020) argued that micro-influencers appear to be more like their followers, so they tend to be more persuasive. Campbell and Farrell (2020) found that micro-influencers' recommendations seem more genuine than those made by macro-influencers, who may be viewed as more likely to "sell out." In our study, however, we found that micro-influencers had one of the highest percentages of commercial posts (56%). They also promoted a broader variety of brands and tagged public relations agencies in their posts. One explanation for our findings could be that the growth of influencer marketing has contributed to a new generation of micro-influencers who have become better established and more commercialized.

Second, this study contributes insights into the main differences in the commercial content displays of the various influencer categories. We found that micro-influencers and influencers were more likely to subtly integrate products and services into their displayed lifestyles than the other two categories. Micro-influencers' commercial posts resembled daily life captures. The captions were often short and contained limited information about brands or products. As such, we argue that social media influencers with fewer followers are more concerned about displaying products and services in "regular" settings, based on an appealing lifestyle (Abidin 2016). The motive behind such subtle commercial displays could be the desire to be a source of inspiration and enjoyment (Djafarova and Bowes 2021). These findings also align with transformational advertising, emphasizing the experience of using the featured products (Gross and Von Wangenheim 2022).

Macro- and mega-influencers are more direct in their commercial displays, often attaching long descriptive captions with detailed product information, as found in a study by Rundin and Colliander (2021). We argue that macro- and mega-influencers act as informative sources for commercial messages to a greater extent than the other two categories. In this case, they are informers who share their knowledge with others and provide informational, educational, and supportive commercial content about products and services. This type of display can be understood as informational advertising, motivated by the goal of providing rational information directly linked to the advertised brands and products. These findings have implications for influencer marketing literature, as they contribute to the ongoing conversations regarding each influencer category's role in the marketing field (Campbell and Farrell 2020; Kay, Mulcahy, and Parkinson 2020).

Managerial Implications

Our study suggests that it is essential for consumer authorities to pay attention to micro-influencers, as also found by Kay, Mulcahy, and Parkinson (2020). Micro-influencers and influencers were among the categories with the most commercial postings and the fewest commercial captions. They also posted products and services more subtly than macro- and mega-influencers. Although we could not separate hidden commercial posts from nonsponsored commercial posts, the results indicate a lack of commercial disclosure among social media influencers who are likely in the early stages of their careers and may not have the necessary information to obey the rules and regulations. Overall, however, our results suggest that social media influencers are highly commercially active, regardless of category. Due to the increased commercialization of the influencer industry, it is important to recognize that using Instagram involves engaging with commercial content.

Limitations and Future Research

Our study has some limitations that need to be acknowledged. First, its focus was the Scandinavian market, where the populations of Norway and Denmark are just a little over 5 million citizens each. As such, fewer social media influencers are operating there, which may result in more established commercial positions among influencers with smaller follower bases. Future studies should focus on the commercial

practices of micro-influencers in other countries. Second, we focused on Instagram posts but not Instagram stories, reels, or channels. Because these other formats are popular among social media influencers, investigating them in future studies could capture a more complete picture of how influencers integrate commerce into their content displays. Third, we focused on Instagram because it is a dominant platform, but many influencers operate on multiple platforms. Comparing the commercial content displayed on other social media platforms versus that on Instagram would be a relevant goal of future studies.

Conclusion

This study investigated how different influencer categories on Instagram display commercial products and services. We provided two main contributions to the influencer marketing literature. First, we found that micro-influencers and influencers had a higher number and a broader variety of commercial posts than macro- and mega-influencers. Second, we identified differences in each influencer category's method of displaying products and services: micro-influencers and influencers often integrate their products and services into their displayed lifestyles, while macro- and mega-influencers are more direct and informative. Our study thus contributes to the conversations about influencer categories (Campbell and Farrell 2020; Djafarova and Rushworth 2017; Kay, Mulcahy, and Parkinson 2020; Park et al. 2021), emphasizing the differences in how they display commercial content. The study also provided managerial implications by emphasizing that people's social lives involve engaging with commercial activities. Our findings contribute to discussions in the literature about the societal implications of the commercial content people consume (Borchers and Enke 2022; Hogsnes, Grønli, and Hansen 2023; Karagür et al. 2022).

Disclosure Statement

No potential conflict of interest was reported by the authors.

Ethics Statement

The study was conducted with anonymous data and complies with the ethical regulations of the Norwegian knowledge sector's service provider (Sikt 2024).

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Attachement C

Paper 3: A Commercial Playground: Exploring TikTok Influencers' Commercial Content practices

This paper is under review in Information, Communication & Society. I submitted the paper to the journal in August 2024, and it went through review in December 2024.

A commercial playground: Investigating TikTok influencers' commercial content practices

Research paper

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Abstract

This paper investigates the extent to which TikTok influencers are commercially constructed and how commercial products and services are displayed in their videos. We investigate this topic because of the increasing popularity of TikTok, in which users worldwide are routinely exposed to a massive amount of product-oriented content from famous TikTok influencers. Drawing from an ethnographic content analysis of 1,390 TikTok videos posted by 30 TikTok influencers, we found that commercial messages are displayed as (1) playful portraits, (2) informative tutorials, (3) product testing and recommendations, and (4) commercialized lifestyles. We argue that TikTok facilitates a commercial playground and commerce disguised as trends. The main contribution of this study is insights into TikTok influencers' commercial content practices. We also discuss implications for TikTok users exposed to commercial messages by TikTok influencers. We believe our work can enrich the understanding of the TikTok influencer market and its societal role.

Keywords: social media, TikTok, influencers, commerce

Introduction

In the first quarter of 2018, TikTok was the most downloaded social media platform worldwide, with an estimated 45.8 million downloads (Omar and Dequan 2020). The platform quickly became a global phenomenon; four years later, TikTok had an estimated 1.1 billion monthly active users (Koetsier 2020). While TikTok is known for socialization and entertainment (Divon and Ebbrecht-Hartmann 2022), the platform has also become a powerful commercial tool, most notably with the rise of influencers on the platform, often referred to as TikTok influencers (Abidin 2021). Influencers are often understood as a form of micro-celebrity that achieves a large following on social media based on engaging and creative content on which commerce is premised (Abidin 2016). Influencers have, for the past decade, had substantial impacts on large audiences' decision-making (Bakshy et al. 2011). Therefore, businesses often approach them to endorse products and services in their social media profiles in the form of commercial content (Hudders, De Jans, and De Veirman 2020). Influencers' commercial content is valuable because they share personal opinions about products and services in real-time (Abidin 2016). Because they are close to their specific audiences, followers tend to seek out Influencers' opinions to inspire or inform their purchase decisions (Djafarova and Rushworth (2017). TikTok is considered to be "a rising star" for Influencers (Hudders, De Jans, and De Veirman 2020), and recent reports have identified how TikTok influencers earn millions of dollars annually (Koetsier

2020). Regardless of the development occurring in practice, limited knowledge exists regarding influencers' commercial practices on TikTok.

A review study conducted by Zeng (2021) suggests that the current TikTok scholarship has been dominated mainly by a discussion about the platform's role in the COVID-19 pandemic, user behavior (e.g., Omar and Dequan, 2020; Yang and Ha, 2021), shopping behaviors among users (e.g., Cantawee, Witoonphan, and Sammasut. 2021; Li and Kang 2020), technological features of the platform, and TikTok's implications for digital cultures (Kennedy 2020; Schellewald 2021; Zulli and Zulli 2020). Studies investigating TikTok influencers are lacking and needed since existing studies investigating influencers on other platforms do not necessarily apply to TikTok (Abidin 2021). Moreover, research has also requested the need to increase our knowledge of the commercial content practices that are applied by TikTok influencers. Two recently conducted review studies argued that influencer commerce research has mainly been conducted from an audience perspective (Hudders, De Jans, and De Veirman 2020; Vrontis et al. 2021) and is concerned with the appeal, efficacy, and

transparency of influencer advertisements. Comparatively, commercial content practices have been much less studied (Hudders, De Jans, and De Veirman 2020; Vrontis et al. 2021).

This current study aims to investigate TikTok influencers' commercial content practices. Specifically, this study investigates the extent to which TikTok influencers' videos are commercially constructed and how commercial messages are displayed in their videos. Our research questions were as follows:

RQ1: To what extent are TikTok influencers' videos commercially constructed?

RQ2: How are commercial products and services displayed in TikTok influencers' video content?

Based on an ethnographic content analysis of 1,390 videos, our main contribution was insights into the commercial content practices taking place by TikTok influencers. We investigated female TikTok influencers between 18 and 34, as this is the dominant group in the influencer industry. We applied our study to the fashion and beauty domain, as these are influencer-dominated (Trybedynamics 2021). Our study applies a Scandinavian context, given that most existing studies on influencer commerce have been conducted in areas such as the United States and Southeast Asia (Abidin et al. 2020). However, we consider TikTok and influencers to be global phenomenon. Therefore, by applying our study in a Scandinavian context, we were able to contribute to the broader coverage of focus areas that complement information on the international characteristics of the development.

The study is motivated by the social implications of the development. When users go on TikTok, they expose themselves to being influenced by hundreds and even thousands of short videos posted by TikTok influencers (Belanche, Flavián, and Ibáñez- Sánchez 2020). Commercial messages are known for being subtly intertwined with influencers' social content. As such, the social influencer phenomenon is heavily criticized for issues around commercial transparency since it becomes difficult for users to separate social and commercial content (Abidin et al. 2020). While issues around commercial transparency is recognized by both academics and practitioners on platforms such as Instagram and YouTube, more knowledge is needed regarding commercial transparency on TikTok. In contrast to Instagram, for example, TikTok provides an increasingly passive audience (Opinion 2022). On TikTok, users mostly view content through the "For You" feed. The For You feed comprises a recommendation system built on user preferences and interactions. Based on TikToks famous algorithm, users are provided with content that fits their interests and needs. Moreover, the content is especially engaging due to the emphasis on short videos, including fun filters, quick cuts, and trending audio templates (Omar and Dequan 2020). As such, many argue that TikTok is one of the most

addictive social media platforms worldwide (Koetsier 2020). Increasing our knowledge of what commercial messages users consume on the platform is essential.

Theoretical background

TikTok is a social media platform considered a rising star for commercial purposes (Hudders, De Jans, and De Veirman 2020). TikTok allows two popular commercial tactics that many businesses implement: sponsored advertisement and influencer commerce (Araujo et al. 2022). Sponsored advertisement function similar as other social media platforms: advertisers select their target demographic, and TikTok places this messaging in front of the advertiser's desired audience. Influencer commerce refers to commercial collaborations between businesses and influencers where the latter conveys a specific commercial message on their platforms (De Veirman, Cauberghe, and Hudders 2017). Influencers can be defined as "one form of microcelebrity who accumulate a following on blogs and social media through the textual and visual narration of their personal, everyday lives, upon which paid advertorials – advertisements written in the form of editorial opinions – for products and services are premised. (Abidin 2016, 86). Being an Influencer is an occupation where they capitalize on their ability to influence others on the platform. Since we are specifically interested in TikTok influencers' commercial content practices, our theoretical background will continue to cover two areas of focus: (1) TikTok and (2) TikTok influencers' commercial content practices.

TikTok

While the academic knowledge of TikTok is limited, existing research has paid attention to how TikTok differs from other platforms, such as Instagram. TikTok is found to differ in three main ways. First, the focus of TikTok is not pictures but videos (Omar and Dequan 2020). The videos created are often 15 seconds to 10 minutes long and are produced and uploaded by users. Second, TikTok is mainly known for its algorithm that enables personalized content. In contrast to Instagram, for example, where users can, to some extent, decide whom to be influenced by, users on TikTok mostly browse content through the "for you" feed (Zeng 2021). The content on the for you feed provides users with content that suits their interests and needs based on their previous actions on the platform. While the for you feed is mainly used, users can also browse through videos on a "Following" feed, which shows the content published by user they are following (Kennedy 2020; Schellewald 2021; Zulli and Zulli 2020). Third, like Instagram, TikTok allows using textual elements, referred to as captions, such as hashtags, brand tags, and emojis. However, captions are not a critical element of TikTok. According to Vizcaíno-Verdú et al. (2021), audio may be one of the platform's most essential and engageable features. Users attach audio templates to their videos, such as "voiceovers," where users attach their voice, or "text to speech," where users write down sentences that turn into an automated voice. The most frequently used audio template, however, is music. The choice of music often indicates the video's content and meaning as users adopt music from other videos with the same message and incorporate it into their videos. In this manner, users can draw on collective meaning to convey a specific message (Medina-Serrano, Papakyriakopoulos, and Hegelich 2020).

On TikTok, videos are known to be dominated by fun dancing videos and lip- syncing performances where users apply fun filters to convey a message entertainingly. The videos often range from users talking into their cameras to content based on dance moves, lip-syncs, or prank scenes (Kennedy 2020). However, TikTok extends to the perception of only being playful and entertaining. Researchers have also emphasized the platform's role in sharing and negotiating social topics, including war, politics, sexuality, religion, identity, history, and collective memories (Divon and Ebbrecht- Hartmann 2022). Furthermore, according to Opinion (2022), TikTok has also become a platform for searching,

such as guides on how to cook a specific meal or step-to-step guides on creating a dress from start to finish. As such, TikTok is a learning and knowledge-sharing platform as well where users can learn from each other's experiences (Jacobs, Pan, and Ho. 2022).

Existing literature on TikTok has also specifically paid attention to the interactional aspects of the platform. Well-known social media interaction formats such as direct messaging (Dms) are less prominent on TikTok and have been replaced with public content reproduction (Barta et al. 2021). However, users still interact with each other as they view and share content, replicate TikTok challenges, and create duet videos with strangers. Hence, a typical pattern to TikTok is how other users add to other users' TikTok videos and experience videos, where users describe similar experiences applying the same sound, product, or filter (Barta et al. 2023). As such, TikTok users are algorithmically, digitally, and socially encourages large-scale imitation and replication to consume and imitate content. As a result, TikTok videos are often influenced by trends reproduced by thousands of users (Zulli and Zulli 2022).

In this paper, we are especially interested in the extent to which TikTok influencers are commercially constructed and how commerce is integrated into their videos. As such, we will address TikTok influencers' and commercial content in the next section.

TikTok Influencers commercial content practices

Influencers' commercial content practices are often conceptualized as sponsored posts (Zarei et al. 2020) or brand endorsements (Aljasir 2019). Such concepts are centered around collaborations between a business and an influencer, where the influencers declare a commercial collaboration through wordings such as "advertisement" in their content. However, it is common for influencers to avoid declaring a commercial collaboration, even if paid to convey a specific message. This is called "hidden sponsored posts" (Zarei et al. 2020). In other cases, influencers may display a commercial product or service on their initiative (Jorge, Maropo and Nunes 2018). They post recommendations of "genuine purchases," where they have purchased a product and inform their followers about their experiences with it (we will refer to this as non-sponsored commercial posts). Since our objective is to get an overview of TikTok influencers' commercial content practices, it is essential to consider all these forms of commerce-related content under the umbrella term "commercial content".

Existing literature on influencers' commercial content practices has shown that their messages often appear subtle. For example, Abidin (2016) argues that influencers create content, often based on an "Instagrammable" lifestyle in which commerce is premised. As such, commercial content typically blends with a social context, such as social activities, food, gadgets, fashion taste, and forms of self-display. In their study on Instagram influencers, Caldeira, Van Bauwel, and De Ridder (2021) identified several commercial content patterns illustrated through self-portraits or fitting room selfies, often accompanied by an acknowledgment of the brands in tags or hashtags and captions exalting the influencer's enjoyment of consumption. Vanninen et al. (2022) investigated how influencers decode and transmit commercial messages to their followers and found that an influencer's interpretation of organization's commercial messages is integrated in the social media environment. Gross and Wangenheim (2018) found reasons for these patterns, arguing that Influencers' primary role is to entertain and inform. Many also perceive them as prime sources of inspiration (Chae 2018; Djafarova and Bowes 2021). As such, their goals are to provide amusement, enjoyment, and relaxation; information about new products is therefore secondary (Gross and Wangenheim 2018). Other studies, however, have paid attention to influencers' appearing as informational sources of commercial

messages (Farivar, Wang, and Yuan 2019). Ki and Kim (2019) argued that influencers on Instagram post visually appealing content that is, amongst others, perceived as informative. Aljasir (2019) supported these views and argued that influencers could be viewed as informational sources where users can get introduced to new products. They showcase interesting new ideas and products on their profiles, and users feel up-to-date by following such updates.

While some academic literature exists on Influencers' commercial content practices, most have been conducted on Instagram and YouTube. As one of the few studies investigating TikTok influencers specifically, Abidin (2021) argued that the staging of a "Instagrammable" lifestyle (Marwick 2015) seemed to be replaced with relatable, entertaining, and accessible content. In agreement, Barta et al. (2023) argue that due to TikTok's fun focus, TikTok Influencers display products and services engagingly and entertainingly. Moreover, TikTok's advice to achieve brand success is "Do not Make Ads. Make TikToks" (Koetsier 2020), as viewers enjoy the experience of watching one TikTok after another. Moreover, Abidin (2021) argued that TikTok has shifted from "picture perfect" imagery towards more personalized disclosures and storytelling. In sum, TikTok influencers' content practices are found to differ from other platforms. As such, their commercial content practices should be further investigated.

Methods

We conducted an ethnographic content analysis (Altheide 1987; Bainotti, Caliandro, and Gandini 2020) to investigate the extent to which TikTok influencers are commercially constructed and to determine how commercial messages are displayed in their videos. Our identification of relevant TikTok influencers and our content analysis approach are described below.

Identifying relevant TikTok influencers

In this study, we aimed to identify TikTok influencers who met four main criteria. First, female TikTok influencers aged 18–34 in the fashion and beauty domain were selected as these are the most dominant target groups and market segments within influencer commerce (Statista 2022). Although including a broader age group or domain could be interesting for the analysis, we were interested in capturing the commercial content practices of the dominant group. Second, we applied Scandinavian context to the study, given that most existing studies on influencer commerce have been conducted in areas such as the United States and Southeast Asia (Abidin et al. 2020). By applying our study in a Scandinavian context, we were able to contribute to the broader coverage of focus areas that complement information on the international characteristics of the field. Third, we wanted to identify a broad pool of influencers with different sizable following bases. To guide our search, we followed a categorization developed by Abidin (2021) specifically for the Scandinavian countries. They categorize influencers who are commercially active as (1) micro-influencers who have between 1,000 and 10,000 followers, (2) regular Influencers who have obtained between 10,000 and 500,000 followers, (3) macro-influencers who have achieved between 500,000 and 1 million followers, and (4) mega-influencers who have obtained 1 million + followers. In contrast to platforms such as Instagram, however, users do not necessarily follow the TikTok influencers they are influenced by due to the popularity of the For You feed. As such, the following base was seen as an indication of their influence on the platform and guided our search to obtain a broad covered of influencers.

We used the analytical tool Klear (2021) to identify social influencers based on our criteria. Klear is influencer commerce platform businesses use when searching for influencers, as it allows for analyzing demographics and managing campaigns. When searching for influencers on Klear, we were

able to apply filters, such as “female,” “18– 34,” “fashion,” “beauty,” “Sweden,” “Norway,” and “Denmark,” to ensure a selection that fits our criteria. Ten influencers from each Scandinavian country were selected. We selected three micro-influencers, three macros, and one mega-influence from each Scandinavian country. We could only analyze one mega-influencer per country due to the lack of representation in these categories. In total, we identified 30 candidates for the analysis.

Ethnographic content analysis

This study used an ethnographic content analysis (Altheide 1987; Bainotti, Caliandro, and Gandini 2020) to capture the extent to which TikTok influencers are commercially constructed and how commerce is displayed in TikTok influencers' videos. Our coding approach was inspired by Banotti et al.'s (2020) study on Instagram stories. Specifically, we were inspired by the visual codes used in their study that was developed in line with the principles of an ethnographic coding approach (Altheide 1987) and the existing literature on Instagram (e.g., Leaver, Highfield, and Abidin 2020). We were also inspired by their denotative and connotative levels of analysis. On a denotative level, the videos' objective representations were assessed at first glance, with no contextual interpretations. At the connotative level, the subjective meanings of the videos were interpreted (Banotti et al. 2020).

The approach involved manual coding of the 30 selected TikTok influencers videos. We chose manual coding. It has been shown to have good validity because it allows researchers to consider the context and social embeddedness of text and images by focusing on meanings and practices. Although we were especially interested in how the videos visually exhibited commercial contexts, textual captions, and audio were crucial to the content analysis. This is because text complements images and can bring additional meaning to images and videos (Rose 2016). Moreover, audio is considered one of the most crucial components of the platform (Vizcaino-Verdú et al. 2021). Including audio in our analysis was crucial to understanding the video's content and meaning (Medina-Serrano, Papakyriakopoulos, and Hegelich. 2020). We considered all posts that had any trace of commercial content in obtaining a complete picture of how commercial messages are displayed in TikTok influencers' content. The analysis consisted of the six steps summarized in Table 1.

Table 1.

Codes for the ethnographic content analysis

Denotative level		
Codes	Details	Description
Commercial posts	Commercial posts (sponsored, non-sponsored, and hidden sponsored) vs. non-commercial posts (content without any commercial elements)	A video was recognized as commercial content if it contained any brand tags, visible brand labels, or a caption that had commerce-related information. As such, sponsored, non-sponsored, and hidden sponsored commercial posts were included.
Visual pattern	Portrait, material object, social setting, etc.	An objective representation of the image at first glance, with the social influencer at center (portrait), an object such as a product with visible brand label focus (materiality), or a post of surroundings such as nature or buildings (setting).
Audio pattern	Music, text-to-speech, voiceovers, etc.	An objective representation of the audio used in the videos such as Music, text-to-speech or voiceovers.

Commercial captions	Commercial vs. social caption	A caption was recognized as commercial if it contained any brand tags, brand hashtags, or any commerce-related information
Caption patterns	Interactive, hashtags, descriptive, emojis, brand tags, etc.	A caption's objective representation at first glance
Connotative level		
Codes	Details	Description
Commercial context	The commercial content of the post, such as roles, aesthetics, and cultural setting	A subjective description of the context behind the commercial posts.

One of the co-authors manually coded the 30 selected TikTok influencers' 50 latest TikTok videos over three months, from June 2021 to August 2021. We ended up with a total of 1,390 videos. On a denotative level, all videos were coded in Excel one at a time through a non-intrusive objective observation of what the videos represented at first glance. As presented in Table 1, at this initial level, we were interested in identifying (1) the number of commercial videos, (2) visual patterns, (3) audio patterns, (4) the number of commercial captions, and (5) caption patterns. Once all the data were gathered, we translated the frequency of occurrence of commercial videos, visual patterns, audio patterns, commercial captions, and caption patterns.

At the connotative level, the videos were analyzed to understand the types of commercial contexts applied (Table 1). The results were identified from a rigorous qualitative process of an open, axial, and selective coding strategy to look for connections in the data material and conceptualize them in a way that captured the essence of and trends in the data (Strauss & Corbin, 1998). During the open coding process, we coded one video at a time in Excel, writing down each video's commercial context. We followed with axial coding, in which we drew connections between the data using a color-coding approach. Similar colors were given to patterns with a particular linkage. Lastly, we selected one primary category for each pattern that connected the codes from our analysis to capture the essence of trends in the data (Strauss & Corbin, 1998).

Results

This section presents our results from the denotative and connotative levels. On a denotative level, we present the findings objectively of the extent to which their videos are commercially constructed. On a connotative level, we present the subjective findings of the commercial patterns identified from our open, axial, and selective coding processes.

Denotative level

In the first step of our analysis, we were interested in identifying the number of commercial videos posted by TikTok influencers in this study. Of the 1,390 TikTok videos analyzed in the dataset, 375 had commercial content. As such, the total percentage of commercial videos among the TikTok influencers' videos was 27%.

In the next step of our analysis, we identified the dominant patterns that were applied in the influencers' commercial TikTok videos. Out of the 375 commercial videos identified above, we determined three patterns: portrait, materiality, and setting. Table 2 provides an overview of the

identified patterns, with their respective percentage distributions. The patterns were not mutually exclusive, and the posts might have focused on multiple patterns.

Table 2.

Pattern types and their percentage distributions

Pattern	All commercial videos analyzed	Videos with a particular pattern	%
Portrait	375	259	69%
Materiality	375	107	29%
Setting	375	80	21%

Out of the total number of commercial videos (375), 259 contained portraits; the total percentage was 69%. Regarding materiality, the total percentage was 29%. Eighty commercial videos contained the pattern setting; as such, its total percentage was 21%.

The patterns most frequently applied by TikTok influencers were portraits. Portraits are posts where the TikTok influencer is at the center of the video. Figure 1 provides an overview of the denotative levels related to portraits, such as the audio patterns (e.g., music, voiceover, text-to-speech), whether the caption was constructed as commercial or social, and caption patterns (e.g., hashtags, brand tags).

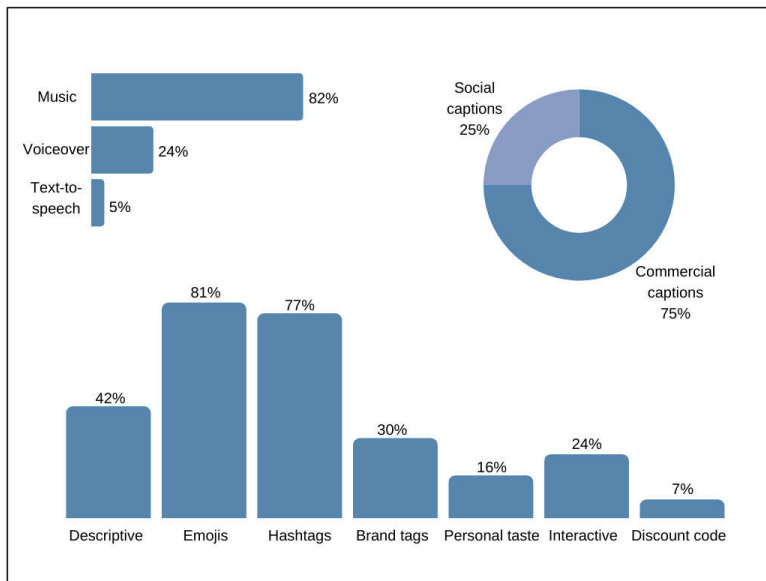


Figure 1. "Portraits" and related percentage distribution

Out of the 259 total identified videos containing portraits, 82% contained a music template, and 24% contained voiceovers. Only 5% were constructed with text-to-speech. The most used caption pattern among the postings containing portraits were emojis (81%), hashtags (77%), and descriptive texts (42%). Some portraits also contained brand tags (30%), captions interacting with TikTok users (24%), or personal taste (16%). Some videos also included discount codes (7%). One post often contained multiple caption patterns. The most common audio and caption pattern related to portraits were a combination of music, emojis, and hashtags, as Figure 1 indicates.

The second pattern was “materiality.” Materiality refers to videos with material objects at their center, such as shoes, bags, beauty products, or visible food packaging. Figure 2 provides an overview of denotative measures related to materiality, such as audio patterns, whether the caption was constructed as commercial or social, and caption pattern (e.g., hashtags, brand tags).

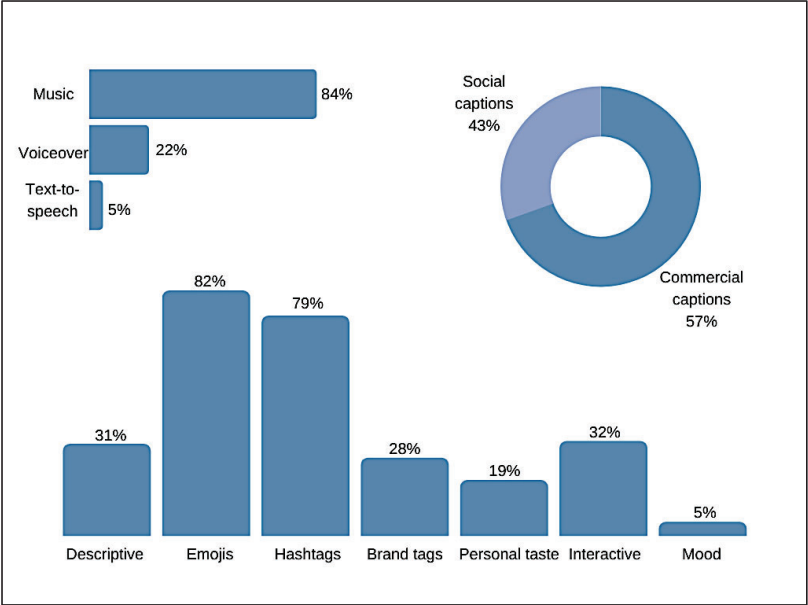


Figure 2. “Materiality” and related percentage distribution

Out of the 107 materiality videos identified, most were dominated by music templates (84%), followed by voiceover (22%), and text-to-speech (5%). For materiality, 43% contained social captions, whereas 57% contained commercial captions. The dominant caption pattern were emojis (82%), hashtags (79%), interactive texts (32%), descriptive texts (31%), brand tags (28%), and captions describing the influencers’ mood (5%). Oftentimes, one post contained multiple caption pattern. In most cases, the videos contained a combination of music, emojis, and hashtags.

The third pattern type was “setting.” Videos categorized as settings were, for example, videos of the influencers’ daily lives or specific surroundings. Figure 3 provides an overview of the denotative levels of settings, such as audio patterns, whether the caption was constructed as commercial or social, and caption pattern (e.g., hashtags, brand tags).

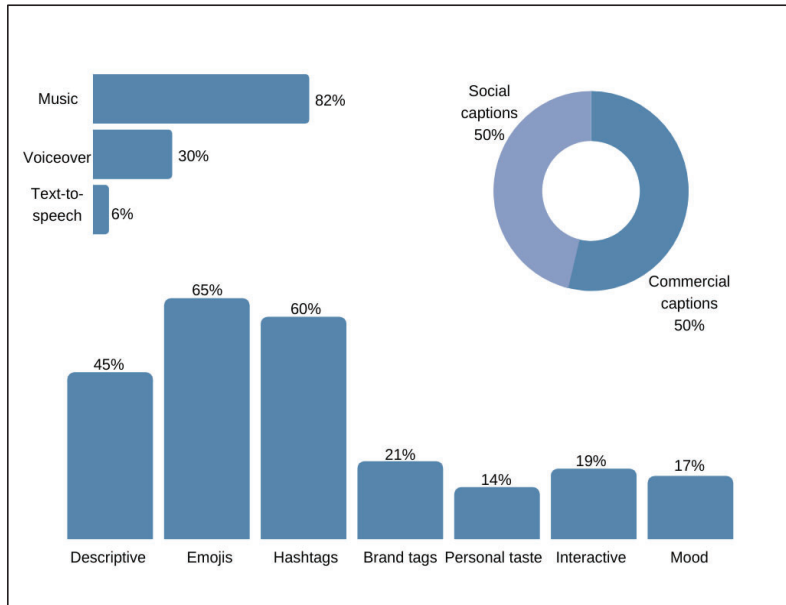


Figure 3. "Setting" and related percentage distribution

Out of the 80 videos identified as setting, most of them were dominated by music templates (82%), followed by voiceover (30%) and text-to-speech (6%). For Setting, 50% contained social captions, whereas 50% contained commercial captions. The dominant caption pattern were emojis (65%), hashtags (60%), descriptive texts (45%), and brand tags (21%). Oftentimes, one post contained multiple caption patterns.

The following section covers our findings regarding the connotative levels of analysis..

Connotative level

From our analysis on a connotative level, we identified four commercial patterns from the open, axial, and selective coding processes, including playful portraits (111), informative tutorials (90), product testing and recommendations (77), and commercialized lifestyles (53). The four patterns are explained in detail below with an attached illustration.

The dominant commercial pattern identified on a connotative level was "playful portraits." Figure 4 illustrates how the pattern could appear on TikTok.

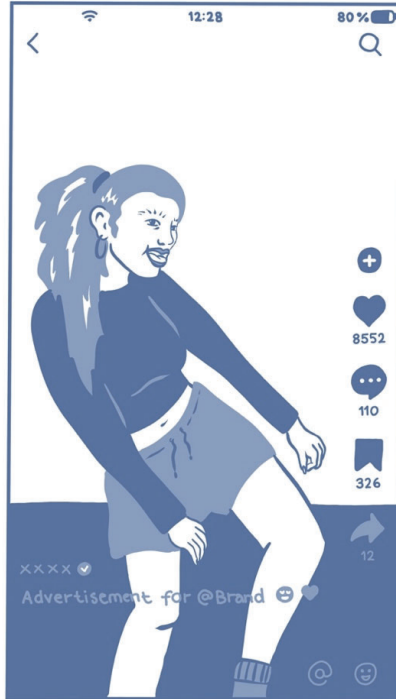


Figure 4. Playful portraits

With playful portraits, commerce often appeared as whole figure videos, where the TikTok influencer would showcase different wearables. These videos were often constructed in a playful context, including dance videos in which the TikTok influencers showcased different wearables while dancing to trending music on the platform. The videos would either be of the TikTok influencer by themselves or with the company of peers. When drawing a connection between the connotative and the denotative level, this pattern was mainly constructed as a portrait (Figure 1) or a combination of portraits and materiality (Figure 2). In the latter, the videos often include portraits of the influencer dancing, followed by quick cuts with close-ups of the products they promote. Music was the most dominant audio pattern, and brands and descriptions of products or brands often appeared as overlaid text artifacts in the video or the attached caption. Some TikTok influencers in our analysis would also present different wearables with quick cuts. As such, the material products were often at the center of these videos. Others showcase wearables by simply walking around on the street. In these videos, brands would be included as hashtags in the captions, as text-to-speech, or as voiceovers, explaining where the viewers can purchase the clothing. Such videos often had a more inspirational tone to them, as opposed to dance videos, which were more entertaining and playful. The captions would either be clearly labeled as a collaboration with a brand, although this became more unclear in some videos..

The second commercial pattern identified on a connotative level was “informative tutorials.” Figure 5 provides an illustration of how the pattern is distributed by TikTok influencers.

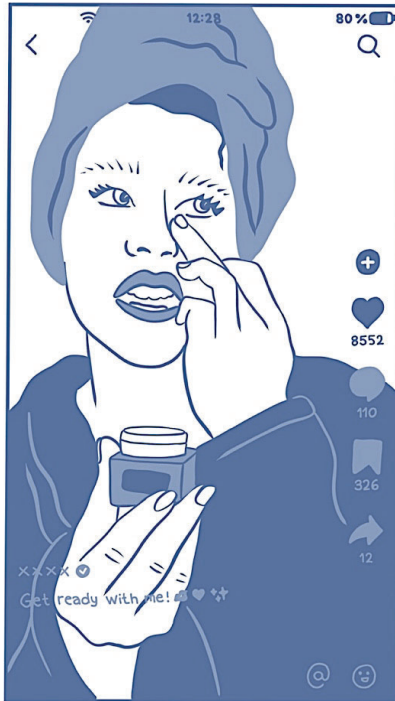


Figure 5. “Informative tutorials”

With informative tutorials, commerce appeared integrated into skincare routines, hair styling tutorials, or make-up routines. In these videos, TikTok influencers often demonstrate a step-by-step guide on applying products, often constructed as bedtime or morning routines. On a denotative level, these videos were often constructed as a combination of portraits (Figure 1) and materiality (Figure 2). The videos often include quick cuts of applying different products playfully. In this case, brands and products would be displayed in text overlapping the video. In other cases, the TikTok influencers record themselves while applying products in one take. In these videos, they often talked about the products, combined with music, while applying them. Captions attached to informative tutorials would either be social expressions of their taste and preferences or a commercial, such as “Advertisements for,” with descriptions of the specific products. As such, in some cases, collaboration with a brand would be evident, but in some cases, this seemed less clear. Our results indicate that many of the products the TikTok influencers used in these videos were products they were not paid to convey or that the posts lacked commercial transparency. The videos would either be recorded to appear entertaining and joyful, but in most cases, they had an informative tone, where the viewers could learn something by watching the videos. As such, the connection between the product and its function was at the center of these videos.

The third pattern identified on a connotative level was “product testing and recommendations.” Figure 6 provides an example of how the pattern is distributed by TikTok influencers.

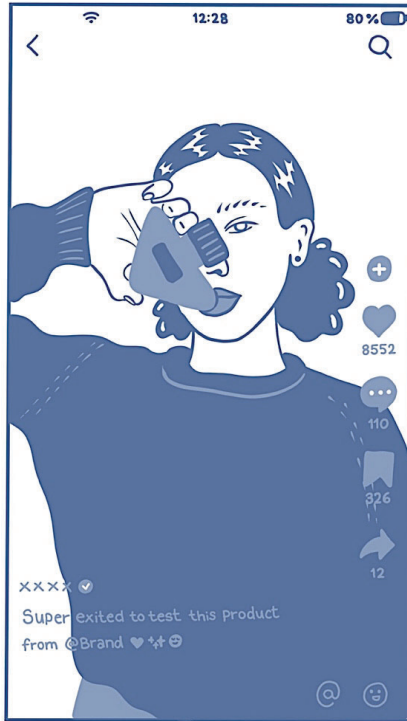


Figure 6. “Product testing and recommendations”

TikTok videos with the commercial pattern of product testing and recommendations would often involve a TikTok influencer testing or showcasing new products. They would often record themselves in one take while holding the products, testing them, or talking about their expectations of them. In some cases, they would also give a form of review of how the product benefits them or talk about and showcase new “purchases.” Common to these videos is that the opinions of the TikTok influencers were often expressed. In contrast to informative tutorials, where the functionality was at the center, these videos would often be more opinion based. They could also be detailed in terms of the product’s ingredients. For example, the TikTok influencers would explain some ingredients in a beauty product and discuss the expected results by applying such ingredients to the skin. The videos had a recommending tone, a form of review. The attached caption often contains expressions of their personal taste, such as their favorite products of the month. The videos contained a combination of social and commercial captions. Whereas some described the videos as collaborating with a brand, where TikTok influencers are being paid to convey a particular message, some videos also show a “genuine purchase.” For example, they would describe that they had heard about a product on TikTok and were interested in testing it to see if it would deliver as expected.

The last and fourth commercial pattern on a connotative level was “commercialized lifestyle.” Figure 6 provides a demonstration of how the pattern would be integrated into TikTok influencers’ videos.



Figure 7. “Commercialized lifestyle”

With a commercialized lifestyle, the TikTok influencers would often construct videos as “a day in my life,” “a week in my life,” or “clips from June.” These videos were constructed to appear as daily life captures, and the commercial elements were integrated. By comparing all four patterns, commercialized lifestyles where the pattern was commerce appeared most silent. In these videos, commerce was mainly presented as subtle elements in broader, more social contexts. As the figure above illustrates, a typical pattern was videos of the influencer at home, making breakfast, working, and going for a walk, followed by them reorganizing their home with new furniture. Other examples could be captured from a restaurant or a social gathering, followed by a quick cut of a purse with a visible brand label constructed as a quick video blog. TikTok influencers also showcase clips from visiting brand stores or trying on wearables in some videos. Familiar with these videos was that the lifestyles of the TikTok influencers were in focus rather than the product or service. In the videos, viewers are presented with captures of the TikTok influencers’ lives “as lived.” The captions attached to these videos were mainly social but also commercial in some cases. As such, most videos do not explain a collaboration with a brand. The commercial elements seemed to be initiated by the TikTok influencers themselves, as opposed to a paid collaboration. The results, however, could also indicate a lack of commercial transparency.

Discussion

This study has thus far provided an overview of the degree to which TikTok influencers are commercially constructed and how commercial messages are displayed in their videos. However, so far, we have only considered each of the findings in isolation. To further advance our understanding, we discuss our results against our initial understanding of the development and related literature presented in our theoretical background. We highlight two main discussion points: (1) A commercial playground and (2) Commerce disguised as trends.

A commercial playground

For the past decade, the Instagrammable lifestyle has been found as a character trait for influencers' and their content practices. In this case, commerce typically blends in as subtle elements in influencers perfectly staged profiles (Abidin 2016; Jorge, Maropo, and Nunes 2018). TikTok, however, has transformed how commercial products and services are displayed by influencers. As argued by Abidin (2021), TikTok influencers seem to move away from "picture perfect" content and toward personalized entertainment. Moreover, Barta et al. (2023) argued that due to TikTok's fun and entertaining focus, TikTok Influencers display products and services engagingly and entertainingly. Our results align with these arguments and show that TikTok influencers mostly post entertainment. Products and services are often displayed in playful portraits (Figure 4): such as entertaining dance videos or quick cuts displaying multiple wearables.

In addition, most of the commercial videos identified in our analysis contain commercial captions, where TikTok influencers disclose a commercial collaboration. As such, in contrast to subtly integrating commercial messages in influencers profiles (Marwick, 2015), the products and services were often displayed as central elements in the videos. Arguably, the inbuilt technical components, such as music samples, filters, split screens, quick cuts, stickers, and speed controls (Kennedy 2020; Schellewald 2021; Zulli and Zulli, 2020), allows for commercial elements to appear as entertaining and playful. As such, in contrast to the concern of being "too commercialized," as understood by Influencers on Instagram, TikTok influencers are embracing the commercial elements in their videos.

As a result, TikTok has created new ways for Influencers' commercial messages to be consumed by users (Kennedy 2020; Schellewald 2021; Zulli and Zulli 2020). On the one hand, TikTok may provide a greater sense of commercial transparency for users since the products and services are visible in the posts' entertaining visual and textual elements. However, unlike Instagram, captions are less central on TikTok. Audio is one of the main aspects of TikTok, as users draw collective meaning from the audio templates they apply (Medina-Serrano, Papakyriakopoulos, and Hegelich 2020). As such, the combination of the audio and the visual is arguably making TikTok especially entertaining, persuasive and engageable. Moreover, considering TikToks' addictive nature (Koetsier 2020), users are exposed to a constant stream of commercial messages. Due to TikToks algorithm, users are provided with commercial messages that suits their interests and needs (Zeng 2021). As such, this may facilitate a more intensive influence of commercial messages as users may be exposed to similar messages constantly on the platform. In sum, based on our results against the existing knowledge of influencers and TikTok, we argue that TikTok facilitates a commercial playground where commercial messages are disguised as repetitive entertainment.

Commerce disguised as trends

Divon and Ebbrecht-Hartmann (2022) argue that TikTok is not just a space for entertaining dance videos but also a space for knowledge sharing, politics, and education. These characteristics were also found in our content analysis, given that many of the videos in our analysis contained informative tutorials (Figure 5) and product testing and recommendations (Figure 6). In these videos, TikTok influencers expressed their opinions about specific products and services in detail and illustrated a step-to-step guide on how to apply them. As such, TikTok influencers facilitate knowledge sharing and educate large audiences about products and brands. Our results also align with Abidin's (2021) finding regarding TikTok's facilitation of elaborative storytelling. In informative tutorials, for example, TikTok influencers visualize the entire process from start to finish of applying or using a specific product.

As a result, TikTok influencers may function as informative sources where users can get introduced to new products and brands (Ki and Kim 2019; Aljasir 2019). TikTok influencers advise, and recommendations may be perceived as a supportive experience where users get tips on applying products and detailed insights into the products and their ingredients. However, it is also essential to consider that in contrast to Instagram, TikToks' interactive nature is often motivated by reproducing content (Barta et al. 2023). On TikTok, users are encouraged to imitate others and make similar videos such as memes or trends (Omar and Dequan, 2020). Trends shape the videos created on TikTok, which is also true for products and brands. As such, while TikTok may provide more commercial support for users, it disguises commerce as a trend. The main issue is that young users spend many hours daily on TikTok. Given that much of the content is commerce based, they may be unconsciously influenced to produce and post similar videos and become a key player in the continued influence of products and services. As such, based on our results against the existing knowledge of influencers and TikTok, we argue that TikTok provides a commercial environment that facilitates users' constant influence and involvement in commercial messages.

Conclusion

Since its development, TikTok has become a powerful commercial tool, most notably with the rise of TikTok influencers. While TikTok influencers earn millions in income (Abidin, 2021), limited knowledge exists about their commercial content practices. To contribute to closing this gap in research and practice, we investigated the extent to which TikTok influencers are commercially constructed and how commercial messages are displayed in their video content. Our research questions were as follows:

RQ1: To what extent are TikTok influencers' videos commercially constructed?

RQ2: How are commercial products and services displayed in TikTok influencers' video content?

Based on an ethnographic content analysis of 1,390 videos, we contributed insights into the commercial construct of TikTok influencers and found that 27% of the videos contained commercial messages. Since the commercial aspect of TikTok is on the rise (Hudders, De Jans, and De Veirman 2020; Lebow 2022), we argue that TikTok influencers will become increasingly commercialized in the upcoming years. We further identified four patterns to how commercial messages were displayed in their videos: (1) playful portraits, (2) informative tutorials, (3) product testing and recommendations, and (4) commercialized lifestyles. The results highlight influencers' commercial content practices on TikTok compared to other platforms such as Instagram. Specifically, we emphasize how commercial

messages that frequently are subtly intertwined into influencers' content are now centrally displayed through entertaining, playful, and detailed commercial narrations (Figure 4-7). We argued that while TikTok influencers may be more transparent in displaying commercial messages, the content is also incredibly engaging due to the visual features, short video format, audio, and addictive algorithm. Moreover, we argue that TikTok disguises commerce as a trend and that users are unconsciously influenced and encouraged to participate in the constant influence of commercial messages on the platform.

We believe our work can enrich the understanding of the TikTok influencer market and its societal role. To fully understand the influencer phenomenon on TikTok, however, we must go beyond the activities on the platform. Future research should investigate the commercial practices influencers apply off screen to understand the motivations behind their commercial practices. In addition, since our study focused on female TikTok influencers between 18-34 within the domains of fashion and beauty, it would be interesting for future research to investigate other genders, age groups, and domains within the influencer industry. Moreover, future work should also investigate how trends shape the commercial environments on TikTok and users' involvement in the influence of commercial messages.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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