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EXAMINING SOCIAL MEDIA DATA ANALYTICS AND DECISION-MAKING IN A SOUTH AFRICAN BANK

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Abstract

This paper investigates the interplay between social media data analytics (SMDA) and strategic decision-making in the banking industry, to understand how these factors impact sales lead generation. Using the General Systems Theory as an integrative framework, we analysed semi-structured interviews and conducted a thematic analysis to identify patterns in the data. The study identifies and explores the constraints between the socio and technical aspects of decision-making and how they affect sales lead generation in banks. We present five themes that emerged from our analysis, including social media data (SMD) perceptions, challenges of data analytics, social media use for lead generation, data availability and quality, and subsystems of decision-making. By synthesizing our findings, we provide a thematic model to provide insights into the relationship between SMDA, strategic decision-making, and sales lead generation in the banking industry.

Keywords: Social Media Data (SMD), Social Media Data Analytics (SMDA), Big Data, Banking, Strategic Decision-making.

1.0 Introduction

Social media data analytics (SMDA) is the collection and analysis of data from SMD platforms. It is used by industries to improve the organisation's relationship with its customers by enabling more informed decisions on product development, marketing, customer service, customer interaction and business strategy. Specifically, organisational decision-making is a step-by-step procedure that allows employees to solve problems by weighing evidence, assessing potential solutions, and deciding on a course of action. With the proliferation of big data analytics (BDA) research (Günther et al. 2017; Mikalef et al., 2018), social media managers can benefit in a variety of ways: assessing competitors in real-time, creating strategies that outperform

competitors' sales, and analysing unfavourable feedback from competitors to see if it can improve (Zhang et al. 2022). Social media websites such as Facebook and Twitter have altered people's communication and decision-making by processing a large portion of the generated information content. Today, organisations use social media to provide client-centric services to online customers using various points of user expression (Manaman et al., 2016).

The outcomes of decisions made determine the impact of SMD and whether those outcomes produce effective decisions. The effectiveness of a decision is not solely dependent on the results of SMD, but also on the decision maker's knowledge which is “promoted by the permeable boundaries of the subsystems” in question (Chatterjee et al., 2020, p. 16). This gives rise to the core focus of the subsystems to manage the overall *entropy* of the system. The purpose of the study is to provide an understanding of the sociotechnical interactions between SMDA and decision-making and to situate it within a General Systems-informed (GST) IS artifact. This research study will be exploratory as it aims to examine the interplay between SMDA, the sociotechnical aspect of decision-making, and its effectiveness. We ask the following research question: "*What is the interplay between social media data analytics and the decision-making process for lead generation in South African banking?*"

2.0 Literature Review

The rapid diffusion of IS literature has been accompanied by an increasing body of research on social media in recent years (Ren et al., 2023). For the literature review, we used inductive coding to analyse the relationship between social and technical components (Bandara et al., 2015). The below categories were developed based on emergent patterns in 94 initial papers and refined to 74 papers without predefined categories. The literature identified five main factors that are pertinent to SMDA and decision-making in the context of banking. These debates included *SMDA, challenges of SMDA, social media in the context of banking and generating leads, SMD availability and quality and decision making*. SMDA refers to using a vast amount of SMD to generate business knowledge and aid decision-making. To achieve this, vast amounts of SMD must be processed, however, when processing SMD challenges in the form of social, business, and technical challenges as well as uncertainty which arise

from unknown or imperfect data. Concerning imperfect data SMD Availability and Quality impact SMD and decision-making, while available data can be extremely useful in decision-making, it frequently fails to reach decision-makers promptly. As a result, decision-makers are presented with useless information that necessitates additional knowledge or experience to process and the quality of data impacts the effectiveness of analytics. Social media in the context of banking and generating leads the banking industry has reaped the greatest benefits from this technology by implementing real-time service to be beneficial in the treatment of client issues and building relationships with customers via social media. Social media has aided in the transformation of traditional banking business models and market strategies helping to better target customers on an individual level. Finally, Decision Making, for marketing strategies to be implemented decisions must be made these decisions are becoming more reliant on a configuration between people and technical factors that influence them. Based on these themes these are the debates that followed.

Themes	Debates	References
Sentiment	SMDA Perceptions	(Jindal & Aron, 2021; Muruganantham A. & Gandhi, 2019; Reuter et al., 2020; He et al., 2017)
Challenges	Challenges of SMDA	(Stieglitz et al., 2018; Hariri et al., 2019)
Banking	Social media in the context of banking and generating leads	(Habibi et al., 2022; Dubey, 2019)
Availability and Quality	SMD Availability and Quality	(Miah et al., 2019; Horita et al., 2017; Bigsby et al., 2019)
Decision Making	Subsystems of Decision-Making Process	(Dremel et al., 2020; Lombardo et al., 2021;)

Table 1. Debates in literature.

2.1 Perception of SMDA

The growth of sharing and expressing opinions over the Internet has been unprecedented since the advent of digitalization and web technologies. Users are increasingly using Twitter, Instagram, Facebook (now Meta), YouTube, Tik Tok and other social networking sites. These platforms are used by various institutions, organisations and governments for sharing promotions, exchanging ideas, running campaigns, raising social awareness, and promoting products and services (Jindal & Aron, 2021).

The decision-making process can be influenced by three types of perceptions of SMDA. These include the perception of the consumer as inferred from SMDA, the perception of the decision maker regarding the information collected from SMDA, and the perception of SMDA itself that can impact the decision-making process (Amirmokhtar Radi & Shokouhyar, 2021). Batrinca and Treleaven (2015) highlighted five sentiment analysis steps in which *steps 1-2* define the perception within SMDA (technical subsystem) whereas *steps 3-5* explain the perception of the decision maker (socio subsystem).

Steps to Sentiment Analysis	
1.	Sentiment context - To gain an opinion, it is essential to know the 'context' of the document, which varies significantly from expert review portals to general websites where views address a variety of subjects.
2.	Sentiment level - Text analysis may be performed at the level of the text, the sentence, or the attribute.
3.	Sentiment subjectivity - Deciding whether the text in question reflects a viewpoint or is a fact (i.e., without offering a positive/negative perception).
4.	Sentiment orientation/polarity - Deciding whether a view is positive, neutral, or negative in a text.
5.	Sentiment strength - Understanding the 'strength' of an idea in a text: weak, moderate, or intense.

Table 2. Steps to sentiment Analysis (Batrinca & Treleaven, 2015).

2.2 Challenges of SMDA

This paper identified three types of SMDA challenges: *technical*, *business*, and *social*. Technical issues refer to volume, the amount of storage space required, velocity, or the rate at which data is created addresses (Stieglitz et al., 2018). The key characteristics of big data adopted by many scholars and practitioners are the so-called V's: volume, velocity, veracity, variety, and value (Abbasi et al., 2016; Oosterwyk and Brown, 2022).

The sheer volume of data, as well as the speed with which it is generated and processed in various media formats like text, images, and videos, are issues that have yet to be adequately addressed (Reuter et al., 2020).

Many organisations are grappling with what big data is and how it benefits their organisations. As the size of SMD continues to increase over time, SMDA provides an opportunity to generate business value. SMDA provides the capability to automate the conversion of large amount of raw data to actionable business knowledge (He et al., 2017). Furthermore, uncertainty has been identified as a new challenge. Uncertainty is defined as a situation in which there is unknown or imperfect information. Uncertainty exists in every phase of big data learning and comes from a variety of sources, including *data collection* (e.g., variations in environmental conditions and sampling issues), *concept variance* (e.g., the goals of analytics are not presented in the same way), and *multimodality* (e.g., the complexity and noise introduced with patient health records from multiple sensors including numerical, textual, and image data). The challenges identified can potentially affect the decision-making process that employs SMD and SMDA. These challenges can be attributed to technical factors that influence the decision-making process of the technical subsystem, as well as social and ethical factors that influence the decision-making process of the socio subsystem.

2.3 Social media in the context of banking and generating leads

In recent years, global banking has acknowledged the need to devise new strategies for promoting their products, and social media has emerged as a crucial platform for customers to voice their requirements. Social media has revolutionized not only social interactions but also the way people engage in shopping, becoming an integral part of the daily lives of internet users. Data analytics has brought about considerable transformations in manufacturing processes across various industries. The banking sector has particularly benefited from this technology by utilizing real-time service to address client issues and establishing customer relationships through social media. Social media has played a vital role in changing traditional banking business models and marketing strategies (Dubey, 2019). Successful implementation of social media is crucial for effective marketing strategy due to its potential benefits and opportunities. Social media has been found to assist B2B marketers in lead generation and reinforcing brand images over time in relevant contexts for B2B decision-making targets. The

revolution of data-driven strategies and innovations by global banks in South African banks' definition of SMDA is expected to impact the influence of SMDA on lead generation, which involves targeting individual customers. (Wilcox & Sussman, 2014; Habibi et al., 2022).

2.4 SMD Availability and Quality

Organisations face several challenges in leveraging the value and quality of data. Data scarcity or abundance can make identifying specific patterns of individual behaviour within large and diverse data sets challenging (Miah et al., 2019). Additionally, aligning organisational decision-making with data sources remains a challenge as available data frequently fails to reach decision-makers promptly, requiring additional knowledge or experience (Horita et al., 2017). The impact of a change in data availability on specific tasks is also difficult to predict. Addressing the credibility of SMD is a top priority for the future development of social media analytics, and filtering algorithms are needed to separate useful and credible information from irrelevant social media content (Biggsby et al., 2019). The quality and availability of SMD may also influence the decision to utilize SMD in the decision-making process, impacting both the socio and technical subsystems (Miah et al., 2019).

2.5 Subsystems of Decision-Making Process

Decision-making research in the information systems (IS) discipline is vast and can generally be divided into three primary categories: individual decision-making studies (e.g., Todd and Benbasat 1999), group decision-making studies (e.g., De Dreu & West 2001), and organisational decision-making studies (e.g., Maitlis & Ozcelik 2004). Within this banking case, our study attempts to investigate the category of the broader research literature, which focuses on individual decision-making.

The impact of social media and SMD on the nature of the industry and its effect on the consumer decision-making process differs as “does the effectiveness of a firms social media content” (Peláez et al., 2019; Ren et al., 2023). Lehrer et al. (2018) highlighted the material features of big data specifically SMDA which analyses SMD (e.g., user posts) that can “provide insights on customers activities, sentiment, opinions and preferences” (p. 7). The interaction between people and technology subsystems is essential for the efficient functioning of socio-technical system organizations in the

production of goods and services. The social system considers the relationship between people and their attributes such as attitudes, skills, and values, while the technical system considers the relationship between people and technology. A concurrent configuration of the two subsystems is necessary for optimal results (Chai & Kim, 2012). These organizational systems can be viewed as complex systems with distinct but interconnected technical and social subsystems, influenced by external factors, and evaluated by combining the optimization of both subsystems (Lombardo et al., 2021). The combination of human and machine power to process and analyse large amounts of data is necessary to provide decision-making information (Chang et al., 2019).

3.0 Theoretical Framework

Drawing on the General Systems Theory, the IS artefact concept, introduced by Lee et al. (2015), provides a critical framework for examining the relationship between SMDA and decision-making processes within a bank to generate sales leads. This concept underlines the interaction between technology and social subsystems, with information being a crucial component. In this context, the technology subsystem refers to the tools and techniques used in SMDA, along with the data collected from these platforms. These technical components are used to identify, analyse, and target potential sales leads. The social subsystem encompasses all the bank's stakeholders involved in the process, including customers, sales representatives, marketing teams, and decision-makers. The interactions among these individuals significantly impact the decision-making process, informing the strategies adopted to generate sales leads. Moreover, the IS artefact's openness to input and output from the external environment allows for a comprehensive understanding of the effects of SMDA across various customer demographics and geographic locations (Chatterjee et al. 2021). This gives the bank valuable insights to enhance its sales strategy, particularly in creating targeted and effective sales leads. The role of information in this context is multifaceted. It encompasses not only the data collected from social media (physical) but also the meaningful insights derived from this data (objective). Moreover, it considers the subjective responses of customers and businesses to the bank's social media activities (subject-oriented), as well as societal and cultural trends influencing consumer behaviour (sociocultural) (Mingers & Standing, 2018; Boell, 2017). See figure 1 below.

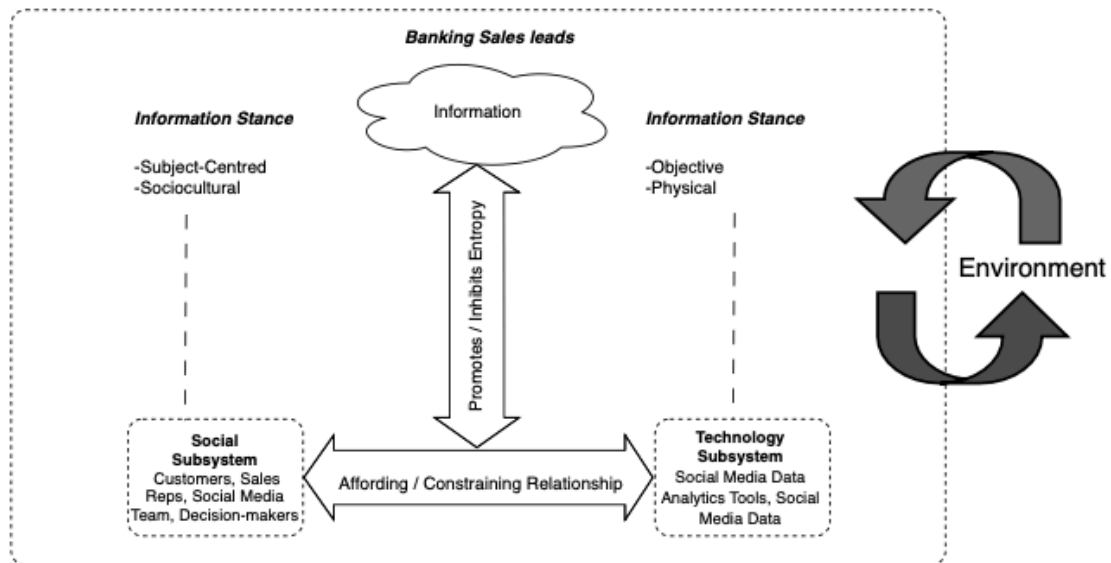


Figure 1. A GST-informed Conception of a SMDA and Decision-making Artefact (adapted from Chatterjee, Sarker, Lee, Xiao, and Elbanna, 2021).

3.0 Methodology

The data analysis process for this research involved examining the interview data by employing a thematic analysis approach (Braun & Clarke, 2006).

3.2 Data Collection and Analysis

The sample size consisted of 10 participants who agreed to be interviewed with the aim of answering the study's research question. According to (Winsome & Johnson, 2000) there is a need for participants in a qualitative study to be knowledgeable about the phenomenon of interest therefore the 10 participants selected were professional experts who work with SMA or SMDA within the banking industry. The participants ranged from 3 to 14 years of experience in their field, ranging from junior roles such as social media data writer to senior roles such as data head (See table 3 below). This provided a sample set from a diverse and knowledgeable target population. The sample size was predetermined to be 12 to 20 participants but only 10 participants were gathered due to various time constraints and challenges in attaining ethical consent from the organisation given the nature of the business.

Participants	Title	Years of Experience
Participant 1	Senior Content Marketing Specialist	10
Participant 2	Social Media Data Owner	10

Participant 3	Social Media Writer	3
Participant 4	Digital Campaign Specialist	5
Participant 5	Senior Content Marketing Specialist	8
Participant 6	Platform Digital Marketing Specialist	7
Participant 7	Data Head	14
Participant 8	Content Specialist	6
Participant 9	Digital Campaign Specialist	8
Participant 10	Marketing Analytics Specialist	9

Table 3. Interview Participants.

The method of data collection used in this study was semi-structured interviews, supplemented by documented data to validate and corroborate the results obtained from the interviews. Semi-structured interviews are thought to be more natural ways of interacting with people than filling out surveys, and they fit well with the interpretive approach (Braun & Clarke, 2006). The goal of an interpretive interview is to "create an atmosphere of openness and trust in which the interviewee can express himself or herself authentically" (Blanche et al., 1999; p. 297). Due to the post-COVID-19 pandemic, most targeted respondents worked from home, and conducting qualitative research via face-to-face interactions has been challenging, despite the relaxation of restrictions. Therefore, this study incorporated both in-person and virtual interviews as data collection techniques. Using Microsoft Teams and Zoom for virtual interviews, while in-person interviews were conducted at the participatory institution. After collecting sufficient data, the interview sessions were transcribed using Microsoft Teams and saved to a secure cloud storage location.

Next, the codes were evaluated and arranged into more general themes, guided by their shared characteristics and associations, which mirrored the trends found in the data. These preliminary themes were further refined to ensure they precisely captured the data they originated from and were well-defined, unique, and pertinent to the research goals. Lastly, these themes were characterized and given names to offer a succinct and clear explanation of their content as highlighted by Braun and Clarke (2006): "Your write-up must provide sufficient evidence of the themes within the data i.e., enough data extracts to demonstrate the prevalence of the theme." (p. 96).

4.0 Findings

A conceptual model was developed according to the insights collected from the thematic analysis. Concepts such as *SMDA Perception*, *SMDA Challenges*, *SMD in the Context of Banking*, *SMD Availability and Quality* and *Decision-making Process* were in the form of in-vivo codes. Due to their similarities, several concepts were merged. Subsequently, these concepts were merged into relevant second-order concepts. Figure 2 below provides an overview of the thematic structure.

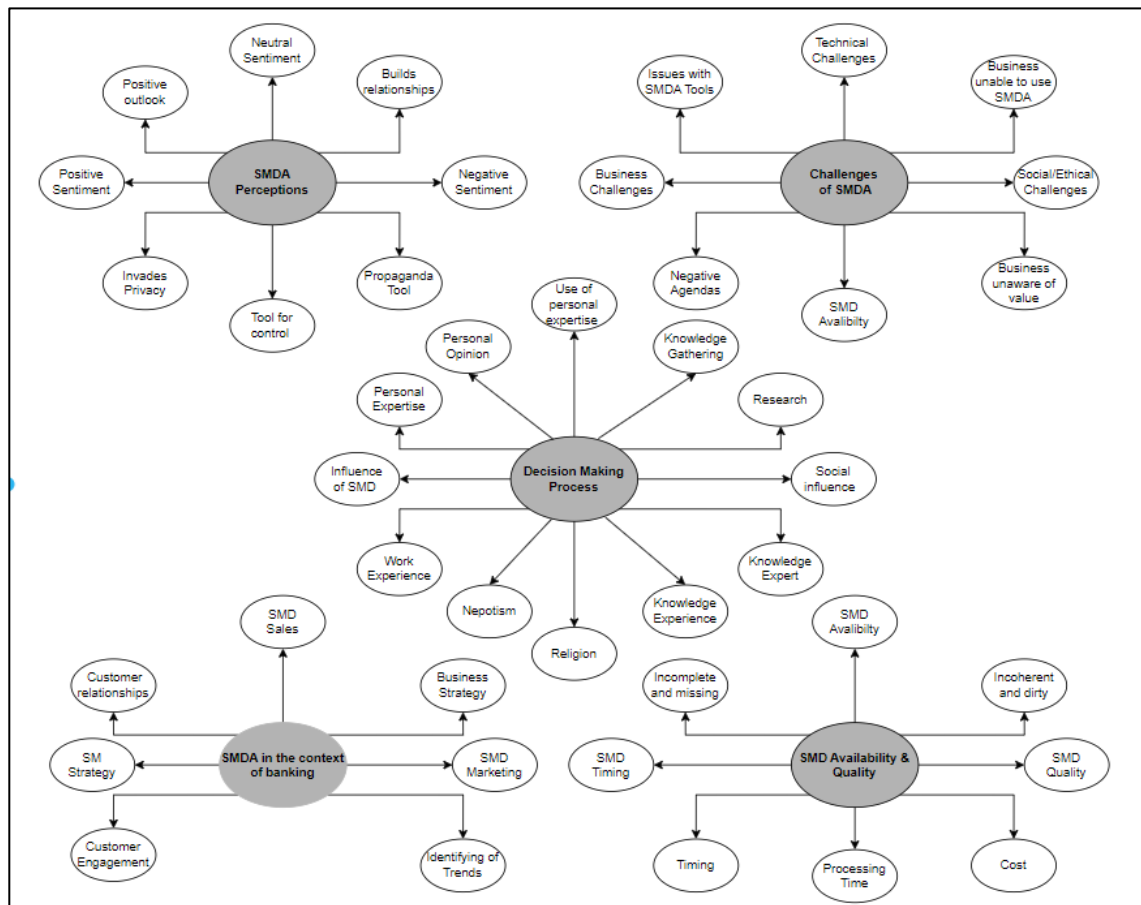


Figure 2: Thematic Model

4.1 SMDA Perceptions

Participants one, five and eight shared their sentiments on using sentiment-related items that influence their use of SMDA. It was noted that:

Sentiment	Comment
Sentiment context— To gain an opinion, it is essential to know the 'context' of the document, which vary	<i>“Understanding the data to help us communicate with customers. We look at how previous content or campaigns performed, and we look at, OK, the strings, why did it perform well or poorly. So, there's the number layer, where we can just look at things numerically. However, because the content is</i>

significantly from expert review portals to general websites where views address a variety of subjects.	<i>people, the second layer will unpack that to say, OK, what were the actual conversations, and thus using tools such as. For us, data EQ is important because, in addition to seeing the numbers, you can listen in on conversations to see what people are talking about. Regarding that specific thing or your brand, consider how you know people are engaging while keeping your ear to the ground. So, for example, a lot of social media conversations or data reflects the conversations that are taking place. In the living room and the cafe. And that's all there is to it. Being able to unpack that in a way that is real and, you know, makes actual sense beyond just the big numbers that we can talk about.” (P5, 13:44)</i>
Sentiment level— Text analysis may be performed at the level of the text, the sentence, or the attribute.	
Sentiment subjectivity— Deciding whether the text in question reflects a viewpoint or is a fact (i.e., without offering a positive/negative perception).	
Sentiment orientation/polarity— Deciding whether a view is positive, neutral, or negative in a text.	<i>“I think the most important thing we noticed last year was that our net sentiment was not so great, thanks to the company that supplies us with data. We had a negative mid-sentiment, so we used social media data analytics to change it to a positive.” (P8, 2:09)</i>
Sentiment strength— Understanding the ‘strength’ of an idea in a text: weak, moderate, or intense	<i>“You are more knowledgeable about the overall strategy. And I also believe it creates a nice connection between them. Especially in business. It just makes a nice connection between sectors. And companies, or rather brands, with customers” (P1, 02:32)</i>

Table 4. Participants Responses - SMDA Perceptions.

From the opinion of participant five we see the use of the technical subsystem model presented in the theoretical framework from the comment

...“We look at how previous content or campaigns performed, and we look at, OK, the strings, why did it perform well or poorly”

and we also see the socio subsystem later in the comment:

...“For us, data EQ is important because, in addition to seeing the numbers, you can listen in on conversations to see what people are talking about”.

Furthermore, we see how the sentiment from the technical subsystem in the comment of participant eight:

...“I think the most important thing we noticed last year was that our net sentiment was not so great, thanks to the company that supplies us with data. We had a negative mid-sentiment, so we used SMDA to change it to a positive.”

this influences the organisation's decision to consider working on its brand image.

4.2 Challenges of SMDA

A few participants highlighted the challenges of SMDA which were categorized into *technical, business, and social/ethical*, as illustrated below:

Challenge	Comment
Technical	<i>“From my perspective, I believe it is very powerful when used correctly, but it can be difficult to implement. Because of its sheer volume, variety, and variety, it is essentially the fives of big data. So, this is essentially where they come into play, particularly in the social media landscape.” (P7, 2:29)</i>
Business	<i>“That’s what I’d say. Although you would have all this information at your fingertips and be able to stack it, it is not always 100% and does not always work. When looking at data, other factors must be considered. From Your know-how from your customers, your campaigns, and the way your organisation performs. And many other factors are dependent on that. So, you can’t rely on that as your sole source. In what you should do, what you shouldn’t do, and how you should act.” (P3, 4:13)</i>
Social/Ethical	<i>“It’s a very powerful business tool, but it’s also a very powerful propaganda tool, and I think it all comes back to that. Determine what you know you’re getting and how you’re making those decisions. Because there is a risk that you may be making decisions based on potentially incorrect information at times.” (P5, 9:42)</i>

Above we have identified challenges that could affect decision-making using SMD and SMDA. These challenges include technical factors that affect the decision-making of the technical subsystem, as well as business, social, and ethical factors that influence the socio subsystem's decision-making. As pointed out by a participant related to low sentiment (which is the result of the technical subsystem),

... “I guess I’m trying to educate people because there is a lot of information”

is a depiction of the socio subsystem and the comment of

... “So, I believe my greatest challenge is simply finding that sweet spot. Yes, we know that all these negative things are happening, but how do we use the available information to ensure that?”

is an example of a constraint on decision-making between the socio and technical subsystem proposed above. Another participant claimed:

... “Scammers and syndicates like that. We are the ones who must deal with them. I believe the risks are, indeed, numerous daily. And you know, having to, and this is where I think the proactive part of Bing comes in, which is why I think data is important because with data you can see how all these negative things, you know, are taking a hit. You know, for the sake of the brand on the brand. So, I believe that trying to be one of the challenges. I guess I’m trying to educate people because there is a lot of information, but because now. People find themselves in sticky situations, and it’s difficult for them to put their trust in certain friends or see the brand as authentic or real. As a result, the brand

sentiment becomes negative rather than positive, which has a cascading effect. If sentiment is low, it means that people do not care. Have positive things to say about the brand, which leads to people you know not wanting to be associated with the brand or business. So, I believe my greatest challenge is simply finding that sweet spot. Yes, we know that all these negative things are happening, but how do we use the available information to ensure that? Umm, you know, our customers or consumers or whatever the case may be, I'm empowered to be able to notice or protect themselves when they are in an uncomfortable or risky situation. My biggest challenge with data is determining how to use it to ensure that our audiences are empowered." (P1, 12:54.)

4.3 SMD in the context of banking and lead generation

In the context of banking and lead generation, generating leads was defined as identifying potential customers and targeting them on an individual level. In previous discussions, the use of SMD and data-driven strategies for lead generation was emphasized. The opinions presented in the table below suggest that the literature supports the use of data-driven strategies and individual-level targeting for successful lead generation in the banking industry.

Comment
<i>"So, as I previously stated, we use it for sentimental purposes only. Essentially, to keep track of the conversations. But, above all, not just the conversations, but the feelings or emotions that surround the brand daily. So, if people are connecting with the business, are they happy, or are they unhappy? Why are they unhappy, and what can we do as a business to ensure that they are happy? If it's a service, we improve the service; if it's a product, we improve the product." (P1, 18:58)</i>
<i>"We use it to determine who to target campaigns to, as well as how to engage or what tone to use with each customer with whom we interact. So, it simply helps to know how to approach someone, when to say something, how to escalate something, how to approach them, and what to offer them that is appropriate for them and their business." (P3, 6:25)</i>
<i>"It's as simple as understanding your customers' pain points. UM will also assist various departments within the organisation in their efforts to improve the customer experience." (P6, 04:46)</i>
<i>"Primarily when I used, it was primarily for, for marketing and as sentiment analysis." (P7, 8:00)</i>
<i>"We use it to drive sales. We use it to create content and monitor sentiment" (P8, 10:29)</i>
<i>"Understanding the data to help us communicate with customers. (P5, 13:44)</i>

4.4 SMD Availability and Quality

The literature has raised concerns about the quality and availability of data, but after analysing the interview data, it was found that only three of the ten participants encountered such issues. Specifically, one participant reported an availability issue,

another reported a quality issue, and four experienced both availability and quality issues as can be seen from the below data extracts:

Comment
<i>"No, not at all. I touched on how a third-party tool may interpret native data, but again, it could be a percentage and most or it could just be a timing thing and Facebook, Twitter, or YouTube would be offline or anything like that. So, aside from slowness and a timeout message or whatever, you know I've never had any major issues." (P2, 25:59)</i>
<i>"Not really, because, as I previously stated, the tool we use extracts all information that we have on social media for anything that a customer engaged with changes with us. So that information is always available to us. There isn't much of a problem with getting or using it. As I previously stated, it may appear that we are not being helpful or assisting, but this is because we cannot. Nothing you can do will help." (P3, 9:48)</i>
<i>"Yeah, it's a work in progress. There's we have more availability, but yes, we have, yes." (P4, 07:04)</i>
<i>"So, I believe we can conclude that they had issues with the availability and quality of social media data. So, yes, but only because we haven't really tapped into it. So do all the sources. If I return to the earlier mentioned example. We must use all marketing channels and target the open market in this manner. The scope was essentially limited to the data sets and applications to which we had access." (P7, 12:04)</i>
<i>"I wouldn't say we've had data availability issues. In terms of quality, I believe that some of these processes have taken time to perfect. So, we obviously did not arrive here overnight. But, in the beginning, some of these processes, obviously some of the things that were being measured. As you progress, you refine the processes. So, I believe we had to go through a refinement process. A very long time. So, yeah, in terms of quality, and it's probably still a work in progress." (P8, 15:02)</i>
<i>"It's really filtering through what's real and what's not, and what's organic content, organic engagement, versus what's created, because the other side of social media or the other side of authenticity is that there's a lot that can be engineered and developed to suit a narrative or, you know, to feed into a certain narrative." (P5, 9:34)</i>

4.5 Subsystems of the Decision-Making process

The decision-making process was examined from the perspective of two subsystems: the socio subsystem, which represents the human factor, and the technical subsystem, which represents SMDA. The aim of this study is to investigate the relationship between these two subsystems. Based on the participants' views, the relationship is one of constraint. The literature also supports the participants' views on the influence of SMDA on decision-making, which pertains to the technical subsystem, the use of personal expertise in the decision-making process, which involves both technical and socio aspects, and finally, the socio aspects that fall within the socio subsystem.

Debates	Subsystem	Comment
Influence of SMDA on Decision-making	Technical	<p><i>“Well, it gives us a general idea of what to expect. You know whether people are seeing what we are posting, whether it's the, likes, impressions, and views are what influence. The decision-making process also includes determining whether something is performing well, where people are more interested in a particular topic, and possibly drafting copy or posts for various social media platforms. It must be something that reflects the current climate. One refers to the ongoing work we do to ensure the safety of digital banking and other similar activities. So, it gives us a guide in terms of whether the message that we're attempting to deliver to the customer is received in the manner that it is intended.” (P9, 14:18)</i></p>
Use of Personal Expertise in Decision-making	Socio and Technical	<p><i>“Definitely. That is, you must be capable of critical thinking. You must be aware of society and understand how people may react to certain things or take offense to certain things. For example, it could be an image with only one agenda. People will complain about a lack of representation or diversity, so you must assess whether one tweet that comes in and I see this person complaining about a race issue and then see that, this could pose a negative to us. We can grow because I see that, OK, this doesn't sound right, or perhaps it was a branch incident and someone recorded a short video. We need to know that, and you need to act quickly. This could become popular because the video is popular on social media, particularly when it comes to racial issues, or if it's a person from a lower income group who you know is being victimized or discriminated against. So, you must also use your own understanding of what social media is and where in society you believe this will cause an uproar. As a result, you must rely on your own abilities, such as critical thinking and comprehension. Social media is about more than just money; it is also about politics. It's social, class, gender, sexuality, yours, broad, and everything. As a result, you must be well-informed. To be able to quickly catch things. Even if you read an article and think, oh, this person was treating a certain article, and if you read the article and say, OK, this is potentially trending. It says something about us, or we must respond to it even if it does not trend. But this is either a major allegation or a bad allegation. This is something we should be looking into or at the very least be aware of. If we are not going to respond.” (P10, 21:49)</i></p>
Socio Aspects	Socio	<p><i>“I believe so. I believe that as humans, we are naturally inclined to or biased toward our own experiences or beliefs, as well as what we may potentially stand for in our perspectives. And we all know that could be a good or bad thing, but I believe data helps to bring a level of objectivity, right? Because then we can argue that, to some extent, the numbers don't lie or that, you know, the facts are facts in terms of numbers and, yes, I do value, relying on human experience. I think the numbers just add a balance to make sure that it's not biased for the sake of, you know, someone's feelings, that you're trying to drive their narrative and</i></p>

	<p><i>perspective because they believe so strongly in it, without necessarily considering all the other factors. And, once again, social media data will still be very much about people.” (P5, 26:53)</i></p>
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5.0 Discussion and Conclusion

The study aimed to investigate the impact of SMD (SMD) on effective sales lead generation and explore the relationship between the technical and socio-aspects of decision-making in the context of a single bank. The findings suggest that individual customer targeting based on SMD can contribute to effective leads generation, the study needed to adequately address the limitations and potential biases of using SMD for decision-making. The study highlights the constraint between the technical and socio aspects of decision-making and addresses how those aspects interact and influence such constraints. Specifically, the paper provided insights gained from our interviews that provided observations on the nuances of decision-making and SMDA.

Our interviews identified five themes (social media data (SMD) perceptions, challenges of data analytics, social media use for lead generation, data availability and quality, and subsystems of decision-making) detailing the intricate relationship between decision-making and social media analytics. However, our analysis highlighted that individual strategic decision-making, using SMDA, is rather seen as a risk. Our findings further expand this perspective. In SMDA, where decision-makers can freely procure and scrutinize user-generated SMD, making decisions for developing various banking products are made in isolation among product teams. We found these patterns still prevalent in SMDA when decision-makers employ a goal-oriented search with a clear understanding of sourcing and analysing data, allowing them to develop and follow predefined routines. Although not reported explicitly, one of the interviewees for this study, highlighted that decision-makers seem to demonstrate more recursive and iterative patterns using SMDA to uncover new options for decision problems or gain an improved understanding of them. These patterns resonate strongly with a more recent perception of decision-making and embody Abbasi et al.’s (2016) concept of a “data-driven decision-making process”.

As with most papers, this study came with a few limitations, such as, obtaining consent from the bank was a lengthy process that consumed much of the time initially allocated for data collection and analysis. The protracted consent process also led to the interviews extending beyond their scheduled period. This limitation may have inhibited the depth of insights gained. Further, due to these time constraints and participants' reluctance, the sample size was limited to just 10 individuals. Participants recommended utilizing surveys for future research to address these issues. Future studies should consider investigating possible solutions to the constraints or how to overcome them. Overall, while the study contributes to the literature on SMD and decision-making, more research is needed to explore the limitations and biases of using SMD and to determine effective approaches for integrating the technical and socio-aspects of decision-making in the context of banking.

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