



Digital transformation: A roadmap to leverage businesses for SMEs

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Abstract

COVID-19 has been a critical turning point for businesses worldwide, compelling them to adopt digital technologies to sustain their economic activity. However, with limited resources such as budget constraints, transforming business strategies to integrate digital technologies is tedious. As the global market continues to evolve into a dynamic digitalised landscape, adopting digital transformation has become essential for businesses, especially start-ups and small- and medium-sized enterprises (SMEs), to remain competitive. Consequently, this study presents a roadmap for start-ups and SMEs to guide them in looking for support in digital technologies to leverage their businesses. The methodology includes a review of the industry's best practices and case studies based on successful implementation, while fostering a customer-centric approach. Visits to trade fairs and interviews with small business owners were conducted (1) to understand the challenges faced by SMEs and (2) to identify their need to use digital technologies. The results show that one of the main challenges SMEs face is that apart from the lack of proper infrastructure, they lack confidence in adopting technology in their business. They require knowledge of digital technologies to properly define their requirements and use digital platforms. A framework mapped on the hierarchy of effects model is proposed to assist SMEs embarking on digital transformation systematically to learn, adapt, evolve, and sustain their businesses based on their needs and pace. This research contributes to the strategic roadmap, which provides step-by-step guidelines to support SMEs that could be part of their respective countries' economic growth.

Introduction

Industry 4.0, the fourth industrial revolution, has been a component of company digitalisation for more than ten years (Ghobakhloo, 2020). The COVID-19 epidemic, on the other hand, has hastened companies' digital transformation and forced the adoption of digital technologies to preserve economic activity. This disruptive force failed to convince small and medium-sized enterprises (SMEs) to alter their business models by implementing digital technology to maintain their operations. Despite digitalisation's critical role in assuring business continuity and optimising procedures online, SMEs have demonstrated low rates of digital transformation (Holl & Rama, 2023; Yong, 2023). According to World Economic Forum (2023), SMEs contribute up to 70% to employment and GDP in the global economy but 67% of the SMEs are struggling for survival due to limited expertise and lack of resources impacting on their adoption of digital technology.

Furthermore, recent research has shown that SMEs face challenges in implementing digital technologies strategically (Holl & Rama, 2023; Yong, 2023; Hassan et al., 2015). The concept of digital transformation is unclear for many SME owners. They are uncertain about their effectiveness in (1) enhancing productivity (Holl & Rama, 2023), (2) improving organizational sustainability (Hussain, 2021), (3) adding value to businesses (Yong, 2023), and (4) increasing competitiveness (Hassan et al., 2015). Therefore, they hesitate to invest in digital technologies, believing that they are alone in their struggle, particularly with insufficient capital. Moreover, SMEs are unsure how digital tools can give them competitive advantage. Because of their ignorance of the effects of the digital revolution and lack of technological knowledge, they are unmotivated to pursue this path (Holl & Rama, 2023; Zuzaku & Abazi, 2022). However, some people employ digital marketing, social media, and other digital means to contact their customers (Yong, 2023; Hassan et al., 2015), but they lack a clear vision, will, and know-how to use cutting-edge technologies to not only operate and manage their business but also, to use predictive analytics for better and more informed decisions. Their lack of digital confidence prevents them from properly embracing and utilizing the potential of technology in their businesses with a clear purpose and plan.

This research paper proposes a practical guideline tailored for start-ups to provide them with a roadmap to navigate the digital landscape effectively. This guideline was based on understanding the challenges faced by the SMEs as well as identifying their needs in terms of digital technologies and consumers' behaviour. Consequently, the objectives of the study are (1) To identify SMEs' current challenges in adopting digital transformation; (2) To determine digital technology adoption requirements among SMEs; (3) To outline customer-centric opportunities in adopting digital transformation; (4) To design a step-by-step practical roadmap for SMEs to adopt digital transformation strategically.

The next section delves into the literature, examining the challenges faced by SMEs in adopting digital transformation, the benefits of embracing digital technologies, and the customer-centric models designed to support this transition. The methodology section outlines the qualitative approach to gather valuable insights from SME owners on their current use of digital technologies. The results and discussion sections highlight key findings, including SMEs' interactions with social media and their perspectives on digital technology adoption. Lastly, a practical, customer-centric roadmap is proposed to guide SMEs through their digital transformation journey.

Literature Review

Challenges in Adopting Digital Transformation

Digital technologies alter consumers' behaviour and spending patterns (Yong, 2023), leading to changing businesses operating activities. Large industries across all sectors continue to invest in digital transformation and marketing to enhance productivity and consumer engagement. However, past research demonstrates that SMEs lag in adopting digital transformation (Holl & Rama, 2023; Zuzaku & Abazi, 2022). The various challenges highlighted showed that SMEs are struggling to add technological value to their business activities. Even the adoption of low-cost digital technologies is rudimentary (Holl & Rama, 2023). Limited resources, poor digital infrastructure, as well as a lack of vision, strategic planning, and poor digital literacy are among the difficulties faced (Rocha et al., 2023; Yong, 2023; Zuzaku & Abazi, 2022; Hussain, 2021). SMEs tend to seek immediate opportunities and adapt their products and services accordingly, but investing in digital infrastructure for long-term growth seems to be an unreachable dream. Due to financial and human resource constraints, limited knowledge and support, they do not innovate enough and they soon struggle to sustain their business (World Economic Forum, 2023; Zuzaku & Abazi, 2022). In such a state, digital technologies appear to be inaccessible to them, although some are aware of the advantages of digital transformation.

Benefits of Adopting Digital Technology

Embracing digital technology requires SMEs to have an 'e-vision' of their business (Yong, 2023, p.153) regarding business management, product development and production, marketing and customer connection, and tracking business performance. Rocha et al. (2023) recommended that business owners and managers develop a digital mindset because digital technology is constantly remodelling business strategies, favouring competitiveness, resilience, and internationalisation of businesses (Holl & Rama, 2023), while establishing closer relationships with consumers (Yong, 2023) and improving productivity (Zuzaku & Abazi, 2022). It has also been highlighted that the digitalisation of businesses overcomes spatial distances and leads to innovation in

product development, distribution, and management (Holl & Rama, 2023; Rocha et al., 2023; Yong, 2023; Zuzaku & Abazi, 2022; Hussain, 2021).

On one side, businesses benefit from global exposure, showcasing their products and services without spatial barriers (Holl & Rama, 2023), reaching a wider audience (Hassan et al., 2015; Simmons et al., 2011) and ensuring economic sustainability (Ghobakhloo, 2020). Past research argued that websites, e-tailing stores, social media platforms, and digital marketing are nowadays essential to add value to businesses, create product awareness, build trust, encourage brand loyalty, and provide sustainability (Holl & Rama, 2023; Yong, 2023; Ghobakhloo, 2020; Denmamode & Ngo Siok Kheng, 2018; Hassan et al., 2015; Simmons et al., 2011). On the other side, customers can access products and services while connecting with their preferred brand 24/7 without physical boundaries.

Customer-centric Models

Digital technology acts as a bridge between businesses and customers, establishing a closer relationship between them. In this optic, researchers are adapting traditional customer-centric approaches for digital contexts. Pamastillero (2017) redefined marketing strategies for the digital economy from the 4Ps of Product, Price, Place and Promotion to the 4Cs representing Co-Creation, Currency, Communal Activation and Conversation. This model positions the customers at the forefront of the marketing strategies: Co-creation relates to businesses and consumers collaborating to formulate ideas and concepts to customise and personalise products and services; Currency is about a pricing scheme that follows the spending pattern of consumers using analytics; Communal Activation revamps the 4Ps transforming the traditional strategies into a peer-to-peer concept, making products available at any time and products delivered at the buyers' doorstep; and Conversation is about reviews and word-of-mouth shared on social media platforms creating engaging customers (Pamastillero, 2017).

Virtual word-of-mouth has become an assertive communication and marketing strategy SMEs can use on social media. Consumers tend to trust their friends easily and share their experience instantly with products and services. Being a low-cost marketing tool, social media has become a trend among SMEs, yet it is not used strategically (Yong, 2023; Hassan et al., 2015). As a result, Hassan et al. (2015) adapted the Attention, Interest, Desire and Action (AIDA) model to develop a set of recommendations for SMEs to use social media strategically. The adapted model demonstrates using social media and digital marketing to attract customers, retain their attention, create needs and encourage purchases online.

The traditional AIDA model is a variation of the Hierarchy of Effects model, both being marketing methods, tracing out customers' journeys and behaviours at various stages. Lavidge and Steiner's (1961) Hierarchy of Effects model consists of the following stages, starting with Awareness and Knowledge being the cognitive stage, Liking and Preference being the affective stage, and conviction and purchase being the conative stage.

Consequently, this paper attempts to design a customer-centric roadmap, guiding SMEs in adopting digital technologies, thus initiating their business digital transformation.

Methods

A research framework has been developed using the qualitative approach to have a comprehensive insight into the Small and Medium Enterprises (SMEs) current challenges and their digital adoption requirements. Primary data was collected in various phases using informal conversations, observational study of SME engagement online, fact-finder structured interviews and collaborative brainstorming. Table 1 outlines the phases and the research activities involved. The purposes of each activity are also indicated.

Phase 1 consisted of attending SME trade fairs to create first contact with SME owners and to informally discuss their performance, motivation, and challenges in using digital technology within their businesses. According to Cohen and Crabtree (2006), informal interviews create low-pressure interactions and encourage respondents to share their experiences freely and openly. Therefore, informal and unstructured interviews were opted to take note of the actual situation in a commercial setting thus fulfilling the first research objective: To identify SMEs' current challenges in adopting digital transformation.

Data collected in Phase 1 triggered the need to observe how SMEs engage with their businesses online. Past research established that the first stage in marketing strategies for both online and physical retail environments deal with brand awareness and product visibility (Denmamode & Ngo Siok Kheng, 2018; Sharp, 2010; Lavidge & Steiner, 1961). If a brand or a product does not manifest its existence, the chance that it is being considered for purchase is null. Further, Simmons et al. (2011) identified information on products and services as an online value proposition for small businesses. Similarly, Yong (2023) specified that digital marketing adds

value to small businesses, improves customer responsiveness and builds brand loyalty by enhancing quality communication with targeted audiences. Since these factors are aligned with the hierarchy of effects model (Lavidge & Steiner, 1961) and the AIDA model (Strong, 1925), they were used as guides to undertake the observational study of Phase 2.

Information gathered during the observational study assisted in conducting the fact-finder structured interviews of entrepreneurs in Phase 3. Macdonald and Headlam (2008) described the fact-finder interview as allowing a researcher to obtain specific information and gain in-depth insight into known information. Structured interview style was used to acquire direct responses. This stage assisted in fulfilled the second research objective: To determine digital technology adoption requirements among SMEs.

In Phase 4, a collaborative brainstorming session was conducted to elaborate on various ways to engage in digital transformation. Yong (2023) used a similar method, notably mind mapping, to elaborate on SMEs' digital marketing adoption and to create categories and a coding system for extracted themes. Further, Hassan et al. (2015) used the AIDA model to map SMEs' marketing strategies for social media. Therefore, following the broad brainstorming thinking method, data was extracted and mapped on customer-centric models accordingly. Thus, fulfilling the third research objective: To outline customer-centric opportunities in adopting digital transformation. Finally, a set of guidelines was developed, achieving the fourth research objective: To design a step-by-step practical roadmap for SMEs to adopt digital transformation strategically

Table 1

Methodology Framework

Phases	Phase 1	Phase 2	Phase 3	Phase 4
Activities	Visit SME in Trade Fairs	Observational Study	Fact-finder Structured Interviews	Collaborative Brainstorming
Purposes	Create first contact.	Explore how SMEs engage with business online: Virtual window for their products and services - website, social media, digital marketing, or other form of online activities.	Gather in-depth information about the challenges SMEs face in adopting digital technology.	Elaborate on various means to adopt digital technology for SMEs.
	Informal interview /conversation.			
	Grasp the big picture of digital technology adoption within SME businesses.	Understand their motivation behind choosing and not choosing digital transformation for their commercial activities.	Understand the broad view of greatest challenges in adopting digital technology.	Ideate over digital transformation possibilities for diverse commercial activities.
	Understand the broad view of greatest challenges in adopting digital technology.			
Collect SME online business vision.	Observe online presence: product and brand visibility.	Identify any online value proposition: information on products and services.	Verify their readiness to adopt digital transformation.	Map customer-centric models (Hierarchy of Effects and AIDA models) on digital transformation strategy.
				Design the guidelines.

Observe how SMEs engage with customers: developing interest, desire and affective response.

Identifying online retailing features to conclude purchases: mode of payment and delivery.

Results and Discussions

Phase 1: Visit SMEs in trade fairs

Visits to trade fairs assisted in picturing SMEs' working mechanisms. Most cases encountered work solo, which is their greatest challenge. Due to budget constraints, those employing labour would rather keep the team to a strict minimum. Most SMEs have the same working pattern: focusing on production and product quality, participating in trade fairs and selling their products in a physical environment. It was clear that even though some are interested in digital technologies, the digital transformation of their businesses is not their priority. Another factor that slows their adoption of digital technologies is their wrong perception of digital transformation as they believe that digital transformation cost is high and its management is time-consuming and unproductive. Many doubt the effectiveness of digital technology in their commercial activities. Some would go further, saying that they prefer face-to-face contact with their customers; therefore, they are not interested in adopting any form of digital technology. Besides, it was also observed that digital literacy is another major issue. Even low-cost digital technologies, such as having a presence on social media platforms, would not convince them. They tend to rely on word-of-mouth to communicate their existence on the market.

However, a few have a positive vision of online business and are convinced that digital technology will complement their effort accomplished in the physical environment. They know that a presence online through any means, such as a website or any social media platform, will make their business available 24/7, creating a stronger bond with their customers. Furthermore, this will provide the opportunity to internationalise their business. Yet, they lack confidence in investing time and money in an e-commerce system. Another major issue observed was the wrong adoption of marketing strategies, let alone the adoption of digital marketing. Although SME owners are motivated to make an extra effort towards creating awareness of their business and products, their selection and design of marketing tools are ineffective. Some would distribute poorly designed printed flyers and brochures, others would show their printed business card and ask customers to take a picture since they have limited quantity. And a few had no marketing tools at all. Nevertheless, they are conscious of the negative impression they leave when they cannot share the essential details about their business and products.

The findings of Phase 1 demonstrated similarities with past research reviewed in the literature section. The following table summarises the findings of Phase 1, where the main focus was on (1) SME adoption of digital technologies and (2) SME's most significant challenges.

Table 2*Visit to trade fairs findings. Source: Field Informal Interviews 2023*

Respondent's sector	Adoption of digital technology (any form)	Significant challenges in adopting digital technology
Respondent 1 Founder/owner Sector: Natural beauty care product	Present on Facebook - very active, posting every week as far as possible; Photos of products posted on Facebook; Use email; Use pay-by-phone system.	Time constraint - need regular posts on social media to keep customers' traffic; Limited knowledge of technical aspects of social media - it slows down instant communication with customers.
Respondent 2 Founder/owner Sector: Natural medication and herbal tea	Present on Facebook - fairly active, posting when time permits; Recorded some videos posted on Facebook and TikTok; Foreigners order products from social media, and products are delivered to them at hotels or they collect from the SME stand in fairs.	Lack of funding - need funds to invest in machines for an automated production line - up to now, all operations are done manually; Time constraint - one-person business - don't have time to engage online regularly.
Respondent 3 Employee Sector: Furniture design and manufacturer	Present on Facebook - active, posting as frequently as possible; Recorded some videos posted on Facebook Use Email	Lack of funding
Respondent 4 Founder/owner Sector: Handicraft - a specialist in bag making and accessories	Does not use digital technology.	Time constraint; Lack of knowledge; Rely on word-of-mouth;
Respondent 5 Founder/owner Sector: Agriculture - plant nursery	Use Pay-by-phone system.	Time constraint; Lack of knowledge on whether it is relevant to the business.
Respondent 6 Founder/owner Sector: Agriculture - plant nursery	Use Email.	Time constraint; Lack of knowledge on whether it is relevant to the business.

<p>Respondent 7 Founder/owner</p> <p>Sector: Natural and organic beauty care</p>	<p>Present on Facebook - communicate primarily trade fairs where the business participates; Photos of products posted on Facebook Use Email</p>	<p>Time constraint; Limited funding for digital marketing</p>
<p>Respondent 8 Founder/owner</p> <p>Sector: Agriculture - plant selling and landscaping</p>	<p>Use Whatsapp Use Pay-by-phone system.</p>	<p>Limited funding</p>
<p>Respondent 9 Founder/owner</p> <p>Sector: Aromatherapy</p>	<p>Present on Facebook - not active; Use Email</p>	<p>Time constraint; Limited funding for digital marketing</p>
<p>Respondent 10 Founder/owner</p> <p>Sector: Food - Rodrigues Island speciality</p>	<p>Does not use digital technology.</p>	<p>Time constraint; Limited digital literacy.</p>
<p>Respondent 11 Founder/owner</p> <p>Sector: Hand-made Soap and candles</p>	<p>Present on Facebook - not active; Use Email</p>	<p>Time constraint; Lack of human resources Limited funding for digital marketing; Lack of knowledge - would like to learn to create own digital marketing; Copyright issues - when products are displayed online, competitors tend to copy ideas.</p>
<p>Respondent 12 Founder/owner</p> <p>Sector: Handcraft jewellery and accessories</p>	<p>Use Pay-by-phone system.</p>	<p>Time constraint; Lack of knowledge.</p>
<p>Respondent 13: Founder/owner</p> <p>Sector: Textile</p>	<p>Present on Facebook - not active;</p>	<p>Time constraint; Limited funding; Lack of human resources.</p>

Phase 2: Observational study

Phase 1 findings showed that out of 13 respondents, 7 claimed a Facebook account, but only 6 were analysed as one was unavailable. Most respondents' cover and profile images showcased their visual identity, products and packaging. Thus, communicating their businesses' existence and sector online. Four respondents regularly posted photos and product information, although they did not always use the right marketing strategy. It was noticed

that many of the photographs and videos posted were amateur, and the information presented in poster-like artwork was not visually appealing. Overall, they primarily showcased their products and communicated with their customers, and two respondents collected orders. However, no purchase option or payment mode was available online. It was noted that Respondent 1, being the most active one, has 17,000 Followers with 16,000 Likes. Table 3 outlines the observed data. The Hierarchy of Effects model (Lavidge & Steiner, 1961) and the AIDA model (Strong, 1925) were used as guides to conduct the observation of the related respondents' social media pages.

Table 3

Observation of social media pages of SMEs. Source: Observational study 2023

Respondents	Awareness / Attention	Knowledge - liking / Interest	Preference - conviction / Desire	Purchase / Action
Respondent 1 Natural beauty care product Social Media: Facebook	Descriptive business name is unique - used native language (creole); Cover image showcases multiple products packaging with front labels highly visible; Profile image does not showcase business visual identity (logo design or name).	Communicating trade fairs schedule and venues; Photos of trade fairs display stand posted; Photos of products posted; Information about some products available; 17,000 followers.	16,000 Likes; Regular requests for products' prices.	No purchase option online; Some customers post their orders to eventually collect physically.
Respondent 2 Natural medication and herbal tea Social Media: Facebook TikTok	Personified business name is unique - used French language; Cover image showcases trade fair display stand with logo design highly visible; Profile image partly showcases business visual identity (logo design or name).	Photos of business owner posted; Photos of trade fairs display stand posted; Photos of products posted with close-ups on their labels; Information about some products available; Videos of participation in trade fairs posted; 113 followers.	93 Likes; No customers' requests / communication visible.	The About section provides a hyperlink named e-commerce website but inactive; No purchase option online.
Respondent 3	Used initial and	Photos of	7,100 Likes;	The About

<p>Furniture design and manufacturer</p> <p>Social Media: Facebook Instagram (no posts) WhatsApp</p>	<p>product description as business name - not unique on the web; Cover and profile images showcase logo design;</p>	<p>products with prices posted; Information about some products available; Videos of participation in trade fairs posted; 7,600 followers</p>	<p>Regular communication exchange between customers and the business.</p>	<p>section provides a hyperlink to the business website but is not reachable; No purchase option online.</p>
<p>Respondent 7 Natural and organic beauty care</p> <p>Social Media: Facebook</p>	<p>Descriptive business name - not unique on the web; Cover image showcases natural main ingredient; Profile image partly business visual identity.</p>	<p>Communicating primarily trade fairs schedule and venues; A few photos of products with descriptions posted; Some prices posted; 1,400 followers.</p>	<p>1,300 Likes; A few communication exchanges between customers and the business.</p>	<p>No purchase option online; Some customers post their orders, and the business delivers to their doorstep - mode of payment not mentioned.</p>
<p>Respondent 9 Aromatherapy</p> <p>Social Media: Facebook</p>	<p>Evocative business name - not unique on the web; Cover image showcases setting to evoke smell experience; Profile image does not show business visual identity.</p>	<p>A lot of photos not related to business activity; Two photos of trade fair posted; 45 followers.</p>	<p>37 Likes; No communication exchanges visible.</p>	<p>No purchase option online.</p>
<p>Respondent 11 Hand-made Soap and candles</p> <p>Social Media: Facebook</p>	<p>Evocative business name is unique; Cover image showcases products without packaging; Profile image shows business visual identity.</p>	<p>Photos of trade fairs display stand posted; Photos of products posted with close-ups on their packaging and labels; Information about some products available; Videos of participation in trade fairs posted;</p>	<p>1,600 Likes; A few communication exchanges between customers and the business.</p>	<p>No purchase option online.</p>

1700 followers.

Respondent 13 Textile	Could not connect to Social Media page.
Social Media: Facebook	

Phase 3: Fact-Finder Structured Interviews

Following the observational study, structured interviews of five SME owners were conducted voluntarily upon their availability. Table 4 summarises the profiles of the interviewees and their businesses.

Table 4

Interviewees' and SMEs' demography

Interviewees' profiles	Digital skills rated	Number of employees	Business location	Sector & registered year
Participant 1 Age range: 51-60 Qualification: upper secondary Role in business: founder/owner	Basic to Average	Work alone	home-based	Handicraft 2014
Participant 2 Age range: 31-40 Qualification: diploma Role in business: founder/owner	Advanced	Work alone	home-based	Beauty and wellness 2015
Participant 3 Age range: 41-50 Qualification: upper secondary Role in business: founder/owner	Advanced	Work alone	home-based	Hair saloon 2010
Participant 4 Age range: 41-50 Qualification: upper secondary Role in business: founder/owner	Advanced	Owner + 2 employees	Renting space	Fashion & Textile 2016
Participant 5 Age range: 51-60 Qualification: upper secondary Role in business: founder/owner	Average	Work alone	home-based	Hand-made Soap and candles 2018

The structured Interviews showed that the SME owners are isolated. They tend to deal with problems as they arise. Although they strongly agree with the capabilities of social media and digital technology on business growth, and customer interactions, they lack a proper digital transformation strategy. They seem in a comfort zone and do not envisage doing business differently. Table 5 shows their digital media usage, the challenges faced in adopting digital technologies and perceptions of digital transformation.

Table 5*Interviewees' digital technology adoption and challenges*

Interviewees	Use of digital media	Challenges	Digital technology perception
Participant 1	Facebook Page Use Pay-by-phone	Limited knowledge of Digital Technologies Financial Constraints to investing in online tools Time Constraint Limited interactions with the public	Strongly agree with the capabilities of the use of social media, business growth, and customer interactions
Participant 2	Web page/e-marketplace Facebook Page Use Pay-by-phone Use phone and social media to interact with customers Online chat/video calls with customers	Internet is slow High cost of foreign currency Copyright	Strongly agree with the capabilities of the use of social media, business growth, and customer interactions Will invest more in technology Ready to invest more in tools and training
Participant 3	Facebook Page Digital Marketing Receive orders online Use Pay-by-phone	Internet Cost is high Time-Consuming to use Digital media Financial Constraints to invest in online tools No training High competitions	Strongly agree with the capabilities of the use of social media, business growth, and customer interactions
Participant 4	Dormant Facebook Page Use Pay-by-phone	Time Constraint Financial Constraints to investing in online tools Lack of human resource	Strongly agree with the capabilities of the use of social media, business growth, and customer interactions
Participant 5	Facebook Page Digital Marketing Receive orders online Use Pay-by-phone	Limited knowledge of Digital Marketing Design Financial Constraints to investing in online tools Time Constraint No training High competitions Copyright	Strongly agree with the capabilities of the use of social media, business growth, and customer interactions Ready to invest more in tools and training

The outcome of Phase 3 showed that SMEs invest a lot in developing high quality products yet their budget to integrate digital technologies to their business activities are low to inexistent. It has been observed that they use social media, particularly Facebook and WhatsApp, with no specific planning and marketing strategy. It seems that SME owners do not feel confident stepping into the digital realm, considering social media management time-consuming.

Another significant factor retained from the interview was the digital literacy of the SME owners. It has been pointed out that although they have knowledge in technology, they need training to adopt digital transformation strategically, especially customer-centric strategy. Some are ready to invest in training and related tools to improve their productivity while enhancing customer interactions and relationships.

Still, most of them were reluctant to invest additional time in learning how to utilise the tools on their own. They prefer to speak with their clients on the phone or in person. Interestingly, four people have upper secondary education, whereas just one has a diploma. They are ready to use digital technology to reach their clients more successfully because they know their potential.

The SMEs know their objectives and struggle with limited resources to sustain their business. Proper infrastructure, training and guidance in using the digital marketplace and media are of utmost importance to allow them to plan strategically and evolve more confidently in the indispensable digital platforms.

Phase 4: Collaborative Brainstorming

Phase 4 consisted of the final stage of the fieldwork undertaken before developing the strategic guidelines for the SME to follow as a roadmap to leverage their businesses while adopting digital transformation. Data collected from Phase 1 to Phase 3 were analysed, and keywords were extracted and mapped on the Hierarchy of Effects and AIDA models. Each stage of the models was used as thematic words to ensure a customer-centric approach. The themes are indicated in bold and uppercase letterings in the mind-mapping of Figure 1. Various means to adopt digital transformation and selected keywords from the interviews and the observational study were plotted and elaborated further. New ideas related to digital technology were formed and highlighted.

The thematic words ‘Attention’ and Awareness address the KPIs for brand awareness and digital marketing strategies, which are critical to all businesses. Data analysed from Phases 1 to 3 revealed SMEs are employing inadequate to no digital means to ensure a high level of awareness of their existence on the market. The brainstorming proposed diverse digital marketing and technology for various budget types with customers in mind.

Further, it demonstrated that some SME practices could be substituted with digital technology; for example, a printed business card could be substituted for a virtual business card at a low cost. In the long run, a digital business card is more sustainable since SMEs invest only once in the design, which is infinitely available anytime, anywhere. Similarly, the brainstorming showed that word-of-mouth could be extended to social media platforms through reviews, ratings and feedback. Loyal customers could become followers, increasing the ‘Likes’ and subscriptions, thus creating communal activation linked to the thematic word “Interest” leading to themes ‘Liking’ and ‘Conviction’.

Other features like the QR code can assist in the digital transformation of SME businesses as it is a common practice to use it to connect the physical environment to the online environment. For example, product packaging can be implemented with a QR code connecting the physical packaging to the brand website to provide additional information on product usage and its benefits. Eventually, printed marketing tools would no longer be needed, digitalising the marketing concept and making it sustainable. Overall, QR code provides vast opportunities for SME owners in their communication strategies and marketing KPIs.

Besides, during the brainstorming, the 24/7 strategy was highlighted as a motivational factor for SMEs to adopt digital transformation. The 24/7 strategy is viewed as a means for a brand to keep an engaged relationship with its customers. SMEs may take advantage of the strategy and encourage customers to participate actively, making them actors in an ongoing digital marketing campaign. For example, lifecasting them using the products, sharing positive feedback, and convincing others of the benefits. Live chat sessions may be organised, or live streaming of product promotions may be broadcast regularly. Instant messaging, round-the-clock communication and personalised interaction may also bring customers closer.

The collective brainstorming activity assisted in identifying and elaborating on critical aspects of the topic under study. Figure 1 shows the result of the collaborative brainstorming.

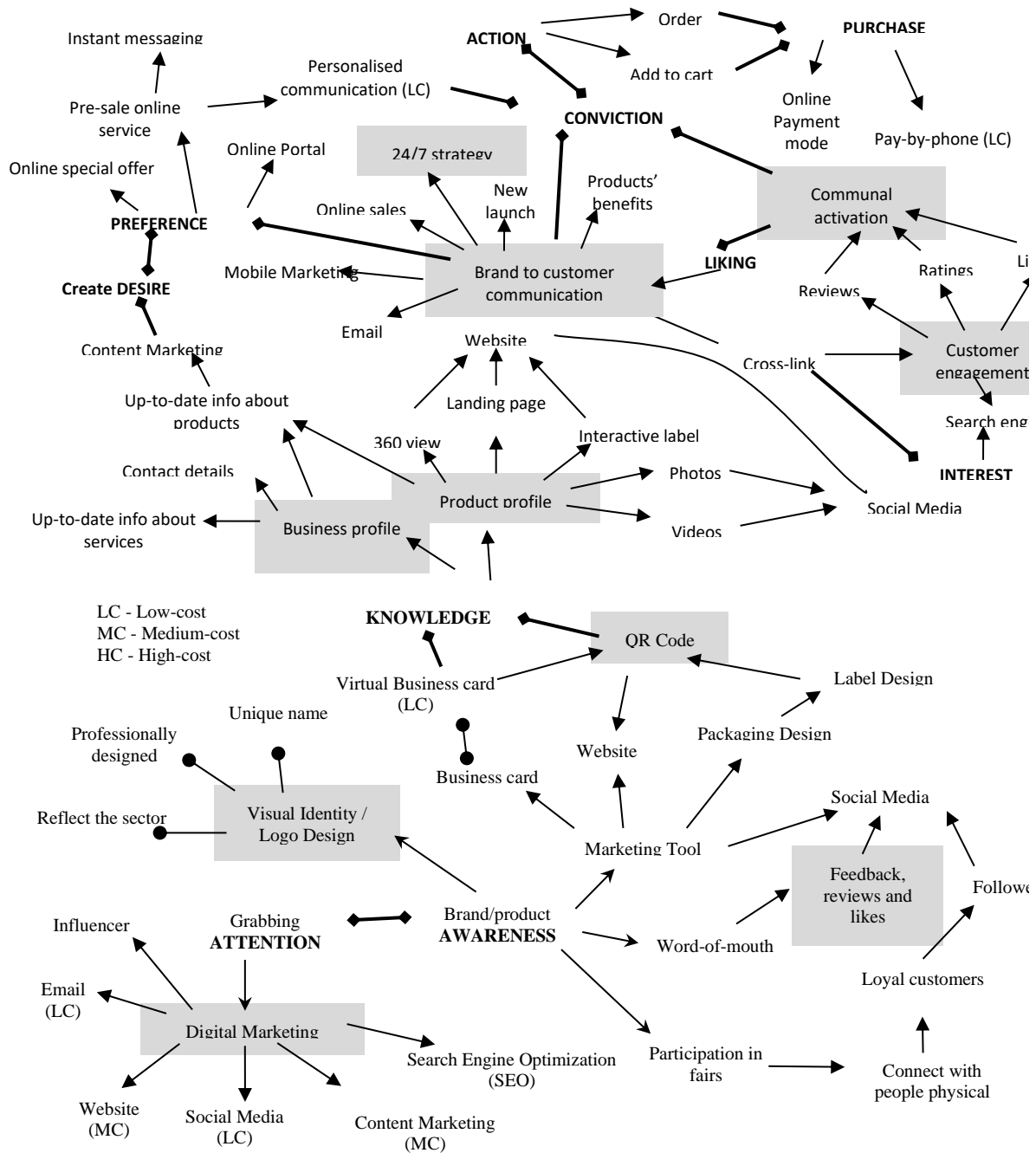


Figure 1: Customer-centric brainstorming.

Customer-Centric Roadmap for SMEs

Outcomes from field research and existing literature were compiled, analysed and mapped on customer-centric models. Six customer-centric stages are proposed as per the Hierarchy of Effects model and the AIDA model. For each stage, recommendations are sectioned into three: (1) Essential features, (2) Digital Marketing and (3) Digital Technology. The 'Essential Features' column proposes options that are highly recommended to fulfil the minimum requirement of the related stage. The 'Digital Marketing' column provides guidelines to enhance business communication, product promotions and customer-business relationships. The column 'Digital Technology' recommends the technical aspect of integrating digital transformation into businesses. A pre-

requisite to stage one is having access to the internet, without which SMEs will not be able to embark on digital transformation using the proposed roadmap.

The concept for stage one, ‘Awareness’, is about creating visibility for the business and its products which is an essential step to ensure customers are aware of the business and product existence. This stage also recommends cross-linking all social media platforms to maximise online exposure and reach a diverse audience. A well-planned online marketing campaign should be designed to attract customers' attention. Among the low-cost investments, SMEs are advised to register for social media business accounts. The second stage, ‘Knowledge’, refers to making clear information about the business and the product available to customers. This stage also involves the customers as co-creators of content related to the performance of the business and the product. Through product/service reviews, virtual word-of-mouth and feedback, loyal customers are valued as active collaborators to provide information to potential new customers. Stages one and two provide recommendations for both physical and online environments. Since SMEs participate a lot in trade fairs, they should invest in features that connect both environments. For example, an e-business card is a sustainable substitution for a printed one. It is a one-time investment and allows the SME to save money in the long run. An e-business card is permanently available, thus easier to distribute, facilitating instant connection with the SME social media accounts, websites and other forms of online media. Similarly, a QR code on a physical packaging label will assist in connecting to the product and business information online.

Stages three, four and five, known as ‘Liking’, ‘Preference’ and ‘Conviction’, assist in building closer relationships with consumers, each with specific purposes. The stage ‘Liking’ strategy is to create interest in the product and business. The stage ‘Preference’ connects with customers emotionally, and the stage ‘Conviction’ creates the desire to purchase. The last stage, ‘Purchase’, engages the customers in the buying process. If it is in a physical environment, it is recommended that the SME provides a digital payment system to cater to customers who do not use cash payment mode. However, if the purchase is online, SMEs are recommended to invest in an internet-based sales platform as from stage five, ‘Conviction’, since customers will express their buying intentions by adding their selected products to the cart. The stage ‘Purchase’ should also provide delivery options and details with a tracking system to reassure customers.

Table 6

Customer-centric Roadmap for SMEs to Embrace Digital Transformation

Customer-centric phases		Essential Features	Digital Marketing	Digital Technology
1	Awareness Attention	Unique business name Visual identity (incl. logo design) Packaging design (as applicable)	E-business card Online marketing Influencers Email marketing Cross-link social media platforms	Internet Smartphone Website Social Media account WhatsApp business
2	Knowledge Cognitive	Business profile Product profile Co-Creation	Content Creation Reviews / virtual word-of-mouth / feedback Interactive label	QR code Website (product landing page) Cloud computing
3	Liking Interest	Communal activation Followers 360 degrees view of products Up-to-date product information	Social Media post Lifecasting Product ratings and Likes Mobile marketing Online sales 24/7 strategy	Video streaming Digital Camera Consumer tracking
4	Preference Affective	Online portal Pre-sale online service	Personalised communication	Data mining Instant messaging Interactive website

		Conversation	Attractive social media wall User experience (UX) Chat Marketing	User Interface (UI)
5	Conviction Desire	Conversation Online order option Add-to-cart	Updated social media post Professional e-tailing store Promotions	Internet-based sales platform Blockchain
6	Purchase Action	Mobile app payment Online payment mode Contactless payment	Order process Delivery options and details	Digital payment system Product tracking system

Table 6 presents a step-by-step roadmap for SMEs to adopt digital transformation to leverage their businesses. The roadmap may be a template to implement and adapt catering for specific business-sector requirements.

Conclusion

The COVID-19 pandemic undeniably marked a pivotal turning point for businesses worldwide, compelling them to adopt digital technologies to sustain economic activity. In response to this unprecedented challenge, businesses, both large and small, embarked on a digital transformation journey. While the need for digitalisation was clear, the path forward was often fraught with hurdles, particularly for small and medium-sized enterprises (SMEs) and start-ups with limited resources and budget constraints. We understand that it is hard for them to sustain their business, and using digital technologies is not one of their priorities. Their lack of awareness, knowledge, and confidence hinders them from using digital technologies to their advantage. The contribution of this research is encapsulated in this strategic roadmap, which provides step-by-step guidelines to support SMEs in harnessing the power of digital technologies. The roadmap intends to assist SMEs and start-ups in planning their digital transformation strategically. It offers them with an e-vision of their businesses whereby they can pick and choose the features according to their business needs at the different customer-centric phases. By doing so, SMEs can not only secure their growth and resilience but also play a vital role in the economic growth of their respective countries. The limit of this research remains the participation of a few SMEs. The future work lies in implementing the roadmap and test its efficiency with a larger group of SMEs participants. The researchers intend to collaborate with the governments and training centres to implement the roadmap which can be a game changer for the SMEs survival and growth.

References

- Cohen, D., & Crabtree, B. (2006). *Informal Interviewing*. Qualitative Research Guidelines Project. Retrieved October 3, 2023, from <http://www.qualres.org/HomeInfo-3631.html>
- Denmamode, L., & Ngo Siok Kheng, J. (2018). *Alternative Digital Packaging Design Strategies to gain visibility in E-tailing* [International Conference on Industrial Engineering and Operations Management]. IEOM Society International.
- Ghobakhloo. (2020). Industry 4.0, digitization, and opportunities for sustainability. *Journal of Cleaner Production*, (252), 119869. <https://doi.org/10.1016/j.jclepro.2019.119869>
- Hassan, S., Nadzim, S., & Shiratuddin, N. (2015). Strategic Use of Social Media for Small Business Based on the AIDA Model. *Procedia - Social and Behavioral Sciences*, 172, 262-269. <https://doi.org/10.1016/j.sbspro.2015.01.363>.
- Holl, A., & Rama, R. (2023). Spatial Patterns and Drivers of SME Digitalisation. *Journal of the Knowledge Economy*. <https://doi.org/10.1007/s13132-023-01257-1>
- Hussain, Z. (2021). Paradigm of technological convergence and digital transformation: The challenges of CH sectors in the global COVID-19 pandemic and commencing resilience-based structure for the post-

- COVID-19 era. *Digital Applications in Archaeology and Cultural Heritage*, 21. ISSN 2212-0548. <https://doi.org/10.1016/j.daach.2021.e00182>.
- Lavidge, R., & Steiner, G. (1961). A model for predictive measurements of advertising effectiveness. *The Journal of Marketing*, 59-62.
- Macdonald, S., & Headlam, N. (2008). *Research Methods Handbook: Introductory Guide to Research Methods for Social Research*. Centre for Local Economic Strategies.
- Pamastillero. (2017). *4 Redefining Marketing in the Digital Economy – Digital Entrepreneur*. Digital Entrepreneur. Retrieved November 5, 2023, from <https://www.pamastillero.com/2017/08/11/4-redefining-marketing-in-the-digital-economy/>
- Rocha, Quandt, Deschamps, & Philbin. (2023). Chapter 8 - Understanding Digital Transformation challenges: evidence from Brazilian and British manufacturers. In *Designing Smart Manufacturing Systems* (pp. 187-210). Elsevier Science. <https://doi.org/10.1016/B978-0-32-399208-4.00016-7>
- Sharp, B. (2010). *How Brands Grow: What Marketers Don't Know*. OUP Australia & New Zealand.
- Simmons, G., Armstrong, G. A., & Durkin, M. G. (2011). An exploration of small business Website optimization: Enablers, influencers and an assessment approach. *International Small Business Journal*, 29(5), 534-561. <https://doi.org/10.1177/0266242610369945>
- Strong, E. K. (1925). *The psychology of selling and advertising*. McGraw-Hill book Company.
- World Economic Forum. (2023). *Fourth Industrial Revolution. Smaller and mid-sized businesses are fighting for survival. This is how they could prosper*. Retrieved July 19, 2024, from <http://www.weforum.org/agenda/2023/07/digital-transformation-potential-smes/>
- Yong, S. M. (2023). 4th Industry Revolution Digital Marketing Adoption Challenges in SMEs and its Effect on Customer Responsiveness. *Information Management and Business Review*, 15(2), 152-172.
- Zuzaku, A., & Abazi, B. (2022). Digital Transformation in the Western Balkans as an Opportunity for Managing Innovation in Small and Medium Businesses - Challenges and Opportunities. *FAC-PapersOnLine*, 55(39), 60-65. <https://doi.org/1016/j.ifacol.2022.12.011>.