The Role of Digital Marketing in Increasing SMEs' Competitiveness

Rui Pedro Silva¹ , Henrique Mamede² and Arnaldo Santos² Correction of the Portugal and Arnaldo Santos² (Universidade de Trás-os-Montes e Alto Douro, Vila Real, Portugal a Universidade Aberta, Lisbon, Portugal

Keywords: Digital Marketing, Digital Transformation, Small and Medium Enterprises, Content Management, Online

Engagement.

Abstract: With the significant increase of technology-based newer competitors and the digital economy reshaping the global economic environment, it is undoubtful that the market is becoming aggressively more demanding for

global economic environment, it is undoubtful that the market is becoming aggressively more demanding for small and medium enterprises, which is a strong driver of their need to adopt new digital technologies and transform their businesses. Events such as the COVID-19 pandemic have accelerated the online engagement of consumers, and that also means that digital transformation might not only be about the digitalisation of internal processes and reshaping of business models but as well, and not least relevant, the Strategies used by SMEs to position themselves in the market and maximise the value of digital marketing to regain

competitiveness and reposition their products.

1 INTRODUCTION

For SMEs (Small and Medium-sized Enterprises), embracing digital transformation is not about changing internal processes or adopting new technologies; it fundamentally changes business models (Loebbecke & Picot, 2015). At the same time, the digitalisation process is reshaping the way consumers and businesses interact (Taiminen & Karjaluoto, 2015). However, we see SMEs struggling and facing increased difficulties in adopting the newer digital technologies, mainly due to their limitations in resources and skills to fully comprehend the value they can get (Giotopoulos et al., 2017). For example, in a study carried out by Ramukumba (2014), it was identified that lack of funding, management skills, and investments in newer technologies are ranked as the highest factors in the failures of SMEs in South Africa.

On the other hand, SMEs have a few essential positive aspects that support potential successes: flexibility, faster, and less constrained (Barann et al. 2019), and their flat organisational structure enables and supports more accessible communication and close control of what is happening within the

company, which are factors that reduce risk of failures (Prause, 2019).

With SMEs playing such a vital role, there is a need to look at digital transformation and digitalisation with more concrete strategies (Hulla et al., 2021).

Lemon and Verhoef (2016) stated that digitalisation pushes companies to develop a seamless experience with customers across multiple channels and touchpoints, which are possible ways to get competitive in the re-shaped way consumers and businesses interact.

Research such as Vial (2019) and Matarazzo (2021) demonstrate the trend of SMEs using digital technologies to improve their relationship and proximity with customers through different channels. At the same time, the use of technology in B2B marketing is gaining momentum (Schultz & Good, 2012; Rapp et al., 2013; Agnihotri et al., 2016; Guesalaga, 2016)

With the context of the relevance of SMEs for the global economy, the impact that digital technologies have on their competitiveness, and the critical role digital marketing likely plays in improving customer relationships, this work aims to

alphttps://orcid.org/0000-0002-4827-7944

blo https://orcid.org/0000-0002-5383-9884

cl https://orcid.org/0000-0001-5139-6728

Copyright © 2022 by SCITEPRESS - Science and Technology Publications, Lda. All rights reserved

answer the research question (RQ1): Is the digital marketing strategy a well-defined factor in increasing SMEs' digital economy competitiveness?

2 METHODOLOGY

Through a systematic literature review (SLR), we will break down the research question into three different categories:

- SMEs & Digital Transformation success factors
- 2. The technology developments in digital marketing
- 3. SMEs' competitiveness and digital economy

We will use the database Science Direct (Elsevier) to identify the relevant articles, following the search strings indicated in Table 1.

Table 1: Query strings for step 1 in each category.

Category	Query String
SMEs & Digital Transformation success factors	((SME OR "small and medium enterprises") AND (("digital transformation") AND (("success factors") OR ("success reasons") OR ("success strategies"))))
The technology developments in digital marketing	(("SME" OR "small and medium enterprises") AND ("digital marketing") AND ("technologies"))
SMEs competitiveness and digital economy	(("SME" OR "small and medium enterprises") AND (("digital economy") AND (("competitiveness") OR ("winning markets") OR ("gain market share"))))

Our process consists of four steps (as illustrated in Figure 1):

- Step 1: Search by the defined query string in all the article content.
- Step 2: Limit the results from 2018 onwards (to get the most up-to-date) and only research articles.
- Step 3: Reduce the results further and filter by title/abstract relevant keywords.
- Step 4: Analyse the shortlisted articles in step 3 and choose the relevant ones in the review category.

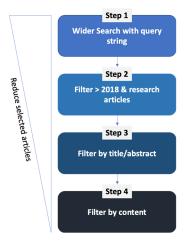


Figure 1: Literature filtering process.

After finalizing step 4, we will document each article identifying the relevant contribution to the category and listing the keywords used by the author. Per category, we will show a graph with the used keywords in all the articles analysed in step 4.

3 LITERATURE REVIEW

3.1 SMEs & Digital Transformation Success Factors

For category 1, we have analysed 16 articles and selected 7, as identified in Table 2.

Table 2: The process of identifying relevant literature for category 1.

Step	Results
1 (search by query string)	121 articles
2 (only > 2018 & only research articles)	96 articles
3 (filter title/abstract (("SME" OR	
"small and medium enterprises") AND	16 articles
("digital")))	
1 (search by query string)	7 articles

Daxhammer et al. (2019) analysed the potential of implementing multi-sided platforms (MSP) through SMEs and how this type of business model can foster innovative strategies in this type of company.

Through their analyses of 36 companies, the authors have concluded that this model is not yet highly implemented within SMEs, identifying some reasons to limit its rollout.

To this category, a few are of importance: (1) The digitalisation is not yet at the core of companies' competencies; (2) Daily operations consume much of the companies' time, leaving no space to innovate; (3)

The benefit of business models such as MSP is not apparent for SMEs; (4) The implementation of this type of innovative model cannot be supported by internal tech staff; (5) Organization's management does not fully support it.

Author's Defined Keywords: Innovation Management, Business Models, Multi-Sided Platforms

Löcklin et al. (2021) presented a concept to manage the transfer of datasets between organisations (Data Administration Shell), addressing a very relevant topic: The lack of resources that SMEs must manage data-related projects and their need to often rely on external providers in the field of data science.

Author's Defined Keywords: Data Science, Development, Artifact Management

Turkyilmaz et al. (2020) assessed the context of SMEs in Kazakhstan and the challenges and opportunities those companies face with digital transformation in Industry 4.0.

They identify the key strengths such as flat organisations, strong entrepreneurial spirit, or quick responses to market changes. On the other hand, the authors also identify weaknesses: lack of knowledge of Industry 4.0, lack of qualified personnel, absence of well-defined strategy, and limitations/constraints in resources.

The authors also identify opportunities such as obtaining support from governments, or entering global value chains, while facing threats such as a low level of R&D and lack of proper IT Bor infrastructure.

Author's Defined Keywords: Industry 4.0, Digitization in SME, Drivers and Opportunities for SMEs, Challenges of SMEs

Hulla et al. (2021) developed research on some of the challenges of SMEs (within the Manufacturing sector) in the context of digitalisation and the competencies needed.

The authors identified five key challenges: (1) Lack of strategy/roadmap; (2) Not recognising the value of digitalisation; (3) Lacking the necessary digital skills and needed competencies; (4) Lacking resources; (5) Employees not embracing digital.

The authors have as well, identify a few needed competencies to improve the results of the digitalisation: (1) Process Know-How; (2) Recognise the potential of digitalisation; (3) Define a digital roadmap; (4) Data analysis; (5) Communication; (6) Basic knowledge on digital technologies.

Author's Defined Keywords: Digitalization, manufacturing, production, competency development, SMEs, learning factories, training.

Wang et al. (2021) investigated how digitalisation activities, integrated with strategic actions, can help

an organisation in a decline turnaround. Data from Chinese companies from 2012 to 2019 identified asset retrenchment, cost retrenchment, and new products as having a significant impact on turnaround success. The authors also refer to internal and external digitalisation as two activities with a moderately positive impact, with external digitalisation supporting the positive effects of the relationship between introducing new products and turnaround success rate.

Their overall study results fully support the relevance of digitalisation in accessing knowledge and information that facilitate the effectiveness of a company's turnaround.

Author's Defined Keywords: Decline, Turnaround performance, Knowledge-based view, digitalisation, Retrenchment action, Strategic action.

In their work, Bouwman et al. (2019) examined whether SMEs in the digital transformation process get better results when allocating more resources to experiment with new business models and strategic discussions.

This work theoretically contributes to a better understanding of business model innovation (experimentation) in the context of digital transformation, showing that technology-based dynamic capabilities, with organisational agility, bring a significant improvement in the company's competitive performance, as well as that policies are encouraging SMEs to leverage technology, should drive the usage of tech such as big data or social media as a tool to experiment new business models and rolling out new strategies. Quite a significant contribution when knowing that new technologies such as IoT, Artificial Intelligence, or machine learning will expose SMEs to the need to re-thinking some of their business models.

Author's Defined Keywords: Big Data, Business model experimentation, Business model innovation, digitalisation, SME, social media.

Scuotto et al. (2021), in their research, contribute to the confirmation of the high degree of relevance of individual digital capabilities in SMEs' growth and their innovation. The authors assert that SMEs' ability to innovate highly depends on employees' digital capabilities to maximise digital technologies.

Author's Defined Keywords: Digital Transformation, Individual digital capabilities, Microfoundations, Labor-intense SME, innovation.

Through the 16 analysed articles, we could identify more than 25 different keywords, with Digital Transformation, SMEs, and Industry 4.0 being at the top of the used words (as illustrated in Figure 2).

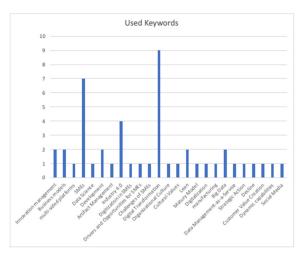


Figure 2: Literature filtering process.

Table 3 summarizes the keywords explicitly used by the selected authors/articles.

Table 3: Keywords summary of the reviewed articles in category 1.

category 1.	
Step	Results
Daxhammer et al. (2019)	Innovation Management, Business Models, Multi-Sided Platforms
Löcklin et al. (2021)	Data Science, Development, Artifact Management
Turkyilmaz et al. (2020)	Industry 4.0, Digitization in SME, Drivers and Opportunities for SMEs, Challenges of SMEs
Hulla et al. (2021)	Digitalisation, manufacturing, production, competency development, SMEs, learning factories, training
Wang et al. (2021)	Decline, Turnaround performance, Knowledge-based view, digitalisation, Retrenchment action, Strategic action
Bouwman et al. (2019)	Big Data, Business model experimentation, Business model innovation, digitalisation, SME, social media
Scuotto et al. (2021)	Digital Transformation, Individual digital capabilities, Microfoundations, Labor-intense SME, innovation

While we cannot draw any conclusions from the keywords used, there is a clear pattern in studies in Industry 4.0, while there are more limited findings in SMEs outside of that sector (for example, in services).

3.2 The Technology Developments in Digital Marketing

For category 2, we have analysed 14 articles and selected 6, as identified in Table 4.

Table 4: The process of identifying relevant literature for category 1.

Step	Results
1 (search by query string)	196 articles
2 (only > 2018 & only research articles)	137 articles
3 (filter title/abstract "digital marketing")	14 articles
4 (filter by relevance after reading it)	6 articles

Cartwright et al. (2021), through a systematic literature review (SLR), contribute to the understanding that in the B2C, social media has emerged as a successful marketing platform, while in B2B remains to be established at the same level. The SLR shows that social media channels revolutionize B2B marketing through strategic platforms in facilitating sales, integrated communication, and employee engagement.

This work also highlights the role of organizations in guaranteeing:

- 1. Sales employees shall social media successfully, developing relationships with customers.
- 2. Employees play a role in creating and disseminating content.
- 3. Employees play an active role in social media strategy.

Author's Defined Keywords: B2B marketing, social media, Digital marketing, strategic marketing.

Saura et al. (2021) looked at the main applications of Artificial Intelligence-based CRMs in B2B Digital Marketing (summarised in Figure 3).



Figure 3: Summary of characteristics per main uses in Albased CRMs in B2B Digital Marketing (Saura et al., 2021).

The authors have also identified five research propositions of relevance:

- "Well-defined B2B digital marketing strategies using AI-based CRMs would determine success and growth in marketing."
- "The efficiency of AI-based CRMs in B2B digital marketing when corporate strategies are focused on lead generation should be explored."
- "Clearly defined uses of AI-based CRMs in B2B digital marketing would benefit online brand building."
- "Well-defined key guidelines and actions to optimise AI-based CRMs would determine success in using customer experience/journeys on B2B digital marketing."
- "Innovation development protocols in B2B digital marketing when using AI-based CRMs should be developed, tested, and proposed as business innovation models."

Author's Defined Keywords: B2B digital marketing, Artificial intelligence-based CRMs, Multiple correspondence analysis

Boddu et al. (2021) analyzed the role of machine learning, robotics, and artificial intelligence in digital marketing. Their findings conclude that Artificial Intelligence has a more significant influence on the future of marketing. SMEs should make that adoption, being at greater risk if not getting into that path. They highlight that companies need solid foundations in technology, data, processes, and organization (people, skills, and culture) to maximize the adoption of these technologies. They also highlight the positive impact of robots in collaboration with digital marketeers and machine learning-driven analytical tools in digital marketing.

Author's Defined Keywords: Artificial Intelligence, Machine Learning, Digital Marketing, Robotics, Marketing, Management, Organization.

Salminen et al. (2019) compared three different state-of-the-art algorithms for tagging online website content and establishing cross-platform applicability. They concluded that neural network performs better for multilabel classification, and the model they developed was able to perform near to a human-to-human agreement when applied on YouTube.

Author's Defined Keywords: Machine Learning, Auto-tagging, Web content, Content marketing, Neural network, Digital marketing.

Sharma et al. (2020) wanted to explore the use of digital tools by small travel agencies and their perceived challenges and motivations.

Within this industry, there is a similar pattern of the growing relevance of social media; at the same time, websites and e-email still play a crucial role in digital marketing. Social Media tools such as Facebook, WhatsApp, and Instagram as the most used.

Digital Marketing is seen as an essential piece for small travel agencies as it allows them to get closer to the customers and improve engagement. However, they face challenges, especially fierce competition security issues (fake profiles, scams, ...). Some small travel agencies avoid the digital channels to protect the client relationships due to the digital ability to provide more comprehensive comparison and benchmarking.

Author's Defined Keywords: Digital marketing, Small travel agencies, Motivations, Challenges.

Chatterjee & Kar (2020), having the Indian market as the base, explore the key factors affecting SMEs' social media marketing and how social media marketing impacts SMEs. Their research fully supports the point that social media marketing positively impacts SMEs' business.

They refer to the exponential growth of social media marketing adoption within SMEs and how it positively contributes to their business growth.

They refer to the new technologies such as "Social-CRM" gaining traction due to capturing information that enables better interaction with customers. SMEs adopt this strategy with less complexity, less cost, and remarkable effectiveness.

Author's Defined Keywords: Digital marketing, Social media marketing, technology impact, SME.

The analysed literature, through 14 articles, does show a pretty heterogeneous set of keywords (as illustrated in Figure 4) with a few taking relevances: Digital Marketing in 7 articles, b2b marketing, and social media with three articles.

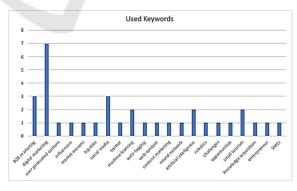


Figure 4: Keywords used in analysed literature of category 2.

While the keywords do not draw any conclusion, it reflects that digital marketing and social media are coming together in some of the articles.

When referring to SMEs, B2B marketing has been more investigated recently. Table 5 summarises the keywords explicitly used by the selected authors/articles.

Table 5: Keywords summary of the reviewed articles in category 2.

Step	Results
Cartwright et al. (2021)	B2B marketing, social media,
	Digital marketing, strategic
	marketing
	B2B digital marketing, Artificial
Saura et al. (2021)	intelligence-based CRMs,
, , ,	Multiple correspondence analysis
	Artificial Intelligence, Machine
Boddu et al.	Learning, Digital Marketing,
(2021)	Robotics, Marketing,
	Management, Organization
	Machine Learning, Auto-tagging,
Salminen et al.	Web content, Content marketing,
(2019)	Neural network, Digital
	marketing
Sharma et al.	Digital marketing, Small travel
(2020)	agencies, Motivations, Challenges

3.3 SMEs' Competitiveness and Digital Economy

For category 3, we have analysed 22 articles and selected 1. Additionally, we chose two articles from category 2 (with a total of 3), as it suits category three better, as identified in Table 6.

Table 6: The process of identifying relevant literature for category 1.

Step	Results
1 (search by query string)	355 articles
2 (only > 2018 & only research articles)	187 articles
3 (filter title/abstract "digital economy")	22 articles
4 (filter by relevance after reading it)	1 (plus 2 from category 2)

Through a systematic literature review, Hossain et al. (2021) assessed the impact of COVID-19 and some of the strategies followed by SMEs to remain competitive.

The authors state the relevance of technology and digital marketing as means for SMEs to survive. They intensify the critical value of cloud-based technologies to allow firms to navigate crises while highlighting the vital importance of digital marketing to increase SMEs' competitiveness. They state that "Enterprises that made the best use of the digital platform through the adoption of technology, digital

marketing, and innovations secured the peak of success and profitability."

Author's Defined Keywords: SME, SLR

Setkute & Dibb (2022) bring very relevant research to this field. They highlight some constraints in rolling out digital marketing in SMEs, especially limited resources and marketing-related skills.

The work gives a significant contribution to identifying the more important role that digital marketing can play in B2B SMEs, especially when stating that introducing a digital channel is unlikely to increase sales or competitiveness on its own, and that is where digital marketing can play an active role creating that competitiveness.

Author's Defined Keywords: Digital marketing, B2B marketing, SME marketing, Marketing practice.

Hong et al. (2021) bring an interesting perspective of the advantages of digital technology to managing the supply chain as an effective model to improve communication, coordination, and collaboration across organizations.

Author's Defined Keywords: Supply chain platforms, SMEs, platforms

While the initial search identified 22 articles, it led to a minimal number of articles addressing the competitiveness factors of SMEs in the digital economy space.

Table 7 summarizes the keywords explicitly used by the selected authors/articles.

Table 7: Keywords summary of the reviewed articles in category 3.

Step	Results
Hossain et al. (2021)	SME, SLR
Setkute & Dibb (2022)	Digital marketing, B2B marketing, SME marketing, Marketing practice
Hong et al. (2021)	Supply chain platforms, SMEs, platforms

4 DISCUSSION

Our literature review shows that SMEs have some advantages, especially in their flexibility and ability to change faster (Turkyilmaz et al.,2020). On the other hand, these companies are exposed to their limitations, especially lacking the needed resources and strategies (Löcklin et al., 2021; Turkyilmaz et al.,2020).

Our research also identifies a few behaviors that might potentially help SMEs to increase their competitiveness, such as more focus on experimenting with new business models (Bouwman et al., 2019), being open to different types of digital-first models such as multi-sided platform models (Daxhammer et al., 2019), or still, investing in their talent and organization, increasing their level of acceptance and capabilities to the digital technologies (Hulla et al., 2021; Scuotto et al., 2021; Turkyilmaz et al., 2020).

The role of digital is not only a step to change the technology but also a way to increase company competitiveness (Hossain et al.,2021) or create a turnaround in their business (Wang et al.,2021).

The role of digital marketing is widely researched, especially in the space of B2C. This work also contributes to linking digital marketing to the competitiveness of SMEs.

We could identify literature that identifies the role of digital marketing and social media as factors that support organisations in gaining competitiveness and improving their relationship with customers (Cartwright et al., 2021; Chatterjee & Kar, 2020; Hossain et al., 2021; Setkute & Dibb, 2022).

The relevance of digital marketing, significantly the increase of social media marketing due to its flexibility and reduced cost (Chatterjee & Kar, 2020), is also visible in the technological developments we see happening. Digital marketing is not an only website and e-mail (Sharma et al., 2020) approach but somewhat being significantly improved by newer technologies such as machine learning (Boddu et al., 2021; Salminen et al., 2019), artificial intelligence (Boddu et al., 2021; Saura et al., 2021), or even the platforms like "Social-CRM" (Chatterjee & Kar, 2020). Those technologies are accompanied by heavier use of social media platforms such as Facebook, Instagram, or WhatsApp (Sharma et al., 2020), increasing SMEs' ability to get closer to their customers and better position their products.

We couldn't find much relevant literature analysing the position of SMEs in the digital economy context and how these companies could remain competitive while competing with new entrants with potential more advanced technology.

5 CONCLUSIONS

Our research looked at the three different pillars: (1) SMEs & Digital Transformation success factors; (2) The technology developments in digital marketing; (3) SMEs' competitiveness and digital economy, being able to identify clear patterns of factors that influence SMEs to maximise our of their digital transformation.

We also found relevant literature regarding the different technologies that positively impact the efficiency of digital marketing. A relevance is because digital marketing has been identified as positively influencing companies' performance.

If we go back to our research question (RQ1), "Is the digital marketing strategy a well-defined factor in increasing SMEs' digital economy competitiveness?" our research couldn't fully answer it.

We found evidence that digital marketing is indeed a factor in improved performance in SMEs, which ultimately increases their competitiveness in a more general form (Cartwright et al., 2021; Chatterjee & Kar, 2020; Hossain et al., 2021; Setkute & Dibb, 2022), we couldn't though find evidence that can ultimately put this in the context of the digital economy. In reality, we could find evidence that SMEs aren't yet fully embracing newer digital business models such as multi-sided platforms (Daxhammer et al., 2019), which could be an indicator that though digital marketing can help SMEs in the short term, it might not be enough in the future if the SMEs products can't compete.

5.1 Limitations

This research work is based on the ScienceDirect literature, limiting its conclusions. While the collected literature provides clear evidence, it can't be considered definitive due to the limitation of the source database.

5.2 Opportunities for Further Research

Our research identifies the relevance of digital marketing for SMEs (Cartwright et al., 2021; Chatterjee & Kar, 2020; Hossain et al.,2021; Setkute & Dibb,2022), mainly social media (Chatterjee & Kar, 2020); there is though, limited research regarding the execution of digital strategies in SMEs and how to make it work while facing limitations in resources (Löcklin et al., 2021; Turkyilmaz et al.,2020). It would be interesting to investigate further how to leverage artificial intelligence, machine learning, or big data to create less resource-heavy and more machine-based strategies.

REFERENCES

Agnihotri, R., Dingus, R., Hu, M. Y., & Krush, M. T. (2016). Social media: Influencing customer satisfaction

- in B2B sales. Industrial Marketing Management, 53, 172-180
- Barann, B., Hermann, A., Cordes, A. K., Chasin, F., & Becker, J. (2019). Supporting digital transformation in small and medium-sized enterprises: a procedure model involving publicly funded support units. In Proceedings of the 52nd Hawaii International Conference on System
- Bouwman, H., Nikou, S., & de Reuver, M. (2019).

 Digitalisation, business models, and SMEs: How do business model innovation practices improve performance of digitalising SMEs?
 Telecommunications Policy, 43(9).
- Cartwright, S., Liu, H., & Raddats, C. (2021). Strategic use of social media within business-to-business (B2B) marketing: A systematic literature review. Industrial *Marketing Management*, 97, 35–58.
- Chatterjee, S., & Kumar Kar, A. (2020). Why do small and medium enterprises use social media marketing and what is the impact: Empirical insights from India. *International Journal of Information Management*, 53.
- Daxhammer, K., Luckert, M., Doerr, M., & Bauernhansl, T. (2019). Develop a strategic business model framework for multi-sided platforms to ensure sustainable innovation in small and medium-sized enterprises. *Procedia Manufacturing*, 39, 1354–1362.
- Giotopoulos, I., Kontolaimou, A., Korra, E., & Tsakanikas, A. (2017). What drives ICT adoption by SMEs? Evidence from a large-scale survey in Greece. *Journal of Business Research*, 81, 60–69.
- Guesalaga, R. (2016). The use of social media in sales: Individual and organisational antecedents, and the role of customer engagement in social media. *Industrial Marketing Management*, 54, 71–79
- Hong, J., Guo, P., Deng, H., & Quan, Y. (2021). Adopting supply chain service platforms for organisational performance: Evidence from Chinese catering organisations. *International Journal of Production* Economics, 237.
- Hossain, M. R., Akhter, F., & Sultana, M. M. (2022). SMEs in Covid-19 Crisis and Combating Strategies: A Systematic Literature Review (SLR) and A Case from Emerging Economy. Operations Research Perspectives, 9, 100222.
- Hulla, M., Herstätter, P., Wolf, M., & Ramsauer, C. (2021). Towards digitalisation in production in SMEs - A qualitative study of challenges, competencies and requirements for trainings. *Procedia CIRP*, 104, 887– 892.
- Lemon, K., & Verhoef, P. (2016). Understanding customer experience throughout the customer journey. *Journal of Marketing*, 80(6), 69–96.
- Loebbecke, C., & Picot, A. (2015). Reflections on societal and business model transformation arising from digitisation and big data analytics: A research agenda. *The Journal of Strategic Information Systems*, 24(3), 149–157.
- Löcklin, A., Vietz, H., White, D., Ruppert, T., Jazdi, N., & Weyrich, M. (2021). Data administration shell for data-

- science-driven development. Procedia CIRP, 100, 115-120.
- Matarazzo, M., Penco, L., Profumo, G., & Quaglia, R. (2021). Digital transformation and customer value creation in Made in Italy SMEs: A dynamic capabilities perspective. *Journal of Business Research*, 123, 642– 656.
- Prause, M. (2019). Challenges of Industry 4.0 technology adoption for SMEs: The case of Japan, Sustain. 11.
- Ramukumba, T. (2014). Overcoming SMEs Challenges through Critical Success Factors: A Case of SMEs in the Western Cape Province, South Africa. *The University of Ljubljana*, 16(1), 19–38.
- Rapp, A., Beitelspacher, L. S., Grewal, D., & Hughes, D. E. (2013). Understanding social media effects across seller, retailer, and consumer interactions. *Journal of the Academy of Marketing Science*, 41(5), 547–566.
- Saura, J. R., Ribeiro-Soriano, D., & Palacios-Marqués, D. (2021). Setting B2B digital marketing in artificial intelligence-based CRMs: A review and directions for future research. *Industrial Marketing Management*, 98, 161–178.
- Salminen, J., Yoganathan, V., Corporan, J., Jansen, B. J., & Jung, S. G. (2019). Machine learning approach to autotagging online content for content marketing efficiency: A comparative analysis between methods and content type. *Journal of Business Research*, 101, 203–217.
- Sarath Kumar Boddu, R., Santoki, A. A., Khurana, S., Vitthal Koli, P., Rai, R., & Agrawal, A. (2021). An analysis to understand the role of machine learning, robotics, and artificial intelligence in digital marketing. *Materials Today: Proceedings*.
- Schultz, R. J., Schwepker, C. H., & Good, D. J. (2012). An exploratory study of social media in business-to-business selling: Salesperson characteristics, activities, and performance. *Marketing Management Journal*, 22(2), 76–89.
- Sharma, A., Sharma, S., & Chaudhary, M. (2020). Are small travel agencies ready for digital marketing? Views of travel agency managers. *Tourism Management*, 79.
- Setkute, J., & Dibb, S. (2022). "Old boys' club": Barriers to digital marketing in small B2B firms. *Industrial Marketing Management*, 102, 266–279.
- Taiminen, H. M., & Karjaluoto, H. (2015). The usage of digital marketing channels in SMEs. *Journal of Small Business and Enterprise Development*, 22(4), 633–651.
- Turkyilmaz, A., Dikhanbayeva, D., Suleiman, Z., Shaikholla, S., & Shehab, E. (2020). Industry 4.0: Challenges and opportunities for Kazakhstan SMEs. Procedia CIRP, 96, 213–218.
- Wang, J., & Bai, T. (2021). How digitalisation affects the effectiveness of turnaround actions for firms in decline. *Long Range Planning*.