

Uncertain Supply Chain Management

homepage: www.GrowingScience.com/uscm

The adoption of business-to-consumer commerce for small and medium enterprises growth

Aflit Nuryulia Praswati^{a,b*}, I Made Sukresna^c, Nalal Muna^d and Nilna Muna^e

^aUniversitas Diponegoro, Semarang, Indonesia

^bUniversitas Muhammadiyah Surakarta, Indonesia

^cUniversitas Diponegoro, Semarang, Indonesia

^dPoliteknik APP, Jakarta, Indonesia

^eUniversitas Pendidikan Nasional, Bali, Indonesia

ABSTRACT

Article history:

Received October 22, 2023

Received in revised format

December 26, 2023

Accepted February 1 2024

Available online

February 1 2024

Keywords:

E-commerce adoption

Dynamic marketing

Marketing performance

Small and medium business

B2C

This study aimed to address the underexplored area of the adoption of Business-to-Consumer (B2C) Commerce by Small and Medium Enterprises (SMEs). In addition, this study specifically focused on factors influencing B2C adoption by SMEs, its impact on marketing performance, and potential strategies for optimization. Recognizing the scarcity of quantitative studies on digitization's impact on SMEs, this study emphasized the need for a systematic understanding of these enterprises' responses to e-commerce adoption. In line with the Technology-Organization-Environment (TOE) framework, the primary focus was on the continuous evaluation and optimization of e-commerce platforms, including AI integration, within core marketing strategies. Based on customer tech-savviness in the environmental dimension, adapting e-commerce strategies ensured a comprehensive approach in the evolving technological landscape. While providing valuable insights, several limitations, such as context-specific findings and potential response bias due to self-reported data were also identified. Consequently, future investigations were advised to include comparative studies between e-commerce-adopting and conventionally operating organizations, as well as explore perspectives of e-commerce users and consider industry-specific variations. This was pertinent because investigating e-commerce implementation in emerging technologies and platforms could offer insights into the dynamic landscape of digital business. In conclusion, this study contributed to the cognition of B2C Commerce adoption in SMEs, offering practical insights and strategic recommendations for leveraging technology to enhance marketing performance and overall business growth.

© 2024 by the authors; licensee Growing Science, Canada.

1. Introduction

Indonesia's e-commerce sector is currently experiencing rapid growth, fueled by a substantial market comprising 30 million active online users. Projections for the next 5 years predict a fivefold expansion in the industry, which can influence various aspects of Indonesian life, including employment. In addition, e-commerce is expected to contribute to approximately 26 million jobs by 2022, constituting 20% of the country's total workforce. According to McKinsey's 2018 Global Institute Report, 36% of Small and Medium Enterprises (SMEs) still engage in offline transactions, while 37% possess basic online access. The report also showed that 18% could use intermediate online platforms, while only 9% participated in direct e-commerce. These statistics show the growth potential for SMEs in the e-commerce sector, with McKinsey's report suggesting a revenue increase ranging from 23% to 80% upon adopting e-commerce practices. Therefore, understanding the dynamics of business-to-consumer (B2C) commerce in Indonesia is essential for study and analysis in this evolving landscape.

* Corresponding author

E-mail address: aflitnuryulia@students.undip.ac.id (A. N. Praswati)

ISSN 2291-6830 (Online) - ISSN 2291-6822 (Print)

© 2024 by the authors; licensee Growing Science, Canada.

doi: 10.5267/j.uscm.2024.2.001

E-commerce is widely recognized for its potential business benefits, including cost reduction, increased sales, improved productivity, streamlined processes, broader market outreach, and strengthened customer loyalty. These advantages are driving its increasing adoption, as evidenced by the continuous annual increase in user numbers. However, the gradual pace of digital transformation in SMEs can be attributed to various factors. First, small businesses often lack a rapid understanding of their digitalization needs (Bäumle, Hirschmann, & Feser, 2023; Fuller, Harding, Luna, & Summers, 2022). Second, several SMEs face resource and management shortages, hindering their ability to comprehend the impact of digital transformation (Elia, Giuffrida, Mariani, & Bresciani, 2021). Third, SMEs typically adopt a gradual approach to digitalization compared to larger enterprises (Bäumle et al., 2023). Lastly, the digitalization investment in small businesses heavily relies on financial performance and often encounters resource constraints.

Although the adoption of e-commerce holds significant potential for SMEs, specifically in developing countries, such as Indonesia, several studies have carefully identified various obstacles that hinder its successful implementation. In addition, these barriers pose significant challenges for SMEs aiming to implement B2C commerce. Several studies have shown that key impediments to effective implementation include a lack of human resources, internal resistance within organizations, unpreparedness of potential customer, lack of necessary internal support structures, concerns regarding the security of online transactions, unpreparedness of business colleagues, and insufficient information technology resources. Each of these factors contributes to the reluctance and gradual speed with which SMEs integrate e-commerce into their operations, thereby limiting the realization of full potential in the sector (Neuhaus, Millemann, & Nijssen, 2022; Wirdiyanti et al., 2022). Several reports have shown that SMEs typically require dynamic and interactive capabilities to optimize the virtues of incorporating the technology. This indicates that it is essential to fully harness the potential benefits of e-commerce adoption. (Wang, Lin, & Chen, 2022).

According to previous studies, a digital-centric approach significantly enhances the innovation performance of both products and processes (Juliet Orji, Ojadi, & Kalu Okwara, 2022). SMEs undergoing digital transformation are known to often perform better when allocating more resources to experimenting with business models and actively engaging in strategic implementation. These organizations can take distinct steps to enhance their performance as digital transformation reshapes business models (Canhoto, Quinton, Pera, Molinillo, & Simkin, 2021). In line with previous reports, digital tools contribute to innovating their business models, creating new distribution channels, and devising novel ways to generate and deliver value to customer segments (Shen, Dong, Tong, & Ngai, 2022). Despite these insights, there exists a gap in understanding conclusive strategies and approaches SMEs can employ to overcome obstacles and maximize the advantages of e-commerce adoption. Investigating this gap is expected to provide valuable insights for developing effective interventions and support mechanisms for navigating the challenges of digital transformation.

The study focus on SMEs is limited primarily because it predominantly adopts a qualitative approach and lacks reports concentrating on the influence of digitization on performance (Hendricks & Mwapwele, 2023). Previous studies have shown that SMEs owners or managers adopting e-commerce can effectively navigate developments and organizational challenges (Abebe, 2014). However, some studies take a broader perspective on the widespread integration of e-commerce technology in diverse industry domains. This showed that deliberate initiatives are necessary to ascertain the response of SMEs to e-commerce adoption in enhancing efficiency, productivity, and overall performance (Kurnia, Choudrie, Mahbubur, & Alzougool, 2015). Based on these findings, the adoption of B2C commerce is an essential aspect for business development (Skare, Gavurova, & Rigelsky, 2023).

Based on the findings, this study is strategically positioned within the framework of the TOE framework, intending to comprehensively address the adoption of B2C commerce by SMEs. Within the TOE framework, the specific objectives are designed to be in line with 3 key dimensions. In the technological dimension, this investigation was carried out to delve into the elements affecting SMEs' decisions to adopt B2C commerce. This includes a thorough assessment of the effects of incorporating technology on marketing effectiveness through the continuous evaluation and optimization of e-commerce platforms and incorporating advanced technologies, such as AI integration. Within the organizational dimension, the study aims to identify key organizational factors contributing to or impeding the implementation of B2C commerce among SMEs. Strategies for optimizing B2C commerce adoption were also explored, emphasizing the cultivation of an innovation culture, the integration of e-commerce data with marketing campaigns, and the enhancement of overall organizational processes. In the environmental dimension, this study analyzes external factors influencing SMEs' decisions regarding B2C commerce adoption. Strategies to adapt e-commerce approaches were assessed to meet customer expectations in the rapidly evolving technological landscape, thereby corresponding to the environmental dimension of the TOE framework. Through these comprehensive objectives, the results were expected to offer valuable insights for SMEs within the TOE framework. The findings could also provide guidance on effectively leveraging e-commerce for marketing enhancement, fostering business growth, and nurturing the cultivation of adaptive skills and essential knowledge necessary to navigate the continually changing business landscape.

2. Theoretical background

2.1 TOE Framework

Integrating B2C Commerce into market outreach is strategically in line with the Technology-Organization-Environment (TOE) framework, fostering substantial growth opportunities for Small and Medium Enterprises (SMEs). According to previous studies, cultivating an innovation-centric culture within organizations, an essential component of the TOE framework's organizational dimension, prompts SMEs to embrace creative solutions. This cultural shift enhances organizational processes, ensuring effective resonance with the audience and facilitating positive feedback interactions (Wirdiyanti et al., 2022). The innovative culture, integral to the organizational dimension of TOE, also motivates these businesses to synchronize virtual commerce data with their marketing campaigns. With this cultural shift, organizational processes are subjected to improvements, guaranteeing a meaningful connection with the desired audience and an augmented confirmation rate (Tajpour, Hosseini, & Mohiuddin, 2023). In essence, a robust e-commerce blueprint, coupled with AI integration, empowers businesses to offer instantaneous and personalized assistance, foster an innovation ecosystem, and cater to customer's technological proficiency. This integration significantly influences the overall performance of SMEs within the TOE framework (Salah & Ayyash, 2024).

An essential component for a successful e-commerce strategy comprises instilling an innovation culture. The mindset encourages adaptability, experimentation, and continual improvement, enabling them to swiftly adjust to market shifts and meet customer demands. In addition, the synergy of innovation and AI integration streamlines processes, enhances customer experiences, and improves operational efficiencies, ultimately contributing to heightened business performance (Skare et al., 2023). A customer-focused strategy in dynamic digital marketing cultivates loyalty, generates positive online recommendations, and encourages repeat transactions, fostering a comprehensive expansion (Hossain, Akter, Yanamandram, & Strong, 2024). This strategic effort equips businesses with a multifaceted approach, incorporating technological capabilities, organizational readiness for swift adaptation, and consideration of environmental factors for strategic positioning. By harmonizing these elements, SMEs can enhance their ability to navigate the competitive business landscape and build a robust foundation, positively influencing overall performance (Creazza, Ellram, & Colicchia, 2023). This holistic approach also sets the stage for agility, resilience, and sustainable growth, empowering SMEs to thrive in the ever-evolving business ecosystem.

2.2 Hypotheses Development

From a strategic perspective, the formulation of a social media strategy for innovation comprises a nuanced interplay between dynamic capabilities and levels of stakeholder engagement, a crucial element for hypothesis development. Dynamic capabilities comprised the ability to discern market trends, capitalize on opportunities, and reallocate resources within the cyber-world context (Heubeck, 2023). Specifically, for B2C commerce, sensing market trends required a profound understanding of evolving consumer behaviors, while proactive identification and exploitation of the dynamic social media landscape were essential in seizing opportunities in customer engagement (Qi, Shen, & Xu, 2023). The reconfiguration of resources was in line with the adaptability needed to respond to trends and opportunities effectively (Saghiri & Mirzabeiki, 2021). In addition, stakeholder engagement operated across various levels that were instrumental in shaping the hypothesis. Macro-environmental engagement comprised consistency with broader social, cultural, and economic trends impacting the B2C market. Meso-industry engagement included collaborations with influencers, strategic partnerships, and alliances tailored for the B2C context (He & Zhang, 2022). Micro-organizational engagement centered on interactions within the organization, fostering a collaborative internal culture that enhanced the B2C customer experience (Skare et al., 2023). Within this strategic framework, each interaction exhibited unique synergies crucial for hypothesis development. These synergies significantly contributed to the open and collaborative innovation process, particularly relevant in the context of B2C Commerce. By understanding and fine-tuning these engagements, companies could harness the inherent adaptability of social media to include diverse knowledge reservoirs, enhance B2C innovation capacities, and enable internal human assets, cultivating a culture of openness and collaboration (Elia et al., 2021; Mardiyono & Sukresna, 2023). Consequently, this strategic approach positioned B2C organizations not only to navigate the digital landscape effectively but also to proactively shape and capitalize on opportunities presented by the dynamic realms of B2C Commerce and social media.

H₁: *The adoption of B2C Commerce influences Dynamic Digital Marketing Capabilities.*

By adopting B2C Commerce technology, organizations enhanced sustainability and resilience in evolving business landscapes (Creazza et al., 2023). Using advanced e-commerce platforms facilitated seamless online transactions and enhanced the overall customer experience (Qi et al., 2023). In addition, an adaptable organizational structure that embraced technological advancements was essential. Prioritizing continuous employee skill development to effectively harness technology and showing flexibility in adapting to changes positioned organizations for success in dynamic markets (C.-H. Liu et al., 2024). Dynamic digital marketing capabilities, integral components in this framework, included a spectrum of tools and strategies, such as data analytics, content personalization, and marketing channel integration (L. Zhang, Yang, Yang, & Gao, 2022). These enhanced capabilities empowered organizations to efficiently manage marketing campaigns, gain deeper insights into consumer behavior, and optimize the overall customer journey. In the TOE framework, integrating these technologies into the organizational structure was essential. This integration created a competitive advantage, leading to improved marketing

performance (Harun, Ab Jalil, & Zolkepli, 2022; Salah & Ayyash, 2024). For example, companies that successfully leveraged advanced analytics for consumer insights and personalized content based on user preferences were better equipped to navigate the highly competitive digital landscape and deliver targeted marketing campaigns.

H₂: *Dynamic Digital Marketing Capabilities influence Marketing Performance.*

B2C Commerce comprised the incorporation of advanced e-commerce platforms, secure online payment systems, and direct digital interactions with customers (Henriques & Suarez, 2022; Tajpour et al., 2023). This technological integration reshaped the dynamics of business-consumer relationships, providing a seamless and efficient avenue for transactions. In the realm of Marketing Performance, organizations aimed to achieve various objectives, including increased sales, market expansion, positive brand perception, and heightened customer satisfaction (Nayal et al., 2023; Salah & Ayyash, 2024; C.-W. Wu, Botella-Carrubi, & Blanco-González-Tejero, 2024). The adoption of B2C Commerce was essential in influencing these performance metrics. By embracing B2C Commerce, organizations gained the ability to leverage digital channels effectively. This empowered them to reach a broader audience, personalize marketing strategies, and streamline the overall customer experience. Furthermore, the seamless integration of e-commerce technology was anticipated to contribute positively to marketing endeavors, potentially resulting in tangible improvements in overall Marketing Performance. In essence, the adoption of B2C Commerce was viewed as a strategic move that not only enhanced the digital capabilities of organizations but also had the potential to positively shape their performance in the competitive market landscape. Based on the ongoing discourse in the literature, one could derive the following hypothesis:

H₃: *The adoption of B2C Commerce affects Marketing Performance.*

The TOE framework influenced the adoption of B2C Commerce, and this hypothesis was constructed upon several foundational considerations. First, within the realm of technology, the integration of B2C Commerce comprised the utilization of advanced e-commerce technologies, exemplified by innovative online platforms and digital payment systems (Shen et al., 2022; Zhang, Zhou, Li, & Gong, 2022). The TOE Framework underscored the paramount role of technology as a catalyst for organizational change (Nguyen, Le, & Vu, 2022). Second, in the organizational domain, a structure responsive to technological shifts was envisioned to facilitate the implementation of B2C Commerce (Jiang et al., 2022). Organizations showing adaptability to evolving technological landscapes were apt to embrace innovative e-commerce solutions. Third, considering the environmental factors, the competitive dynamics of the market, and evolving consumer demands could act as catalysts, propelling organizations toward the adoption of B2C Commerce as a strategic response to the dynamic market landscape (Alshurideh et al., 2023; Heubeck, 2023). In amalgamating these considerations, it was posited that the TOE Framework played a central role in shaping the decisions of organizations regarding the adoption of B2C Commerce. Through the ongoing discussions in the literature, this hypothesis emerged as a plausible avenue for further exploration and empirical investigation.

H₄: *The TOE Framework influences B2C Commerce Adoption.*

The process of Knowledge Management Transfer involves systematically capturing, organizing, and disseminating knowledge across various levels and functions within organizations (Saratchandra, Shrestha, & Murray, 2022). When implemented successfully, it ensured that pertinent insights, best practices, and expertise were shared seamlessly throughout the organizational structure. In the milieu of Dynamic Digital Marketing Capabilities, the adept utilization of knowledge became paramount. Knowledge transfer facilitated marketing teams in staying current with the latest trends, technologies, and consumer behaviors, enabling the integration of valuable insights into digital marketing strategies and fostering agility and responsiveness in campaign implementation (Crespo, Crespo, & Curado, 2022). The conveyance of knowledge and the proficiency of the workforce in embracing cutting-edge technology were perceived as essential forces that contributed significantly to overall company performance (Alshurideh et al., 2023; Muna, Yasa, Ekawati, Wibawa, & Sri Subawa, 2023). Simultaneously, the strategic utilization of digital content marketing, including the creation and dissemination of pertinent and valuable brand-related content across digital platforms, became instrumental in cultivating engaging, trustful, and mutually advantageous relationships with current or potential customer (Cai, Cebollada, & Cortiñas, 2023). This was related to the strategic focus on generating and sharing content that was pertinent, captivating, and timely to engage customer at opportune moments in their purchasing considerations, ultimately steering them toward favorable business outcomes. The overarching marketing and business processes aimed to create and distribute compelling, captivating content, procure, and fascinate a precisely forming connection with the identified audience, with the objective of instigating beneficial customer actions.

H₅: *Knowledge Management Transfer influences Dynamic Marketing Digital Capabilities.*

Several key challenges in e-commerce were associated with maintaining customer satisfaction, adopting cost-effective infrastructure, and possessing sufficient awareness and knowledge to enhance e-commerce. For SMEs that embraced e-commerce usage, it aided and improved their business activities. The operational and marketing effects of e-commerce had a significantly positive influence on business performance (Salah & Ayyash, 2024; Wirdiyanti et al., 2022). The adoption of engaging with digital platforms became a strategic choice for companies comprising crucial assets and established procedures

within organizations. Current theoretical and empirical developments substantiated that companies with superior competencies generated better information about their customer's needs and desires (Wu, Yan, & Umair, 2023). These companies were also more effective in marketing goods or services through well-coordinated activities. Meanwhile, behavioral investigators showed that each individual possessed distinct competencies, or a set of skills applied differently in various situations, depending on the quality of learning. The relationships among these variables are manifested in the challenges and opportunities faced by businesses engaged in e-commerce. For instance, the adoption of cost-effective e-commerce infrastructure directly impacted customer satisfaction and indirectly influenced business performance through improved operational and marketing efficiencies (L. Zhang et al., 2022). Furthermore, the strategic decision to adopt digital platforms was likely to be influenced by the organization's competencies and routines, which, in turn, affected its ability to gather customer insights and effectively market products or services. Understanding these interconnections was crucial for companies aiming to navigate the complexities of the e-commerce landscape and capitalize on its potential benefits.

H_{6a}: *Adoption of B2C Commerce mediates the influence of the TOE Framework on Dynamic Digital Marketing.*

H_{6b}: *Adoption of B2C Commerce mediates the influence of the TOE Framework on Marketing Performance.*

H_{6c}: *Dynamic Marketing Digital Capabilities mediates the influence of B2C Commerce Adoption on Marketing Performance.*

H_{6d}: *Dynamic Marketing Digital Capabilities mediates the influence of Knowledge Management Transfer on Marketing Performance.*

3. Research procedures and methodology

3.1 Measures

This study, established in the well-established TOE framework extensively tested across diverse backgrounds and beliefs, effectively explored technology adoption by firms of various sizes and activities. All constructs and items underwent measurement using a reflective approach with a Likert scale ranging from 1 to 10 (Dawes, 2012). Respondents expressed their agreement level from "Strongly Disagree" (1) to "Strongly Agree" (10). Following the initial drafting of the questionnaire in English, it underwent translation into Indonesian, and both versions were reviewed by 4 specialists in the academic fields of technology systems and breakthroughs. Subsequently, the questionnaire was presented to a group of managers in the SMEs sector to assess their comprehension of the items. Adjustments recommended by specialists were incorporated, tailoring the items to suit the study samples. A pilot study comprising 30 respondents and all 35 items was carried out to ensure the questionnaire's reliability. The Cronbach alpha values, all exceeding 0.70, affirmed the satisfactory reliability of the items, instilling confidence in the study's results through these measures (Hair & Babin, 2018).

3.2 Sampling and participants

The sampling method used was random sampling, which entailed the random selection of all population members without considering strata (levels). The samples for this study consisted of SMEs affiliated with B2C Commerce applications. Primary data were collected through responses obtained from a questionnaire distributed to selected respondents for study purposes. The respondents in this study held managerial or ownership roles in SMEs. Google Forms was used to create and digitally broadcast the questionnaire from January to March 2023 through an email link. The goal was to secure more than 300 responses with a target of 250 SMEs. A total of 239 questionnaires were collected, out of which 39 were incomplete, leaving 200 valid responses for further data analysis.

Table 1

Sample's characteristics

Criteria	No	%
Gender	Male: 121	57.7
	Female: 55	42.3
Main product types	Food & drink: 91	45.4
	Craft: 65	35.4
	Fashion: 44	19.2
Ecommerce	Tokopedia: 52	24.6
	Shopee: 56	10.5
	Lazada: 21	2.5
	Bukalapak: 20	2.3
	Blibli: 8	1.1
	Zalora: 17	5.9

3.3 Data analysis

Measurement Model Analysis (Outer Model)

The outer model analysis was conducted to verify the sustainability of the measurement standards used (valid, reliable, and free from multicollinearity). This analysis focused on establishing relationships between latent variables and their indicators.

The results of the outer model analysis in SmartPLS could be observed in the results of the PLS Algorithm computations. The framework of the PLS Algorithm results using SmartPLS 3.0 was presented below:

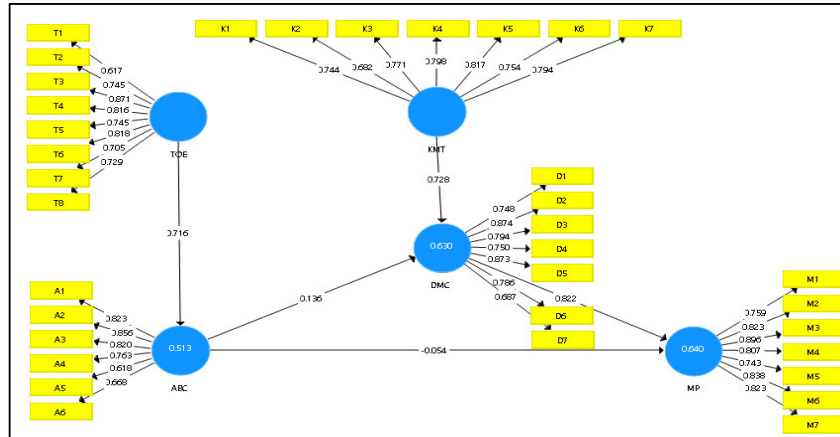


Fig. 1. PLS Algorithm Framework

Tests conducted in this model included discriminant validity testing, convergent validity testing, reliability testing, and multicollinearity testing.

3.4 Discriminant Validity Test

The discriminant validity test was used to confirm that each indicator exhibited a strong correlation with its corresponding construct, showing good or valid discriminant validity. This was assessed by examining the Average Variance Extracted (AVE) values, where AVE must be < 0.50. The results of the discriminant validity test are presented in Table 2.

Table 2
Results of Discriminant Validity Test Analysis

Variable	AVE	
TOE Framework	0.577	valid
Adoption B2C Commerce	0.582	valid
Dynamic Marketing Digital Capabilities	0.624	valid
Knowledge Management Transfer	0.588	valid
Marketing Performance	0.663	valid
Variable	AVE	

3.5 Convergent Validity Test

The convergent validity analysis suggested that the variables in this study possessed sufficient validity and reliability. The used indicators were generally deemed valid, with outer loading values surpassing the accepted threshold of 0.6 or even 0.7. This provided confidence that the measurements used in the study exhibited consistency and accuracy in evaluating the measured constructs. Therefore, these findings formed a solid foundation for further interpretation and conclusions in the context of this report.

3.6 Reliability Test

Reliability testing was essential to measure the stability and consistency of an instrument in assessing a concept or variable. A variable was deemed reliable when it had Cronbach's Alpha or composite reliability values greater than 0.7. The table below showed the Cronbach's Alpha and composite reliability values for each variable in this study:

Table 3
Results of Reliability Test Analysis

Variable	Cronbach's Alpha	Composite Reliability
TOE Framework	0.893	0.915
Adoption B2C Commerce	0.853	0.892
Dynamic Marketing Digital Capabilities	0.898	0.920
Knowledge Management Transfer	0.883	0.909
Marketing Performance	0.914	0.932
Variable	Cronbach's Alpha	Composite Reliability

3.7 Structural Model Analysis (Inner Model)

The subsequent step involved analyzing the structural model to examine the relationships between variables. The analysis of the inner model, also known as the structural model analysis, was conducted to validate the robustness and accuracy of the formulated structural model. The inner model served as the representation of the structural model used to forecast the causal connections among latent variables.

3.8 R Square (R2)

The R Square (R2) values served as a measure of the proportion of variation in the endogenous variable that could be explained by the influencing (exogenous) variables. This was valuable for assessing the overall goodness of the model. R Square values were evaluated based on several criteria, where 0.75, 0.50, and 0.25 indicated substantial (strong), moderate (medium), and weak models, respectively. Table 4 presented the R Square values in this study:

Table 4
Results of R Square (R2) Analysis

	<i>R Square</i>	<i>R Square Adjusted</i>
Adoption B2C Commerce	0.513	0.509
Dynamic Marketing Digital Capabilities	0.630	0.625
Marketing Performance	0.640	0.635

3.9 Normed Fit Index (NFI)

The Normed Fit Index (NFI) yielded values between 0 and 1. When the NFI value was > 0.1 or higher, the model was considered good or accepted. The closer the NFI was to 1, the better the fit, and it was more readily accepted. The NFI values for this study were presented in the following table.

Table 5
Normed Fit Model (NFI)

	<i>Saturated Model</i>	<i>Estimated Model</i>	
NFI	0.651	0.647	Accepted

4. Hypothesis Testing

Hypothesis testing comprised a decision-making approach grounded in the analysis of data. This testing was evident in SmartPLS through bootstrapping calculations on path coefficients and specific indirect effects. The framework in Fig. 2 showed the outcomes of bootstrapping computations conducted in SmartPLS 3.0.

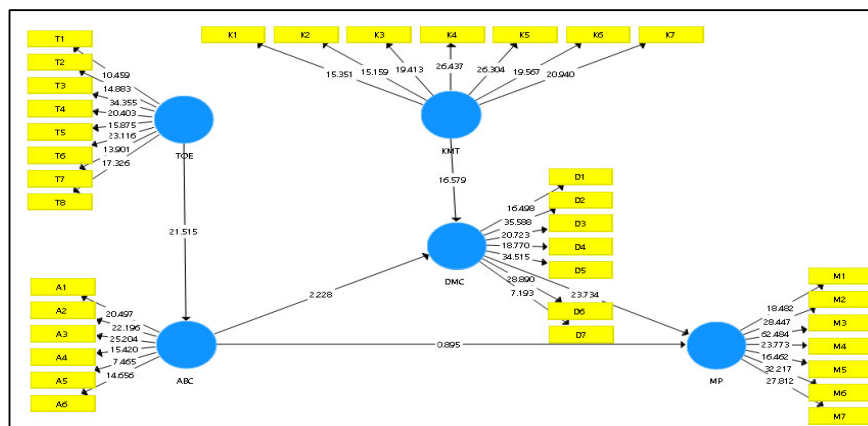


Fig. 2. Bootstrapping Framework

In hypothesis testing for this study, the analysis method examined both direct effects and indirect effects. The explanation for each method of hypothesis testing analysis in this study was provided below:

4.1 Direct Effects

Analyzing direct effects were valuable for testing the hypothesis regarding the direct influence of a variable (exogenous) on another (endogenous). A significant level, denoted by the probability/significance value (P-Value), was < 0.05 (5%), which

indicated a significant influence between variables. When P-Values > 0.05 (5%) surpassed this threshold, the influence was deemed non-significant.

Table 6
Results of Direct Effects Analysis

	<i>Original Sample</i>	<i>Sample Mean</i>	<i>Standard Deviation</i>
ABC → DMC	0.136	0.136	0.061
DMC → MP	0.822	0.828	0.035
ABC → MP	-0.054	-0.056	0.060
TOE → ABC	0.716	0.725	0.033
KMT → DMC	0.728	0.735	0.044
	<i>Original Sample</i>	<i>Sample Mean</i>	<i>Standard Deviation</i>

According to Table 7, the direct effects analysis of the adoption of the B2C Commerce variable on the Dynamic Marketing Digital Capabilities variable showed an original sample value of 0.136, indicating a positive direction. The P value was 0.026, which was less than 0.05 (probability), signifying a significant influence between the variables. This outcome suggested that the adoption of B2C Commerce positively influenced Dynamic Marketing Digital Capabilities (H1 accepted).

In the direct effects analysis of the Dynamic Marketing Digital Capabilities variable on the Marketing Performance variable, the original sample value was 0.822, indicating a positive direction. The P value was 0.000, less than 0.05 (probability), showing a significant influence between the variables. This finding showed that Dynamic Marketing Digital Capabilities affected Marketing Performance (H2 accepted).

The direct effects analysis of the adoption of the B2C Commerce variable on the Marketing Performance variable showed an original sample value of -0.054, indicating a negative direction. The P value was 0.371, exceeding 0.05 (probability), which suggested an insignificant influence between the variables. This result showed that the adoption of B2C Commerce did not impact Marketing Performance (H3 rejected).

The direct effects analysis of the TOE Framework variable on the Adoption of the B2C Commerce variable showed an original sample value of 0.716, indicating a positive direction. The P value was 0.000, less than 0.05 (probability), indicating a significant influence between the variables. This result suggested that the TOE Framework influenced the adoption of B2C Commerce (H4 accepted).

In the direct effects analysis of the Knowledge Management Transfer variable on the Dynamic Marketing Digital Capabilities variable, an initial sample value of 0.728 was obtained, indicating that a positive direction was observed. The P value was 0.000, falling below 0.05 (probability) and denoting a significant influence between the variables. This outcome suggested that Knowledge Management Transfer influenced Dynamic Marketing Digital Capabilities (H5 accepted).

4.2 Analysis of Indirect Effects

The criterion for evaluating indirect effects comprised examining the probability/significance value (P-Value) < 0.05 (5%). When the P-value was less than 0.05 (5%), it was considered significant, indicating that the mediator variable effectively mediated the influence of an exogenous variable on an endogenous variable, or its impact was indirect. Meanwhile, when the P-value was greater than 0.05 (5%), it was deemed insignificant, suggesting that the mediator variable could not mediate the influence of an exogenous variable on an endogenous variable, or its impact was direct.

Table 7
Results of Indirect Effects Analysis

	<i>Original Sample</i>	<i>Sample Mean</i>	<i>Standard Deviation</i>
TOE → ABC → DMC	0.098	0.099	0.045
TOE → ABC → MP	-0.039	-0.040	0.044
ABC → DMC → MP	0.112	0.113	0.052
KMT → DMC → MP	0.598	0.608	0.046

According to Table 7, the results from the indirect effects analysis showed that the TOE Framework variable's impact on Dynamic Marketing Digital Capabilities through the adoption of B2C Commerce had an original sample value of 0.0978, indicating a positive direction. The P value of 0.031, being less than 0.05 (probability), signified a significant influence. This implied that the adoption of B2C Commerce mediated the impact of the TOE Framework on Dynamic Marketing Digital Capabilities (H6a accepted). For the indirect effects analysis of the TOE Framework variable on Marketing Performance through the adoption of B2C Commerce, the original sample value was -0.039, indicating a negative direction. However, the P value of 0.378 was greater than 0.05 (probability), indicating an insignificant influence. Based on this finding, the adoption of B2C Commerce did not mediate the influence of the TOE Framework on Marketing Performance (H6b rejected). The indirect effects analysis of the adoption of B2C Commerce on Marketing Performance through Dynamic Marketing Digital

Capabilities showed an original sample value of 0.112, indicating a positive direction. The P value of 0.032, which was less than 0.05 (probability), denoted a significant influence. This result showed that Dynamic Marketing Digital Capabilities mediated the impact of the adoption of B2C Commerce on Marketing Performance (H6c accepted). The indirect effects analysis of Knowledge Management Transfer on Marketing Performance through Dynamic Marketing Digital Capabilities had an original sample value of 0.598, indicating a positive direction. The P value of 0.000, which was less than 0.05 (probability), signified a significant influence. This result showed that Dynamic Marketing Digital Capabilities mediated the impact of Knowledge Management Transfer on Marketing Performance (H6d accepted).

5. Conclusion and Discussion

5.1 Theoretical Perspective

In conclusion, this study explored the intricate relationships among the Technological, Organizational, and Environmental (TOE) Framework, B2C commerce adoption, dynamic marketing digital capabilities, knowledge management, and marketing performance within SMEs. First, the analysis showed a significant influence of B2C commerce adoption on dynamic marketing digital capabilities, indicating a substantial relationship between commerce adoption and the dynamic marketing capabilities of SMEs. The need for SMEs to possess dynamic and interactive capabilities was emphasized, particularly to optimize the advantages of e-commerce adoption (Saridakis, Lai, Mohammed, & Hansen, 2018). The ability to self-learn significantly influenced companies' performance, positioning e-commerce implementation as a strategic advantage in a fiercely competitive and dynamic business environment. The heightened adoption by SMEs was anticipated to augment the dynamic digital marketing capabilities of these enterprises. Second, the results underscored the substantial impact of dynamic marketing digital capabilities on marketing performance. Despite the scarcity of empirical studies on dynamic capabilities, recent reports had established a strong correlation between dynamic capabilities and marketing performance (Farzaneh, Wilden, Afshari, & Mehralian, 2022). Organizations were advised to be consistent internally with their structure to effectively leverage dynamic capabilities, thereby enhancing marketing performance (Muna, Yasa, Ekawati, Wibawa, et al., 2022). Third, the analysis showed that B2C commerce adoption did not exert direct effects on marketing performance.

According to previous studies, the success of B2C commerce adoption in SMEs was manifested in the efficiency and effectiveness of their operational processes (Juliet Orji et al., 2022; Z. Liu, Geng, Tse, & Han, 2023). While embracing e-commerce proved beneficial for SMEs in supporting and enhancing their business activities (Ramanathan, Ramanathan, & Zhang, 2016), the level of adoption did not significantly influence marketing performance. Fourth, the Technological, Organizational, and Environmental (TOE) framework emerged as an essential factor influencing B2C commerce adoption. Environmental pressures, particularly those stemming from globalization consequences, acted as a significant driving force for technological implementation, emphasizing the importance of sustainability (Creazza et al., 2023). Improvements in the TOE framework within SMEs were indicated as an increased likelihood of B2C commerce adoption. Fifth, Knowledge Management Transfer was identified as a positive influencer on dynamic marketing digital capabilities. This underscored the importance of effective knowledge transfer management within SMEs, directly contributing to the enhancement of their marketing performance (Arshad et al., 2023; C.-H. Liu et al., 2024; Muna, Yasa, Ekawati, & Wibawa, 2022).

5.2 Limitation and future research

The investigation into e-commerce adoption and its consequences yielded valuable insights, but it was imperative to acknowledge certain limitations. The study's focus on a specific industry or demographic raised concerns about the universal applicability of the findings, emphasizing the need for caution when extrapolating results to broader contexts. In addition, the examination of data at a specific timeframe in the study hindered the establishment of causation, showing the necessity for future reports employing longitudinal designs to foster a more comprehensive understanding of the causal relationships between variables. Relying on self-reported information also introduced the possibility of response bias, as respondents could have provided answers that were in line with their societal expectations. To address these limitations, several avenues for future studies were proposed. First, conducting comparative studies between organizations embracing e-commerce and those adhering to conventional methods could provide deeper insights into the specific impacts of e-commerce adoption. Second, delving into the perspectives of e-commerce users, which included both customers and employees, could offer a more holistic understanding of the overall effects of e-commerce on diverse stakeholders. Third, considering potential variations across specific industries was expected to yield more nuanced findings, as different sectors often encountered distinct challenges and benefits related to e-commerce adoption. Exploring the importance of addressing the quality of informational relationships in the digital context was essential for a comprehensive cognition of the dynamics of e-commerce adoption.

References

- Abebe, M. (2014). Electronic commerce adoption, entrepreneurial orientation and small- and medium-sized enterprise (SME) performance. *Journal of Small Business and Enterprise Development*, 21(1), 100-116. Retrieved from <https://doi.org/10.1108/JSBED-10-2013-0145>. doi:10.1108/JSBED-10-2013-0145

- Alshurideh, M., Anagreh, S., Tariq, E., Hamadneh, S., Alzboun, N., Al Kurdi, B., & Ibraheem, S. (2023). Examining the effect of virtual reality technology on marketing performance of fashion industry in Jordan. *International Journal of Data and Network Science*, 8, 1-6. doi:10.5267/j.ijdns.2023.10.023
- Arshad, M. Z., Arshad, D., Lamsali, H., Ibrahim Alshuaibi, A. S., Ibrahim Alshuaibi, M. S., Albashar, G., . . . Chuah, L. F. (2023). Strategic resources alignment for sustainability: The impact of innovation capability and intellectual capital on SME's performance. Moderating role of external environment. *Journal of Cleaner Production*, 417, 137884. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0959652623020425>. doi:<https://doi.org/10.1016/j.jclepro.2023.137884>
- Bäumle, P., Hirschmann, D., & Feser, D. (2023). The contribution of knowledge intermediation to sustainability transitions and digitalization: Qualitative insights into four German regions. *Technology in Society*, 73, 102252. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0160791X2300057X>. doi:<https://doi.org/10.1016/j.techsoc.2023.102252>
- Cai, X., Cebollada, J., & Cortiñas, M. (2023). Impact of seller- and buyer-created content on product sales in the electronic commerce platform: The role of informativeness, readability, multimedia richness, and extreme valence. *Journal of Retailing and Consumer Services*, 70, 103141. Retrieved from <https://www.sciencedirect.com/science/article/pii/S096969892200234X>. doi:<https://doi.org/10.1016/j.jretconser.2022.103141>
- Canhoto, A. I., Quinton, S., Pera, R., Molinillo, S., & Simkin, L. (2021). Digital strategy aligning in SMEs: A dynamic capabilities perspective. *The Journal of Strategic Information Systems*, 30(3), 101682. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0963868721000299>. doi:<https://doi.org/10.1016/j.jsis.2021.101682>
- Creazza, A., Ellram, L. M., & Colicchia, C. (2023). Culture counts: Implications of consumer preferences for more sustainable ecommerce fulfillment. *Journal of Cleaner Production*, 382, 135288. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0959652622048624>. doi:<https://doi.org/10.1016/j.jclepro.2022.135288>
- Crespo, C. F., Crespo, N. F., & Curado, C. (2022). The effects of subsidiary's leadership and entrepreneurship on international marketing knowledge transfer and new product development. *International Business Review*, 31(2), 101928. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0969593121001463>. doi:<https://doi.org/10.1016/j.ibusrev.2021.101928>
- Dawes, J. (2012). Do Data Characteristics Change According to the Number of Scale Points Used? An Experiment Using 5 Point, 7 Point and 10 Point Scales. *International Journal of Market Research*, 50. doi:10.1177/147078530805000106
- Elia, S., Giuffrida, M., Mariani, M. M., & Bresciani, S. (2021). Resources and digital export: An RBV perspective on the role of digital technologies and capabilities in cross-border e-commerce. *Journal of Business Research*, 132, 158-169. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0148296321002484>. doi:<https://doi.org/10.1016/j.jbusres.2021.04.010>
- Farzaneh, M., Wilden, R., Afshari, L., & Mehralian, G. (2022). Dynamic capabilities and innovation ambidexterity: The roles of intellectual capital and innovation orientation. *Journal of Business Research*, 148, 47-59. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0148296322003708>. doi:<https://doi.org/10.1016/j.jbusres.2022.04.030>
- Fuller, R. M., Harding, M. K., Luna, L., & Summers, J. D. (2022). The impact of E-commerce capabilities on online retailer performance: Examining the role of timing of adoption. *Information & Management*, 59(2), 103584. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0378720621001580>. doi:<https://doi.org/10.1016/j.im.2021.103584>
- Hair, J. F., & Babin, B. J. (2018). *Multivariate Data Analysis*: Cengage.
- Harun, N., Ab Jalil, H., & Zolkepli, M. (2022). Technological, organizational and environmental factors influencing on user intention towards big data technology adoption in Malaysian educational organization. *Accounting*, 8, 403-408. doi:10.5267/j.ac.2022.6.002
- He, J., & Zhang, S. (2022). How digitalized interactive platforms create new value for customers by integrating B2B and B2C models? An empirical study in China. *Journal of Business Research*, 142, 694-706. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0148296322000054>. doi:<https://doi.org/10.1016/j.jbusres.2022.01.004>
- Hendricks, S., & Mwapwele, S. D. (2023). A systematic literature review on the factors influencing e-commerce adoption in developing countries. *Data and Information Management*, 100045. Retrieved from <https://www.sciencedirect.com/science/article/pii/S2543925123000190>. doi:<https://doi.org/10.1016/j.dim.2023.100045>
- Henriques, F. M., & Suarez, M. C. (2022). Digitalization and collaborative dynamics integrating artistic, technological and co-creative resources: the case of Postmodern Jukebox. *International Journal of Entrepreneurial Behavior & Research*, 28(8), 2024-2048. Retrieved from <https://doi.org/10.1108/IJEBR-01-2021-0074>. doi:10.1108/IJEBR-01-2021-0074
- Heubeck, T. (2023). Managerial capabilities as facilitators of digital transformation? Dynamic managerial capabilities as antecedents to digital business model transformation and firm performance. *Digital Business*, 3(1), 100053. Retrieved from <https://www.sciencedirect.com/science/article/pii/S2666954423000017>. doi:<https://doi.org/10.1016/j.digbus.2023.100053>
- Hossain, M. A., Akter, S., Yanamandram, V., & Strong, C. (2024). Navigating the platform economy: Crafting a customer analytics capability instrument. *Journal of Business Research*, 170, 114260. Retrieved from

- <https://www.sciencedirect.com/science/article/pii/S0148296323006197>.
doi:<https://doi.org/10.1016/j.jbusres.2023.114260>
- Jiang, S., Yang, J., Yu, M., Lin, H., Li, C., & Doty, H. (2022). Strategic conformity, organizational learning ambidexterity, and corporate innovation performance: An inverted U-shaped curve? *Journal of Business Research*, 149, 424-433. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0148296322004519>. doi:<https://doi.org/10.1016/j.jbusres.2022.05.023>
- Juliet Orji, I., Ojadi, F., & Kalu Okwara, U. (2022). The nexus between e-commerce adoption in a health pandemic and firm performance: The role of pandemic response strategies. *Journal of Business Research*, 145, 616-635. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0148296322002673>. doi:<https://doi.org/10.1016/j.jbusres.2022.03.034>
- Kurnia, S., Choudrie, J., Mahbubur, R. M., & Alzougool, B. (2015). E-commerce technology adoption: A Malaysian grocery SME retail sector study. *Journal of Business Research*, 68(9), 1906-1918. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0148296314004251>. doi:<https://doi.org/10.1016/j.jbusres.2014.12.010>
- Liu, C.-H., Horng, J.-S., Chou, S.-F., Yu, T.-Y., Huang, Y.-C., Ng, Y.-L., & La, Q. P. (2024). Explore links among marketing knowledge, data literacy, skill improvement, and learning attitude in STEAM application for hospitality and tourism education. *The International Journal of Management Education*, 22(1), 100919. Retrieved from <https://www.sciencedirect.com/science/article/pii/S147281172300157X>. doi:<https://doi.org/10.1016/j.ijme.2023.100919>
- Liu, Z., Geng, R., Tse, Y. K., & Han, S. (2023). Mapping the relationship between social media usage and organizational performance: A meta-analysis. *Technological Forecasting and Social Change*, 187, 122253. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0040162522007740>. doi:<https://doi.org/10.1016/j.techfore.2022.122253>
- Mardiyono, A., & Sukresna, I. M. (2023). The role of product knowledge, sales environment, and information matching on salesperson adaptability. *Uncertain Supply Chain Management*, 11, 1843-1850. doi:10.5267/j.uscm.2023.6.007
- Muna, N., Yasa, N., Ekawati, N. W., & Wibawa, I. (2022). A dynamic capability theory perspective: borderless media breakthrough to enhance SMEs performance. *International Journal of Data and Network Science*, 6, 363-374. doi:10.5267/j.ijdns.2022.1.001
- Muna, N., Yasa, N., Ekawati, N. W., Wibawa, I., Sriathi, A., & Adi, I. (2022). Market entry agility in the process of enhancing firm performance: A dynamic capability perspective. *International Journal of Data and Network Science*, 6, 99-106. doi:10.5267/j.ijdns.2021.9.018
- Muna, N., Yasa, N. N. K., Ekawati, N. W., Wibawa, I. M. A., & Sri Subawa, N. (2023). Business network power as a process for enhancing firm performance: A perspective of RAToC. *Cogent Business & Management*, 10(2), 2207620. Retrieved from <https://doi.org/10.1080/23311975.2023.2207620>. doi:10.1080/23311975.2023.2207620
- Nayal, K., Raut, R. D., Mangla, S. K., Kumar, M., Tuček, D., & Gavurova, B. (2023). Achieving market performance via industry 4.0 enabled dynamic marketing capability, sustainable human resource management, and circular product design. *Industrial Marketing Management*, 115, 86-98. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0019850123001797>. doi:<https://doi.org/10.1016/j.indmarman.2023.09.010>
- Neuhaus, T., Millemann, J. A., & Nijssen, E. (2022). Bridging the gap between B2B and B2C: Thought leadership in industrial marketing – A systematic literature review and propositions. *Industrial Marketing Management*, 106, 99-111. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0019850122001791>. doi:<https://doi.org/10.1016/j.indmarman.2022.08.006>
- Nguyen, T. H., Le, X. C., & Vu, T. H. L. (2022). An Extended Technology-Organization-Environment (TOE) Framework for Online Retailing Utilization in Digital Transformation: Empirical Evidence from Vietnam. *Journal of Open Innovation: Technology, Market, and Complexity*, 8(4), 200. Retrieved from <https://www.sciencedirect.com/science/article/pii/S2199853123000860>. doi:<https://doi.org/10.3390/joitmc8040200>
- Qi, B., Shen, Y., & Xu, T. (2023). An artificial-intelligence-enabled sustainable supply chain model for B2C E-commerce business in the international trade. *Technological Forecasting and Social Change*, 191, 122491. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0040162523001762>. doi:<https://doi.org/10.1016/j.techfore.2023.122491>
- Ramanathan, R., Ramanathan, U., & Zhang, Y. (2016). Linking operations, marketing and environmental capabilities and diversification to hotel performance: A data envelopment analysis approach. *International Journal of Production Economics*, 176, 111-122. Retrieved from <https://www.sciencedirect.com/science/article/pii/S09252527316300044>. doi:<https://doi.org/10.1016/j.ijpe.2016.03.010>
- Saghiri, S., & Mirzabeiki, V. (2021). Omni-channel integration: the matter of information and digital technology. *International Journal of Operations & Production Management*, 41(11), 1660-1710. Retrieved from <https://doi.org/10.1108/IJOPM-04-2021-0262>. doi:10.1108/IJOPM-04-2021-0262
- Salah, O. H., & Ayyash, M. M. (2024). E-commerce adoption by SMEs and its effect on marketing performance: An extended of TOE framework with ai integration, innovation culture, and customer tech-savviness. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(1), 100183. Retrieved from <https://www.sciencedirect.com/science/article/pii/S2199853123002858>. doi:<https://doi.org/10.1016/j.joitmc.2023.100183>

- Saratchandra, M., Shrestha, A., & Murray, P. A. (2022). Building knowledge ambidexterity using cloud computing: Longitudinal case studies of SMEs experiences. *International Journal of Information Management*, 67, 102551. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0268401222000858>. doi:<https://doi.org/10.1016/j.ijinfomgt.2022.102551>
- Saridakis, G., Lai, Y., Mohammed, A.-M., & Hansen, J. M. (2018). Industry characteristics, stages of E-commerce communications, and entrepreneurs and SMEs revenue growth. *Technological Forecasting and Social Change*, 128, 56-66. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0040162517304109>. doi:<https://doi.org/10.1016/j.techfore.2017.10.017>
- Shen, B., Dong, C., Tong, X., & Ngai, E. W. T. (2022). Emerging Technologies in E-Commerce Operations and Supply Chain Management. *Electronic Commerce Research and Applications*, 101203. Retrieved from <https://www.sciencedirect.com/science/article/pii/S1567422322000862>. doi:<https://doi.org/10.1016/j.elerap.2022.101203>
- Skare, M., Gavurova, B., & Rigelsky, M. (2023). Innovation activity and the outcomes of B2C, B2B, and B2G E-Commerce in EU countries. *Journal of Business Research*, 163, 113874. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0148296323002321>. doi:<https://doi.org/10.1016/j.jbusres.2023.113874>
- Tajpour, M., Hosseini, E., & Mohiuddin, M. (2023). Effects of innovative climate, knowledge sharing, and communication on sustainability of digital start-ups: Does social media matter? *Journal of Open Innovation: Technology, Market, and Complexity*, 9(2), 100053. Retrieved from <https://www.sciencedirect.com/science/article/pii/S2199853123001555>. doi:<https://doi.org/10.1016/j.joitmc.2023.100053>
- Wang, W.-T., Lin, Y.-L., & Chen, T.-J. (2022). Exploring the effects of relationship quality and c-commerce behavior on firms' dynamic capability and c-commerce performance in the supply chain management context. *Decision Support Systems*, 113865. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0167923622001361>. doi:<https://doi.org/10.1016/j.dss.2022.113865>
- Wirdiyanti, R., Yusgiantoro, I., Sugiarto, A., Harjanti, A. D., Mambela, I. Y., Soekarno, S., & Damayanti, S. M. (2022). How does e-commerce adoption impact micro, small, and medium enterprises' performance and financial inclusion? Evidence from Indonesia. *Electronic Commerce Research*. Retrieved from <https://doi.org/10.1007/s10660-022-09547-7>. doi:10.1007/s10660-022-09547-7
- Wu, C.-W., Botella-Carrubi, D., & Blanco-González-Tejero, C. (2024). The empirical study of digital marketing strategy and performance in small and medium-sized enterprises (SMEs). *Technological Forecasting and Social Change*, 200, 123142. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0040162523008272>. doi:<https://doi.org/10.1016/j.techfore.2023.123142>
- Wu, Q., Yan, D., & Umair, M. (2023). Assessing the role of competitive intelligence and practices of dynamic capabilities in business accommodation of SMEs. *Economic Analysis and Policy*, 77, 1103-1114. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0313592622002089>. doi:<https://doi.org/10.1016/j.eap.2022.11.024>
- Zhang, L., Yang, W., Yang, L., & Gao, L. (2022). How does the value co-creation of e-commerce platform and manufacturers affect channel performance? The moderating role of innovation capability and market turbulence. *Electronic Commerce Research and Applications*, 52, 101120. Retrieved from <https://www.sciencedirect.com/science/article/pii/S1567422322000047>. doi:<https://doi.org/10.1016/j.elerap.2022.101120>
- Zhang, M., Zhou, Y., Li, L., & Gong, B. (2022). Manufacturing firms' E-commerce adoption and performance: evidence from a large survey in Jiaxing, China. *Information Technology and Management*. Retrieved from <https://doi.org/10.1007/s10799-022-00357-9>. doi:10.1007/s10799-022-00357-9

