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Abstract

Purpose—Drawing on the resource-based and dynamic capabilities framework, the study examines the influence of market and technology orientation on digital technological opportunism to understand SMEs' future focus and organizational performance given the digital transformation landscape for international expansion.

Design/methodology/approach—Partial-least-square structural equation modeling was employed to examine the hypothesized relationships using cross-sectional survey data from 322 senior and middle-level executives.

Findings—The findings highlight that market and technology orientation capabilities positively influence SMEs' digital technological opportunism, which is shown to positively influence organizational performance by developing a future focus on digital marketing strategy development in the internationalization process.

Originality/value—The research provides valuable insights into integrating market and technology orientation with digital technological opportunism in SMEs to develop future focus and achieve organizational performance for international expansion.

Keywords: market orientation capability; technological opportunism; technology orientation capability; organizational performance; SMEs; emerging market.

1. Introduction

The ever evolving and changing international business landscape warrants firms to respond to unprecedented technological and international marketing challenges efficaciously and quickly (Eteokleous *et al.*, 2016; Ma *et al*., 2023; Manis and Madhavaram, 2023). Rapid environmental shifts brought about by disruptive technologies often require adopting advanced international business strategies within small and medium enterprises (SMEs) (Chang *et al*., 2024; Thrassou *et al*., 2020). Digital transformation capabilities are required to effectively utilize new global network possibilities in collaboration with different stakeholders, e.g., suppliers (Alnawas and Abu Farha, 2020), channel partners (Moqaddamerad and Ali, 2024), and even competitors (Wong *et al*., 2024). These capabilities are critical to leveraging the benefits of digitalization and enhancing SME relationships (Apasrawirote et al., 2022) and communications with suppliers, customers, and channel members (Singh *et al*., 2024). Chang *et al*. (2024) claimed that SMEs continuously face unique challenges such as a lack of cost-effective, human, economic, and tangible resources, which is termed as a 'liability of small size', and when expanding internationally, they are confronted with 'liability of foreignness' amidst protectionism, trade tensions, and anti-global sentiments (Bodlaj and Čater, 2021).

A report from the Organization for Economic Cooperation and Development (OECD, 2018) claimed that SMEs comprise more than 90 percent of businesses and over one-third of merchandise trade worldwide (Cao and Weerawardena, 2023). SMEs primarily focus on manufacturing, trade, and services sectors and act as a vital source of innovation and entrepreneurship (Carson *et al*., 2020). Past studies suggest that SMEs are required to improve customer acquisition and retention by strategizing digital transformation and knowledge integration practices to foster technological innovation and new market entry decisions (Chang *et al*., 2024; Guo *et al*., 2023). Poláková-Kersten *et al*. (2023) evinced that the integration of market-oriented capabilities and digital transformation leads to cultivating an active customer interface (Diaz *et al*., 2022), gathering and analysing large amounts of data for customer relationship management, and exploiting digital technologies to strategically enhance international networks with different internal and external business partners (Christofi *et al*., 2021; Gliga and Evers, 2023).

Given the prevalent use of digital technologies within SMEs' international market expansion, it is critical to understand the drivers of business performance (Javalgi and Ramsey, 2001; Sundström *et al*., 2021; Weng *et al*., 2024). Despite the acknowledged benefits of digital marketing, the underlying dimensions that enable SMEs' digital marketing practices, strategies, and the drivers of digital marketing capabilities remain a gap in the literature (Hernández-Linares *et al*., 2020). There is a visible need to perform more research on SMEs' digital marketing orientation and related developments through the inherent potential benefits of network relationships (Wielgos *et al*., 2021). Previous research empirically proved that SMEs market-oriented digital strategy relates technological opportunism to future focus and firm performance (Wang *et al*., 2024). Nevertheless, empirical studies that document capabilities for developing, integrating, and leveraging digital marketing are scant (Apasrawirote *et al*., 2022). Thus, there remains a gap in combining marketing resources in terms of market and technology disposition to breed new capabilities and sustainable competitive advantage. Hence, the present research attempts to add to the increasing body of literature underlining digital marketing strategy and dynamic capabilities-based view by evolving and testing a conceptual model that apprises future theoretical and empirical investigations of digital technological opportunism.

The resource-based view (RBV) offers a robust basis to examine how digital strategy and harmonizing of marketing resources can be integrated to attain competitive benefit, triggering dynamic abilities in SMEs international business transformation (Fabian *et al*., 2024). While scholars have operationalized the entrepreneurial internationalization impetus to examine digital technologies enabled marketing capabilities (Foroudi *et al*., 2017; Wang, 2020), to the

best of our understanding, research focusing on the inside-out and the outside-in capabilities amidst the SME market environment remains under-explored (Gliga and Evers, 2023). Besides, there is limited knowledge of the SMEs' strategic orientation and marketing resources that facilitate the development of marketing capabilities and success in the digital environment (Setkute and Dibb, 2022). Therefore, the present research aims to build from the RBV foundation pertaining to digital marketing strategy and extend the existing knowledge reservoir by examining digital technological opportunism as a dynamic organization-level marketing capability.

In the context of SME supply chain disruption, Rynarzewska *et al*. (2024) discuss the mediating influence of opportunism on structural firm-level learning in terms of market and technology orientation and various organizational performance outcomes. However, the complementarity between marketing capabilities, market, and technology orientation has been rarely studied and has been limited to organizational developmental consequences such as business performance (Marzi *et al*., 2023). SMEs are market oriented and compete effectively with larger organisations despite the liabilities of smallness and disadvantages such as economies of scale (Gliga and Evers, 2023). Critically, no research has been done in the context of SMEs on the complementarity between firm-specific competencies, such as market and technology orientation, on a mediator (i.e., digital technological opportunism) of a capability-agility-future performance connection. The key value of a marketing capability depends on the dynamicity of other organizational capabilities (see Saeedikiya *et al*., 2024) owed partly to unique resources attained through integration and reconfiguration of existing capabilities, thereby giving rise to causal distinctness and sustainable competitive advantage (Rahman *et al*., 2023). More studies are needed to understand the network relationship between the traditional and the new digital marketing approaches, and the degree to which they integrate or reinforce each other (Cacciolatti and Lee, 2016).

Table I provides a synopsis of gaps in the existing literature and the value-add of addressing each of the identified research gaps through our study.

<<< Insert Table I here>>>

The current study focuses on how SME market and technology orientation capabilities are integrated with digital technological opportunism to create connections and interactions with firm-centric outcomes, such as future focus and organizational performance, in the light of utilizing and exploiting business opportunities. With the RBV and capabilities-based view serving as an imperative theoretical base, works from strategic management, marketing, and

information systems are employed to define a conceptual framework of the organization-centric capabilities related to digital technological opportunism and its antecedents and consequences in the context of SMEs.

2. Theoretical background

Marketing researchers differentiate between static, dynamic, and adaptive marketing capabilities, drawing on the resource-based view (RBV) and the dynamic capabilities theories (Barney, 1991; Teece *et al*., 1997). A plethora of research has adopted a capabilities-dominant view to reiterate the continual reconfiguration and deployment of existing marketing resources to achieve competitive advantage (Barney, 1991; Day, 1994). Static marketing capabilities such as the marketing mix are rooted in the RBV of the firm focusing on internal efficiencies and routinised process activities, which prevent the organisation from sensing and responding to the dynamic environment (Day, 2011). Morgan *et al*. (2006) posited that capabilities are dynamic owing to their ability to adapt to changing business conditions and implement new market strategies (p. 626).

In other words, dynamic capabilities dovetailed in a firm's managerial and organizational processes intended to create, integrate, coordinate, reconfigure, and transform its resource strength (Xu *et al*., 2018). Dynamic marketing capabilities refer to the responsiveness and efficiency of cross-functional business processes to adapt to changing market conditions. Although digital technological opportunism supports the firms to satisfy current customers' needs and anticipate future trends, this dynamic marketing capability approach enhances the organization's ability to sense weak signals and rapid market shifts in complex digital environments (Day, 2011). The conceptual model was developed by synthesizing and consolidating RBV knowledge ground, specifically digital marketing strategy, internationalization of SMEs, and information management systems. As shown in Figure I, the hypothesized model proposes five areas through which SMEs' organizational performance can be understood, e.g., market orientation capability, technology orientation capability, digital technological opportunism, organizational agility, and future focus.

2.1 Literature review

Some firms readily embrace, accept, and adopt radical innovations in every industrial domain. In contrast, some fail to leap from one generation of technology to the next owing to a lack of willingness or ability to do so. Adopting radical innovation-driven technologies is intimidating because of investment commitments, business uncertainties, and high switching costs (Wong *et al*., 2024). New technology has created attractive strategic marketing opportunities in product design, development, pricing, and distribution (Fennell, 2021; Voola *et al*., 2012). Additionally, dynamic marketing capabilities provide deep customer insights and

process activities that can rapidly be reconfigured and amplified with emerging technologies (Hazzam *et al.*, 2022). The marketing capabilities are characterized by a higher degree of adaptability, enabling faster experimentation and a shorter time span between market change and firm response (Homburg and Wielgos, 2022). In addition, a transformative radical technology may perpetually revolutionize business models and processes, disrupting existing market opportunities and creating new ones (Moqaddamerad and Ali, 2024).

Technological opportunism which refers to the capability of a firm to be proactive and adaptive in recognizing, adopting, and leveraging emerging digital technologies, contrasts with and overcomes the major constraints related to other market or technology-driven constructs which are (Capestro *et al*., 2023): a) even the most technologically sound firms are unable to adopt new radical technologies due to their customer reluctance and trust deficit, b) market responsiveness is a risky proposition towards new radically innovative technologies, and c) market responsiveness is not technological responsiveness amidst digital strategy paradigms.

2.2 Market orientation capability

Generally, a business proposition intensifying its market orientation capability improves its organizational performance (Narver and Slater, 1990). Market orientation capability is a business resource and culture that produces superior value effectively and efficiently for its stakeholders and customers. Thus, from a capabilities point of view, the concept of market orientation denotes a firm's capability to sense and respond to its customer requirements (Talwar *et al*., 2024). Market orientation capability supports the organizations' efforts to learn more about their customers, competitors, and channel members such that these firms can use market information systematically and proactively to create superior customer value (Day, 1994; Narver and Slater, 1990). Accordingly, market orientation capabilities characterize organization resource bases that aid businesses in gauging the requirements of the marketplace and build capabilities that connect with external marketing environmental factors (Struckell *et al*., 2022; Voola *et al*., 2012). Narver and Slater (1990) characterized firms' market orientation capabilities in terms of customer orientation, competitor orientation, and inter-functional coordination. Previous research argues (see Homburg and Wielgos, 2022) that most market-oriented organizations possess edifying outlooks that provide support to analyze and forecast forthcoming courses of action to reshape competencies and to reformat internal organizational procedures for leveraging novel market opportunities.

Malodia *et al*. (2024) proposed a conceptual framework to explain critical factors for developing innovation-driven marketing capabilities in terms of firm-related, competition-related, and customer orientation-related factors. In specific environmental crises such as COVID-19, Rubio-Andrés *et al*. (2023) emphasized that SMEs implement internal

mechanisms to improve their innovation capacity. In addition, internationalized SMEs use network capabilities to build specific network-linked capabilities, e.g., expansion, development, and management capabilities, to improve market performance (Mitręga, 2023; Zahoor *et al*., 2023). Therefore, market orientation capabilities are considered central antecedent to developing digital technological opportunism in the context of SME transformation pertaining to internationalization.

H_1: Market orientation capability significantly influences digital technological opportunism.

2.3 Technology orientation capability

From a capabilities point of view, the concept of technology orientation denotes a firm's capabilities in recognizing and adapting to emerging technologies (Diaz *et al*., 2022; Forliano *et al*., 2023). Kindermann *et al*. (2021) conceptualized and operationalized a new organizational strategic orientation concerning digital technology innovation and transformation initiatives termed 'digital orientation' encompassing four interrelated technological dimensions: technology scope, capabilities, ecosystem coordination, and architecture configuration (p. 650). The concept of underlying relationships is particularly important for SMEs because of the strong connections of the key decision-makers with the customer base. SMEs may differ from large firms in their managerial approach to integrating customer and market information generation, resource allocation, information dissemination, and responsiveness into a unique strategic resource (Marino-Romero *et al*., 2024). Technologically oriented SMEs invest additionally in futuristic research and development activities and promote the application or use of new radical technology within organizational processes (Bagheri *et al*., 2019; Marino-Romero *et al*., 2024). Avelar *et al*. (2024) highlighted that technology orientation capability encourages openness to upgradation, a technological push, and novel ideas toward innovation development, favouring the application of new technology.

In previous scholarly works, the successful implementation of technology orientation capabilities has been considered a key component of digital technological opportunism as a marketing capability within a firm's performance (Chen and Lien, 2013). This capability-building viewpoint specifies that customer-centricity is intrinsically a 'technology-based' innovation wherein adopting a digital marketing strategy is critical to get the most out of technological opportunism (Urban and Maphumulo, 2022). According to Gliga and Evers (2023), SMEs' informational resources are essential inputs to build cross-functional capabilities such as digital marketing capabilities. The information generation, dissemination, and responsiveness of technology orientation processes improve SMEs' market sensing, which facilitates the development of digital marketing capabilities (Cao and Weerawardena, 2023).

A positive relationship exists between technology orientation and digital technological opportunism (Hao *et al*., 2024). Likewise, recent research suggests that the aforementioned strong relationship leads to digital technological opportunism within an innovation-driven start-up ecosystem (Marcon *et al*., 2024).

H_2: Technology orientation capability significantly influences digital technological opportunism.

2.4 Moderating influence of organizational agility

Digital technology is usually considered an enabler or facilitator of an organization's agility (AlNuaimi *et al*., 2022; Troise *et al*., 2021). Within the digital transformation capability framework, organizational agility implies firms' ability to sense quickly and respond innovatively to unprecedented changes in an external business environment (Mao *et al*., 2024). Digital business transformation and the volatility and complexity of the market have forced organisations to develop new capabilities that may create value through digital business practices (Day, 2011; Wielgos *et al*., 2021). Li *et al*. (2020) asserted that organizational agility primarily emphasizes embracing and perceiving unforeseen changes as key market opportunities for future courses of action (p. 704). In the case of SMEs' digital transformation (Thomas and Douglas, 2024), organizational agility also encompasses the rapid adjustment of internal business evolutions to respond to market forces in a timely manner (Troise *et al*., 2021). Organizational agility extends the notion of strategic flexibility that can usually be engineered into internal processes to quickly address unstructured technological changes (Butt *et al*., 2024; Vrontis *et al*., 2023). Luu (2024) substantiates that SMEs thrive in international performance by buffering and transforming firm capabilities in digital transformation and strategic agile slack (Thomas and Douglas, 2024). Furthermore, digital technological opportunism is a firm-level capability or an organizational trait that senses technological breakthroughs, proactively responds to technological threats, and capitalizes on those technological opportunities (Cheng *et al*., 2020). Digital technological opportunism takes advantage of new radical technologies, products, and processes irrespective of whether they are internally or externally used as a futuristic investment (Mao *et al*., 2024; Smith *et al*., 2024).

H_3: Organizational agility has a moderating influence between market orientation capability and digital technological opportunism.

H_4: Organizational agility has a moderating influence between technological orientation capability and digital technological opportunism.

2.5 Digital technological opportunism, future focus, and organizational performance

As per the previous research, digital technological opportunism is considered a firm-level capability that reflects organizational traits (Li *et al*., 2023; Yang *et al*., 2021). Hence,

technological opportunism relates to innovation management and organizational innovativeness in terms of foresightedness of activities and processes (Blichfeldt and Faullant, 2021; Bullini Orlandi *et al*., 2020; Sharma *et al.*, 2024). In other words, Yin *et al*. (2023) assert that an organization will invest in futuristic technologies to manage innovation well if it is foresighted and enterprising. Digital technological opportunism exhibits that organizations proactively seek and adopt new technologies to manipulate their marketing environment as a capability (Sharma *et al.*, 2023; Tan and Saraniemi, 2023). Digital marketing technologies allow businesses to compete and reach their customers effectively by incorporating market insights and analytics into their content, social media, and other forms of digital marketing activities (Apasrawirote *et al*., 2022).

The present study substantiates the claim that SMEs' technological opportunism compels firms to develop marketing capabilities for managing their futuristic business opportunities rather than just present markets, customers, and suppliers. Historically, Srinivasan *et al*. (2002) coined the term '*future focus*' as the extent to which an organization emphasizes its futuristic opportunities and capabilities compared to existing capabilities (p. 55). Future-centric opportunist organizations constantly review their current technology options and dynamically monitor them to appraise radical technologies (Smania *et al*., 2024). The continued efforts to assess the technological landscape may provide opportunities to advance their existing business models (Luqman *et al.*, 2023; Moqaddamerad and Ali, 2024; Tønnessen *et al.*, 2021).

Past strategic marketing literature argues that as companies start developing critical predictors of digital technological opportunism-driven business insights (Blichfeldt and Faullant, 2021), and enhance firm-centric foresight, they tend to positively influence organizational performance in terms of revenue and profit (Li *et al*., 2023; Yin *et al*., 2023). Digital marketing facilitates the joint creation, communication, and delivery of value with firms' stakeholders through an adaptive process that is enabled by digital technologies. For instance, Baabdullah *et al*. (2021) studied the influence of AI enablers and AI readiness on SMEs' acceptance of AI practices with respect to relational governance, performance, and customer interactions (p. 261). These dynamic capabilities provide SMEs the opportunity to attract new customers and reach existing ones more efficiently at lower cost. Rahman *et al*. (2023) found that technology readiness and AI-driven customer relationship capabilities positively influence sustainable performance. Technologically opportunistic firms utilize their resources and capabilities to actively scan markets, invest in disruptive business propositions, and consciously work on developing new technologies to increase firm value (Lucia-Palacios *et al*., 2014).

H_5: Digital technological opportunism significantly influences future focus.

H_6: Digital technological opportunism significantly influences organizational performance.

Organizations differ in the magnitude and intensity to which they focus on identifying, developing, and maintaining capabilities for their future compared to their past and present organizational performance (Catanzaro and Omri, 2023; Pitafi *et al.*, 2023; Reyes-Gómez *et al*., 2024). Mithas *et al*. (2013) stated that a competitive industrial business environment shapes the way digital strategic posture (a firm's degree of engagement in digital business practices) influences firms' digital business strategy. This is particularly important for SMEs lacking marketing and financial resources which limits their digital marketing focus to support traditional business practices (Qu and Mardani, 2023). Research claims that dominant firms stay too close to their existing customers (thereby lacking futuristic orientation) and consequently lose market positions to new, radical digital technologies (Wamba *et al*., 2024). Dong (2021) asserts that organizations make strategic choices to search for a technology because of the high rate of technology obsoletion, market turbulence-driven uncertainties, and organizational aspirations.

H_7: Future focus significantly influences organizational performance.

H8: Future focus mediates the relationship between digital technological opportunism and organizational performance.

Figure I shows the hypothesized model.

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3. Methodology

3.1 Measures

Using a five-point Likert scale, viz., five as strongly agree to one as strongly disagree, the research utilized multi-item scales adapted from prior research. The items adapted from scales were modified to fit the requirements of the current study. Market orientation was adapted from Narver and Slater (1990), technology orientation from Trainor et al. (2011), organizational agility from Cegarra-Navarro et al. (2016), technological opportunism from Mishra & Agarwal (2010) and Srinivasan et al. (2002), future focus from Srinivasan et al. (2002) and organizational performance from Rao and Holt (2005), Trainor et al. (2011) and Yang et al. (2018). Besides, the research collected data on a marker variable that is theoretically unrelated to the main study constructs to study for common method variance (Lindell and Whitney, 2001).

3.2 Sample and data collection

Data was collected using a cross-sectional survey from Prolific, a well-known and reputed online research platform (Agarwal *et al.*, 2023; Vinoi *et al.*, 2024). Adhering to the various standards of conducting survey-based research, the survey ensured that the respondents were aware of the study's purpose, anonymity, and consensual considerations, e.g., information willingness, voluntary participation, anonymity clause, confidentiality, and outcomes communication. A sample of 322 responses was collected from senior and mid-level managers of SMEs in the US and UK. The choice of the US and UK as the study region was based on the premise of a highly developed, dynamic, and technologically advanced SME ecosystem that these countries exhibit. The presence of well-developed digital infrastructure coupled with access to advanced technologies makes the US and UK ideal settings for examining the interplay of the variables under study (*U.S. Chamber of Commerce, 2023*).

The targeted respondents were senior and mid-level executives encompassing a broad spectrum of SMEs. The upper-layer executives are presumed responsible for future-focused market development and technological orientation, as senior executives set the network of activities linked to critical strategic foresight (Moqaddamerad and Ali, 2024).

Industries represented included manufacturing (~32 percent), R&D-related engineering (~2 percent), technology sectors (~44 percent), and others (~22 percent). 54% of firms had an employee base of 100 or less, 16% had an employee base between 100 and 200, and 30% had an employee base of more than 200.

3.3 Common method bias (CMB)

A questionnaire draft was checked for face validity and pretested with seven international marketing experts actively involved in academia (four) and industry (three) through a convenience sample. Face validity ensured refining the questions regarding clarity of expression and format. Podsakoff *et al.*'s (2003) guidelines were followed to minimize CMB, where pretesting was done with twenty-five senior executives, which helped improve content validity and establish internal consistency of the final items. Next, Harman's single factor was checked, wherein the single factor explained the variance in data, which is less than the threshold limit (<50 percent) (Podsakoff *et al.*, 2012). Finally, a marker variable procedure was used to test for CMB, which showed negligible change (< 0.01) in the R^2 value on its introduction. Further, the correlation of the marker variable with the rest of the constructs was observed to be less than 0.10 (Lindell and Whitney, 2001; Malhotra *et al.*, 2006). Therefore, it was concluded that CMB is unlikely to be a risk in this research.

3.4 Statistical analysis

Partial-least structural equation modeling (PLS-SEM - variance-based) is employed to estimate the measurement (reliability and validity assessment) and structural (hypotheses testing) model analysis.

PLS-SEM is considered a non-parametric method suitable for prediction-oriented studies as it maximizes the explained variance of endogenous latent variables and effectively handles non-normal data (Hair *et al*., 2022). Chin *et al*. (2020) state that whereas covariance-based methods reduce the difference between sample covariance, variance-based methods maximize the variation of the dependent variable explained by the independent variables (p. 2169). PLS-SEM possesses several methodological advantages over CB-SEM, such as its efficacy in sustaining more descriptor variables, predictive accuracy, and low correlation risk (Westland, 2014; Wong, 2013).

Therefore, to test the hypothesized relationships, first, a linear effects model was estimated based on the descriptions in Figure I, excluding interaction effects (H3 and H4). Second, following established PLS-SEM guidelines (Henseler and Chin, 2010; Hair *et al*., 2022), a two-stage approach was employed to refine the model by introducing interaction effects and assessing the relationships. To establish the model's fit using PLS-SEM, reliabilities, validities, path significances, coefficient of determinations (R^2), and predictive relevance (Q^2) measures were calculated.

3.5 Measurement model

As per Hair *et al* (2021) recommendations, the measurement model's reliability and convergent validity were assessed using factor loadings (FL: threshold value > 0.60), Cronbach's alpha (CA: threshold estimate > 0.70), composite reliability (CR: threshold estimate >0.70), and AVE (threshold limit >0.50). The results in Table II confirm the reliability and validity of the model. Moreover, following the recommendations of Voorhees et al. (2016), discriminant validity was established using two commonly employed conservative approaches (see Table III): a) Fornell and Larcker's (1981) criterion (threshold √AVE for each construct should exceed its correlation with other constructs), and b) Henseler et al.'s (2015) Heterotrait-Monotrait (HTMT) ratio criterion (threshold <0.90). Further, following the recommendations of Lindell and Whitney (2001), a marker variable was employed to test for common method bias (CMB), where the correlation of the marker variable with the rest of the constructs was observed to be less than 0.10 and difference in ^{2}R of exogenous variables observed after introduction of the marker was less than 0.01 (Lindell and Whitney, 2001; Malhotra et al., 2006). Further, the variance inflation factor (VIF) values were all below 5, indicating that the model was free of multicollinearity issues (Hair *et al.*, 2021). This suggests that the predictor

variables in the model did not exhibit problematic collinearity, hence ensuring the stability of the regression estimates.

<<< Insert Table II here>>>

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3.6 Structural model

First, a linear effects model was estimated based on the descriptions in Figure I, excluding interaction effects (H3 and H4) to test the hypothesized relationships. Figure II and Table IV show that the stage 1 linear effects model supports the hypotheses H1, H2, H5, H6, and H7. The results show that SMEs' market orientation capability (H1) had a significant impact on digital technological opportunism (β=0.262; p<0.05), so SMEs' technology orientation capability (H2) had a significant impact on digital technological opportunism (β=0.612; p<0.05). The SMEs' digital technological opportunism (H5) had a significant effect on future focus (β=0.719; p<0.05), and SMEs digital technological opportunism (H6) had a significant impact on organizational performance (β=0.265; p<0.05). Furthermore, SMEs future focus (H7) had a significant impact on organizational performance (β=0.426; p<0.05). The linear effect paths accounted for 62.0 percent of the variance in SMEs' digital technological opportunism, 51.7 percent of the variance in SMEs' future focus, and 41.3 percent of the variance in SMEs' organizational performance.

<<< Insert Table IV here>>>

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3.9 Mediation Analysis

The study analysed the role of future focus as a mediator in the relationship between digital technological opportunism and organizational performance. The results (see Table III) indicate that future focus acts as a significant partial mediator in the relationship between digital technological opportunism and organizational performance (H8: β=0.306; p<0.05; CI=[0.198-0.424]). This suggests that while digital technological opportunism directly enhances organizational performance, a portion of this effect is channelled through the future focus. ***3.10 Moderation***

The moderating effect of organizational agility was tested on the relationship between market orientation capability and digital technological opportunism (H3: β=-0.009; p>0.05) and between technological orientation capability and digital technological opportunism (H4: β=0.045; p>0.05). The results indicate that organizational agility did have a significant moderating effect on these relationships, as both interaction effects were statistically insignificant.

3.11 Model Fit

The structural model was assessed using SRMR (Standardized Root Mean Square Residual), a standard goodness-of-fit measure in PLSE-SEM. The initial model (Stage 1: without moderation) yielded an SRMR of 0.080, meeting the recommended threshold of good fit (Henseler *et al.*, 2015). After introducing the moderating variable, organizational agility (Stage 2: with moderation), the SRMR increased slightly to 0.086. Although marginally above the threshold of 0.080, previous research suggests that values up to 0.10 are still acceptable (Hair et al., 2021). The slight increase implies that the inclusion of interaction terms had minimal impact on the overall model fit, supporting the robustness of the model.

Further, the coefficient of determination (R^2) and predictive relevance (Q^2) were employed to determine overall model predictivity (Hair *et al.*, 2021). SMEs' digital technological opportunism exhibited an R^2 value of 0.620 and 0.671 in stage 1 and stage 2, respectively; the R2 value for SMEs' future focus was 0.517 and 0.517 in stage 1 and stage 2, respectively, and organizational performance revealed an R^2 value of 0.413 and 0.413 in stage 1 and stage 2 respectively. Thus, the model's R^2 values indicate moderate to good explanatory power as per threshold standards (weak < 0.25; moderate: 0.25 – 0.49; good: 0.50 - 0.74; substantial > 0.75) (Hair *et al.*, 2021). The PLSpredict procedure was also employed to assess predictive relevance Q^2 or cross-validated redundancy (Geisser, 1975; Stone, 1974). SMEs digital technological opportunism unveiled a Q^2 value of 0.611/0.659 in stage 1 / stage 2, Q^2 value for SMEs future focus was 0.504/0.521 in stage 1 / stage 2, and organizational performance revealed a Q^2 value of 0.302/0.354 in stage 1 / stage 2

4. Discussion

The present research complements the existing body of literature by exploring the respectively (Fornell and Cha, 1994). Since all the values were above zero, the model has good predictive power.

relationships among market and technology orientation capabilities with digital technological opportunism, future focus, and organizational performance. Recently, several studies highlighted the critical role of digital marketing in SMEs, including the barriers and drivers of the adoption and use of these digital channels (Setkute and Dibb, 2022). However, an understanding of the drivers that support the development of these newer organizational

capabilities remains a gap in the literature (Homburg and Wielgos, 2022). Therefore, as hypothesized (H_1 and H_2), the findings propose that dynamic market orientation capabilities and foresightful technology orientation capabilities with a blend of digital technological opportunism can directly influence SMEs' future focus and organizational performance. These results are consistent with previous studies emphasizing an inside-out and outside-in motivated synergetic approach toward market and technology orientation capabilities for better customer retention and organizational efficiency (Abbu and Gopalakrishna, 2021). While previous studies suggest conflicting results about these performance relationships, our findings suggest that the presence of market and technological orientation capabilities in SMEs is required to improve SMEs' performance with organizational agility (Bodlaj and Cater 2021). Both market and technology orientation capabilities are significant drivers for SMEs' digital transformation (Battistoni *et al*., 2022).

The results indicate that organizational agility does not significantly alter the effect of market and technology orientation capabilities on digital technological opportunism. The impact of market orientation capability on digital technological opportunism remains stable, regardless of organizational agility. This implies that market-oriented firms inherently identify and exploit digital technological opportunities independent of their agility. Similarly, the technological orientation capabilities effect on digital technological opportunism is not significantly moderated by organizational agility, as the firms with strong technology orientation already possess the necessary digital capabilities, making agility less critical in shaping digital technological opportunism. These findings challenge prior research suggesting organizational agility improves digital transformational efforts by advancing responsiveness and flexibility (Tallon et al., 2019). However, it aligns with studies indicating that the direct effects of market and technology orientation capabilities on technological innovation may be strong enough not to require additional agility-backed impact or moderation (Fink and Neumann, 2007). This leads to the insight that agility may not always be a universal enabler; contextual factors like industry type, competitive intensity, and organizational structure may be playing a role in affecting it as a moderator, as firms with substantial market and technology orientation capabilities may already be proactive in digital technology adoption, reducing the incremental effect of agility.

Further analysis indicates that digital technological opportunism positively impacts performance-oriented outcome constructs, e.g., future focus (H_5) and organizational performance (H_6). SMEs adopt new technologies because of organizational forces or pressures, either stakeholders' or competitive pressures that drive resource allocation and customer-oriented actions, leading to better organizational performance. This is critical for SMEs with

limited resources, preventing the development of newer capabilities without relevant evidence of their impact on profits and return on investment (Luqman *et al*., 2023). To substantiate the argument, Rahman *et al*. (2023) evidenced that firms' technology readiness and AI-based customer relationship management capabilities improve organizational performance. Similarly, Zahoor *et al*. (2023) argued that SMEs enacted different processes, utilized resources, and creatively exploited capabilities to mitigate the hostile environment and leveraged it as an opportunity for future growth even during the COVID-19 pandemic. Lastly, the present study hypothesized that future focus positively influences organizational performance (H_7) and has a mediating effect (H8) between digital technological opportunism and organizational performance. This indicates that future focus serves as a bridge between recognizing digital opportunities and achieving higher organizational performance. As a mediator, future focus suggests that by fostering long-term strategic vision and digital adaptability, SMEs can integrate technological opportunism into sustainable business practices, ultimately leading to higher organizational performance in dynamic markets.

4.1 Theoretical implications

The present research makes several significant theoretical contributions. Firstly, it advances a conceptual model demonstrating how digital technological opportunism can be instrumental in integrating complementary market-driven and technological-driven propositions to attain future focus and organizational performance. To the best of the present state of knowledge within this domain, there is limited work to discuss how market-driven and technology-driven SMEs develop marketing capabilities to strengthen digital technological opportunism. Most research direction has primarily emphasized the role of marketing capabilities in outcomes or consequences but has paid inadequate attention to its dimensionality or resource allocation. The present study underscores the importance of integrating the existing resource base market-driven and technology-driven capabilities to create long-term advantage. These findings align with the notion of strategic marketing works that scan the influence of digital intervention on organizational outcomes. The resource-based and capabilities-based views underlining the conceptual model recommend that sustainable advantage is attainable via effectively applying a truly internationalized digital marketing strategy. Effective digital strategy implementation includes integrating and allocating resources to convert them into complex and inimitable marketing capabilities.

Secondly, the research adds to the work that advocates that a market-driven orientation is vital for a highly competitive business landscape but not an adequate proposition to ensure future focus and sustainable organizational performance. Market orientation can drive performance by linking marketing orientation to the organizational performance chain. still,

the empirical literature suggests that this link should be mediated by innovativeness, agility, service quality, and trust (Abbu and Gopalakrishna, 2021; Alghamdi and Agag, 2024). The current study argues in the same direction that digital technological opportunism is observed as a technological improvement that guides future focus and organizational performance. Notably, the market-driven and technology-driven capabilities in sensing and responding are critical prerequisites to digital technological opportunism.

Thirdly, the market-driven and technology-driven dimensions can be regarded as specific capabilities that offer unlimited research opportunities, taking capabilities-based and dynamic capabilities-based approaches while exploring the underlying business philosophy to decipher new insights into SMEs' internationalization process. Related research in SMEs-centric resource-based and capabilities-based views may provide a solid foundation to examine key digital strategic marketing capabilities amidst new technological advancements. Lastly, digital technological opportunism can be viewed as a cluster of marketing capabilities driven toward technological innovation; thus, scholars can draw from a growing body of literature on marketing, technological interfaces, and innovation management to develop conceptual frameworks and applications.

4.2 Marketing implications

The present study serves as a novel reference for SMEs' internationalization move in the context of available technology-driven market opportunities. First, it advocates a unified strategic intervention for SMEs facing the gruelling task of technological innovations, especially in a contemporary, dynamically turbulent environment. Managers' deliberate attempts to integrate market and technology orientations into their strategic digital marketing investments will likely be rewarded with advantageous future focus and firm performance outcomes. Applying integrated market and technological orientations to understand digital technology-driven opportunism yields better results than isolated attempts to be future-ready. Thus, SME managers should constantly nurture resources to generate new marketing opportunities, providing a calculated edge and coordinating their existing mainstream operations. Marketing managers should recurrently scan for new market opportunities while refining the organizational capabilities to develop strategic foresight and technology-enabled marketing initiatives. Investing in future-centric complementary businesses may create value for organizations, customers, and society. The current study strongly recommends that managers continually sense and respond to market opportunities with innovative capabilities.

While previous research has highlighted the significance of marketing capabilities, the literature has provided scanty cues about identifying, creating, and developing organizational-centric capabilities to carve a sustainable competitive advantage amidst market issues and

novel revisions in businesses. Therefore, it is even more challenging to gauge these environmental changes and devise prompt strategies related to market opportunities. The present study offers insight into market and technology-driven capabilities and complementary resources that are desirable to nurture new processes based on environmental changes. The research suggests that marketing managers should closely consider categorizing organizational resources based on present and future capabilities and ensure a technological innovation culture that supports new processes.

The study findings provide empirical support to highlight market and technology orientation capabilities as a vital link to resources → capabilities → performance for developing an organizational culture that seeks to attain sustainable competitive advantage. Managers are advised to evolve environmental cognizance, create organizational awareness, and align their digital technology-driven strategy for achieving future-centric performance. Thus, organizational leadership should be engaged in the change process and ready with a plan-for-change approach. Finally, the present research recommends that SMEs continuously scan their marketing environment for internationalization-driven futuristic business opportunities. The international marketing environment scanning will generate valuable decision-making insights for top leadership.

5. Limitations and future research

Like any other quantitative study, this research is limited by its deficiency of generalizability. The data were gathered from a limited number of key respondents in each SME, which could lead to intrinsic desirability bias. Future studies may circumvent this issue by supplementing primary data with secondary data. The research is primarily cross-sectional. Thus, causality cannot be inferred to augment generalizability. Thus, future research may collect data using a longitudinal design, providing a better understanding of the development of the market, technological orientation, opportunism, and the underlying contribution to SME performance.

Additionally, the study surveyed key respondents in the studied firms to evaluate the presence and salience of market and technological orientation capabilities on technological opportunism for future focus. Nonetheless, as firms may use international market intelligence pertaining to the technological landscape at different times, future researchers may obtain different results. Future studies may examine other market-based assets, such as entrepreneurial orientation as an enabler of digital technological opportunism, and future research may benefit from including other types of capabilities, such as branding or technological facets, and evaluate the impacts of their combinations on the future focus of SMEs.

The study objective was to theorize about and empirically examine the relationships between market/technology orientation, technological opportunism, future focus, and organizational performance rather than to confirm a typology of these variables. Moreover, these variables are context-specific and domain-specific and have been derived by scholars for circumstantial-driven studies; hence, interpreting results becomes challenging. Consequently, an imperative direction for future studies is the replication of the testing of the model in different contexts.

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Figure I: Conceptual model (Source: Authors' work)

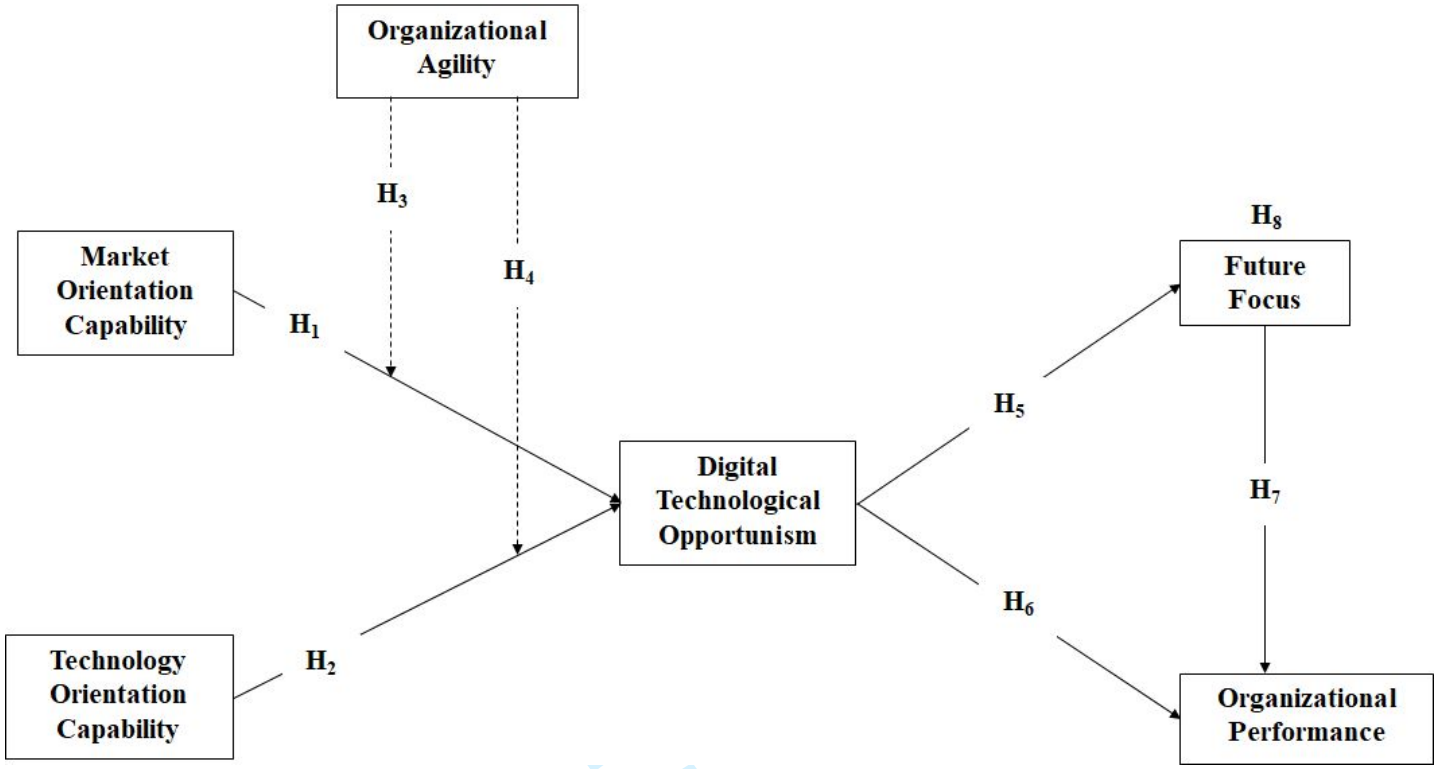

Figure II: Structural outcomes (Source: Authors' work)

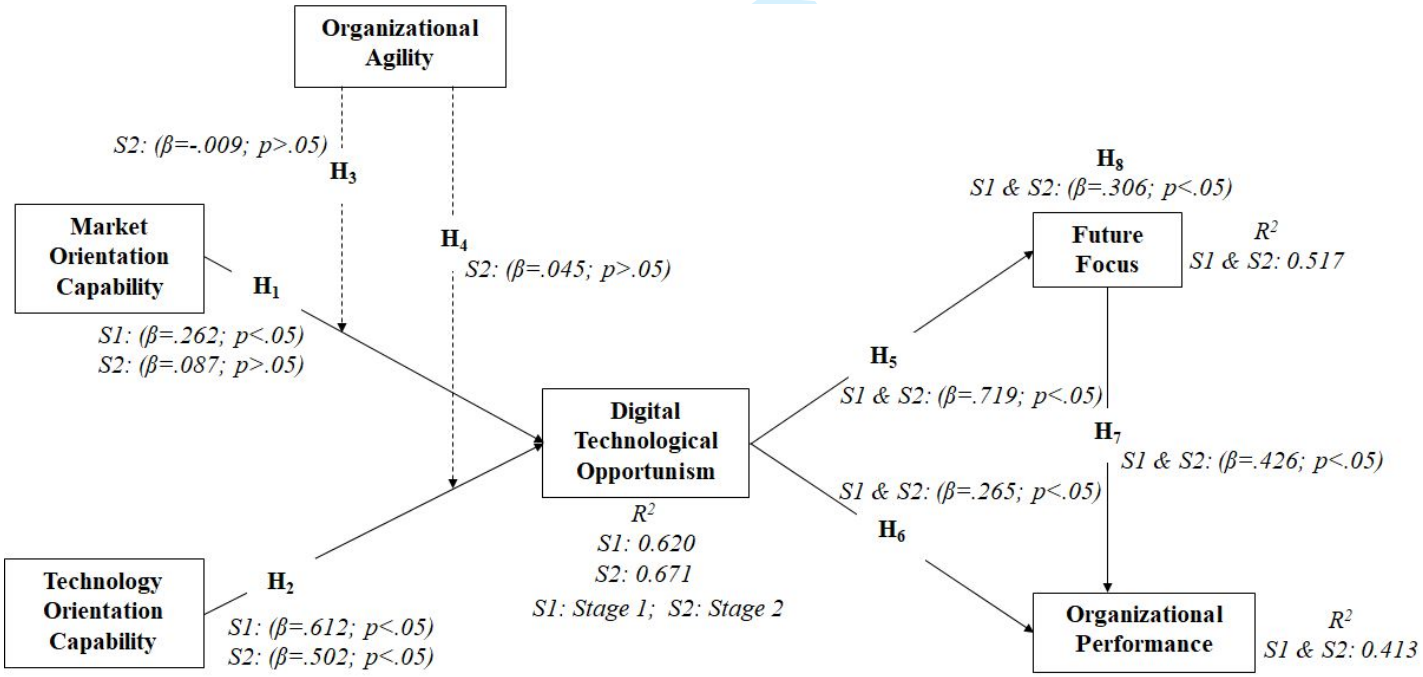

Table I: Research gaps and potential value add to the current study (Source: Authors' work)

Research gaps identified	Current state of research	Value adds of addressing the research gap
There is a scarcity of studies that have integrated market and technology orientation capabilities with digital technological opportunism.	Past studies have independently analyzed the impact of market orientation and technology orientation on digital transformation. This gives a limited view of the effect of a firm's different capabilities on its digitalization efforts. (Apasrawirote *et al.*, 2022; Evers *et al.*, 2019)	Individual testing of the impact of market orientation and technology orientation on digitalization fails to give a holistic picture of the effect of different capabilities on the digitalization efforts of an SME. This holistic view is necessary to comprehend what is the role of these capabilities in creating digital technology opportunism for SMEs, which in turn can help these firms in better navigating digital transformation for competitive advantage
Lack of studies studying the role of digital technology opportunism (DTO) in enhancing SME's capability-agility-and performance relationship	Though previous studies have identified DTO as an important variable for digital business strategies, its role in affecting the relationship between capabilities, agilities and future performance of SMEs remains underexplored (Rynarzewska *et al.*, 2024).	Gaining insight into the role of DTO in shaping a firm's capabilities and future performance is critical in today's rapidly evolving business landscape. By analyzing the association of DTO with firm capabilities and future performance, our study offers valuable strategic recommendations for business leaders and policymakers aiming to steer effective digital transformation.
Focus limited to studying capabilities-based perspective related to digitalization in large firms	Majority of previous studies have focused on large firms while examining digitization. SMEs differ from large firms because of the various constraints associated with them. This provides a challenge in how they can leverage digital transformation for future organizational performance (Etienne Fabian *et al.*, 2024).	Focusing on SMEs, our study highlights how SMEs can develop strategies to leverage dynamic capabilities to become technologically advanced and how this can help them enhance their ability to augment their future performance while competing internationally.
Shortage of first-hand validation of dynamic capabilities on future focus as a construct in SME's digital marketing plan development and implementation	Despite the importance of being future-oriented in their strategical approach, few studies have explicitly measured how the dynamic capabilities of SMEs influence their long-term focus (Wang and Ahmed, 2007)	Our study analyzes the impact of dynamic capabilities on digitalization, with a particular focus on how these can help augment the future performance of SMEs. This understanding will help organizations better prepare and plan for enhancing their future performance.

Table II: Measurements model results (Source: Authors' work)

	Stage 1				Stage 2			
	CA	**CR**	**AVE**	**FL Range**	**CA**	**CR**	**AVE**	**FL Range**
DTO	0.896	0.928	0.763	[0.840 - 0.905]	0.896	0.928	0.763	[0.840 - 0.905]
FF	0.886	0.913	0.637	[0.744 - 0.827]	0.886	0.913	0.637	[0.744 - 0.827]
MO	0.852	0.894	0.627	[0.762 - 0.820]	0.852	0.894	0.627	[0.762 - 0.820]
OA	NA	NA	NA	NA	0.851	0.893	0.626	[0.751 - 0.823]
OP	0.919	0.939	0.756	[0.848 - 0.893]	0.919	0.939	0.756	[0.848 - 0.893]
TO	0.835	0.901	0.753	[0.819 - 0.892]	0.835	0.901	0.753	[0.819 - 0.892]

CA = Cronbach's alpha; CR = Composite Reliability; AVE = Average Variance Extracted; FL: Factor Loadings; DT: Digital Technological Opportunism; FF: Future Focus; MO: Market Orientation Capability; OA: Organizational Agility; OP: Organizational Performance; TO: Technology Orientation Capability

Table III: Discriminant validity (Source: Authors' work)

	Stage 1					Stage 2					
	DTO	**FF**	**MO**	**OP**	**TO**	**DTO**	**FF**	**MO**	**OA**	**OP**	**TO**
DTO	**0.874**	*0.796*	*0.677*	*0.623*	*0.869*	**0.874**	*0.796*	*0.677*	*0.812*	*0.623*	*0.869*
FF	0.719	**0.798**	*0.713*	*0.677*	*0.775*	0.719	**0.798**	*0.713*	*0.735*	*0.677*	*0.775*
MO	0.600	0.625	**0.792**	*0.590*	*0.647*	0.600	0.625	**0.792**	*0.841*	*0.590*	*0.647*
OA	NA	NA	NA	*NA*	*NA*	0.717	0.651	0.715	**0.791**	*0.696*	*0.742*
OP	0.571	0.616	0.523	**0.869**	*0.575*	0.571	0.616	0.523	0.620	**0.869**	*0.575*
TO	0.757	0.672	0.553	0.505	**0.868**	0.757	0.672	0.553	0.635	0.505	**0.868**

DT: Digital Technological Opportunism; FF: Future Focus; MO: Market Orientation Capability; OA: Organizational Agility; OP: Organizational Performance; TO: Technology Orientation Capability; (Note: The diagonal values depict the square root of AVE of the constructs, values below the diagonal values represents the correlation between constructs and above the Heterotrait-Monotrait (HTMT) ratio)

Table IV: Hypotheses testing (Source: Authors' work)

	Stage 1				Stage 2			
Path	**β**	**t-values**	**p-values**	**Hypotheses**	**β**	**t-values**	**p-values**	**Hypotheses/ Outcomes**
Direct Effects								
MO -> DTO	0.262	4.722	0.000	H1 (S)	0.087	1.614	0.107	Loses Significance
TO -> DTO	0.612	11.314	0.000	H2 (S)	0.502	8.857	0.000	Weakens
DTO -> FF	0.719	21.042	0.000	H5 (S)	0.719	21.056	0.000	No Change
DTO -> OP	0.265	3.430	0.001	H6 (S)	0.265	3.431	0.001	No Change
FF -> OP	0.426	5.803	0.000	H7 (S)	0.426	5.806	0.000	No Change
Mediation Effect of FF on the relationship between DTO and OP								
DTO -> FF -> OP	0.306	5.321	0.000	H8 (S: PM)	0.306	5.322	0.000	No Change
Moderating effect of OA on relationships between MO/TO and DT								
OA x MO -> DTO	NA	NA	NA	NA	-0.009	0.266	0.790	H3 (NS)
OA x TO -> DTO	NA	NA	NA	NA	0.045	1.107	0.268	H4 (NS)

DT: Digital Technological Opportunism; FF: Future Focus; MO: Market Orientation Capability; OA: Organizational Agility; OP: Organizational Performance; TO: Technology Orientation Capability; S: Supported; NS: Not Supported; PM: Partial Mediation