

Digitalization and Export Performance: Mediating Role of Innovation and Export Market Orientation in Sri Lankan Apparel Exporters

South Asian Journal of
Business Insights
2025, 5(1) 40-70
ISSN 2773-7012(print)
ISSN 2773-6997(online)
© 2025, Faculty of
Management and Finance
University of Ruhuna,
Sri Lanka



Abeyruwan N.Y.

Department of Information Management, School of Business, Sri Lanka Institute of Information Technology, Malabe, Sri Lanka

Weerasuriya G.D.H.N.

Department of Information Management, School of Business, Sri Lanka Institute of Information Technology, Malabe, Sri Lanka

Wijsekara J.H.T.

Department of Business Management, School of Business, Sri Lanka Institute of Information Technology, Malabe, Sri Lanka

Amarasekera M.A.B.

Department of Information Management, School of Business, Sri Lanka Institute of Information Technology, Malabe, Sri Lanka

Wisenthige K.

Department of Business Management, School of Business, Sri Lanka Institute of Information Technology, Malabe, Sri Lanka

Rajapakse V. *

Department of Business Management, School of Business, Sri Lanka Institute of Information Technology, Malabe, Sri Lanka

Abstract

In an era dominated by rapid technological advancements, digitalisation has become a significant driver of reshaping the apparel industry. Primarily, this research aims to examine the direct and indirect effects of digitalisation on export performance, with the latter effect mediated by innovation and export market orientation (EMO), in the context of large-scale Sri Lankan apparel exporters. Digitalisation is the adoption of digital technologies across multiple dimensions of a firm, including product offerings and value chain activities, both inbound and outbound. Innovation is examined through product and process dimensions, while EMO reflects a firm's effort to incorporate marketing concepts into its export operations. Given that

apparel export ventures have embraced digital capabilities, the evaluation used data collected from 83 large-scale apparel manufacturing exporters in Sri Lanka. Primary data was collected using a structured questionnaire instrument. Partial Least Squares - Structural Equation Modelling (PLS-SEM) was employed due to its suitability for analysing complex models with relatively small population sizes. This research contributes to bridging the knowledge gap in understanding the mediating impact of innovation and EMO when apparel export ventures seek to enhance their performance by embracing digital technologies. The findings reveal that digitalisation significantly enhances both innovation and EMO, and that EMO positively influences export performance, while EMO partially mediates the digitalisation–export performance link, the mediating role of innovation is negligible and statistically insignificant. By clarifying these indirect pathways, the study contributes to the dynamic capabilities perspective on how firms leverage digitalisation for performance improvement. Sectorally, it addresses an understudied export-oriented industry in an emerging economy, while theoretically, it advances understanding of the nuanced mechanisms through which digitalisation shapes export performance.

Keywords: Digitalisation, Export Market Orientation, Export Performance, Innovation

* Corresponding Author – vageesha.r@slit.lk

Introduction

In today's globalised world, digitalisation is essential to survive in the international market. One of the major export industries in Sri Lanka that deals with the international market is the apparel industry. The industry earned USD 5,952 million in 2022 (Central Bank of Sri Lanka, 2022), securing an astonishing 45.5% share of export earnings and establishing itself as the largest contributor to Sri Lanka's export earnings. In the apparel industry, where efficiency, accuracy, and connectivity are crucial, the emergence of digitalisation has sparked a wave of evolutionary changes. In the journey of adopting digitalisation, the efforts of Sri Lankan apparel exporters to advance digital technologies are evident. These technologies include Internet of Things, big data analytics, process automation, cloud computing, and augmented reality, which help in facilitating smooth operations, supply chain integration, and customer engagement (Madushanka et al., 2023; Wijethunga et al., 2023). Not only Sri Lanka, but also other nations, notably Bangladesh, a centre for the production of garments, have utilised digital technologies to solve issues facing the industry (Alam et al., 2023). Nhelekwa et al. (2022) highlighted the extent to which integration of digital technologies in Tanzania's textile and garment industry is essential, as it highlights the benefits of cutting-edge digital technologies in increasing productivity, efficiency, and customer satisfaction within Tanzania's garment sector. Therefore, it proves that digitalisation plays an important role in the apparel industry.

Digitalisation is defined as the exploitation of digital opportunities by combining a variety of technologies, and in this study, it has been examined in the context of apparel exporters in Sri Lanka. It unlocks a firm's potential to develop radically new products, provide digital services embedded in physical products, and create innovative business models (Abou-foul et al., 2021). Moreover, it facilitates companies to connect resources and develop strategies to foster innovation. Also, it enables opportunities to become a platform or a valuable platform add-on.

Given the multitude of benefits towards organisations resulting from digitalisation, it is evident that there is a direct positive impact of digital adoption on organisational performance (Martín-Peña et al., 2019) and export performance (Gomez-Sanchez et al., 2024).

Existing literature has examined digitalisation's impact on export performance (Fayos et al., 2023; Gomez-Sanchez et al., 2024) and tested different mediating variables between digitalisation and firm performance (Martínez-Caro et al., 2020; Pradana et al., 2022) or international performance (Fayos et al., 2023). However, insufficient attention has been directed towards evaluating digitalisation's direct and indirect impact on export performance simultaneously. Drawing on this foundation, numerous knowledge disparities have been recognised within the body of literature related to examining the impact of digitalisation on export performance.

Firstly, so far, a largely underexplored potential to investigate digitalisation's impact on export performance using a multiple mediation model exists. A comprehensive literature review reflected that the chosen constructs have seldom been examined as mediators between the context of digitalisation and export performance. As such, there is a gap in research on how digitalisation affects capabilities such as innovation and EMO, which can consequently improve export performance. Despite literature insinuating possible associations between the concepts of innovation and EMO with digitalisation and export performance, there is a void in scholarly work to examine these associations, thus calling for further scholarly investigation.

Secondly, to the best of the researcher's knowledge, no attempt has been made to comprehensively capture digitalisation in the context of the process that integrates a diverse set of digital technologies for the creation of innovative products, business models, and digital services that can be incorporated into physical products, when examining its impact on export performance. Thirdly, there exists a largely underexplored potential to examine the effect of digitalisation on export performance while concurrently concentrating on a specific business sector and large-scale businesses. Finally, in the context of the apparel sector, to the best of the researcher's knowledge, there has been no effort to examine the impact of digitalisation applied in the downstream supply chain on export performance. Apart from the knowledge gap, the industry gap related to the apparel industry embracing digitalisation has been recognised and highlighted. Although Sri Lankan apparel exporters have advanced in adopting digital technologies, there is still a notable gap in understanding the key factors that initially influenced how digitalisation impacted export performance. In other words, there exists an industry gap in identifying and capitalising on firm capabilities, which are influenced by digitalisation and, in turn, affect export performance. Additionally, previous scholars have emphasised the importance of understanding the interplay between digitalisation and export performance related to various business contexts and sectors, highlighting the need for further sector-specific studies (Martínez-Caro et al., 2020; Pradana et al., 2022).

Therefore, considering the aforementioned lacunae in extant literature related to digitalisation and export performance, this study aims to ascertain the extent to which digitalisation impacts the export performance of the Sri Lankan apparel industry whilst paying attention to the mediating roles of innovation and EMO. Based on these research problems, this study attempts to address the following research question.

RQ: Do innovation and export market orientation mediate the impact of digitalisation on the Sri Lankan apparel exporters' performance?

The outcomes of this study make several significant contributions to theoretical and empirical knowledge. First, the direct and the indirect impacts of digitalisation on export performance, with the latter mediated by EMO and innovation, can be explained in light of the dynamic capability theory, expanding the theoretical knowledge. Digitalisation, technological innovation, and EMO represent capabilities that facilitate firms to continuously sense and shape opportunities, and threats, seize opportunities and have a competitive edge through continuously enhancing, combining, preserving, and reconfiguring firm assets (Teece, 2007). Ultimately, these capabilities facilitate better decision-making, innovation, and market responsiveness, enhancing export performance.

Second, this study contributes to empirical knowledge by offering evidence from the apparel sector in an emerging economy, an area that remains relatively underexplored, through a simultaneous approach of multiple constructs within a single conceptual framework. Third, from a methodological standpoint, this study employs the partial least squares structural equation modelling (PLS-SEM) technique, offering a thorough analysis of complex models with multiple constructs, indicator variables and structural paths without making assumptions about the distribution of data (Hair et al., 2019). This study also analyses the model's out-of-sample predictive power, which provides an assessment of the model's accuracy and generalizability in relation to new data that is yet to be seen.

Fourth, this study sheds light on practical and policy implementations that would contribute significantly to the apparel export industry. This is especially useful for micro, small, and medium enterprises as a guideline, and for developing countries, where the apparel industry has a massive impact on their gross domestic product, such as Sri Lanka, which expects to reach a national goal of USD 28 billion worth of total exports by 2025 (BOI, Sri Lanka, 2022).

The subsequent sections of this paper are organised as follows: the literature review embedding the theoretical framework and findings from previous studies, followed by the exposition of data and methodology, results and discussion and finally, the conclusions and implications along with study limitations and opportunities for future research.

Theoretical Framework

Dynamic Capabilities Theory

The relationship between digitalisation and export performance can be explained through the dynamic capabilities theory. In simple terms, dynamic capabilities theory refers to a firm's capability of staying nimble, learning from experiences, and adjusting its strategies to thrive in a rapidly changing world. Dynamic Capabilities are the firm's capabilities to continuously sense and shape opportunities and threats. To seize opportunities and to have a competitive edge through continuously enhancing, combining, protecting, and reconfiguring firm assets (Teece, 2007). Further, the theory states that dynamic capabilities include difficult-to-imitate capabilities required to adapt to changing market conditions and technological opportunities,

the capacity to reshape the firm's ecosystem, develop new products and processes, and design and implement viable business models.

Ultimately, these capacities would lead towards successful innovation and capturing adequate value to deliver superior long-term financial performance (Teece, 2007). Also, Usai et al. (2021) indicate that dynamic capability plays a major role in digital transformation by rapidly creating and implementing new business models and processes through innovation capabilities. Also, digital technologies such as blockchain and IoT can change the nature of dynamic capability (Warner & Wäger, 2019). Thus, innovation capability can be identified as a dynamic capability that can sense opportunities and threats in the dynamic global market. This dynamic capability theory helps us to explain how digitalisation influences firms' performance and international performance through innovation capabilities.

The export market orientation is a high-order capability that can influence the development and the success of low-order capabilities such as customer integration (Aslam et al., 2023). Also, export intelligence, export intelligence responsiveness, and export intelligence generation are the scales of measures of export orientation (Lin et al., 2014). Various studies have directly stated that market orientation is a dynamic capability that can accomplish competitive advantage (Foerstl et al., 2021; Aslam et al., 2023). Firms that adapt strong market orientation capabilities can sense new opportunities and market conditions, such as novel customer demands and new markets, by using digital technologies (Aslam et al., 2023). Furthermore, various studies have empirically tested the dynamic capabilities that influence a firm's performance (Pezeshkan et al., 2016). The dynamic capability theory helps to explain how digitalisation enhances export market orientation and consequently export performance.

Literature Review and Hypotheses Development

Under the review of literature, the preceding literature related to firm digitalisation and export performance, along with specific mediating variables, innovation and EMO, has been examined.

Impacts of Digitalisation

In today's globalised business landscape, digitalisation, digitisation, and digital transformation are recognised as crucial factors for firms aiming to expand their international market presence and gain a competitive advantage. Digitalisation is defined as the use of digital technologies and the application of digital technologies in business operations to harvest and create new value for the organisation (Gobble, 2018; Ritter & Pedersen, 2020). In other words, digitalisation refers to the adoption and integration of digital technologies, such as customer relationship management systems, e-commerce platforms, and data analytics, into business processes and operations.

Previous studies emphasise that the relationship between digitalisation and export performance seems complex (Lee, & Falahat, 2019; Oktor, 2019; Vadana et al., 2020) and there is evidence to support both positive and negative effects. Multiple studies have highlighted a significant impact on either organisational or international performance (Abou-foul et al., 2021; AL-Khatib, 2024; Dallochio et al., 2024; Hervé et al., 2020; Martínez-Caro et al., 2020; Martín-Peña et al., 2019; Y. Wang et al., 2024). Furthermore, the capacity for big data

analytics, which is a form of digitalisation (Radicic & Petković, 2023) tends to indirectly enhance export performance by fostering supply chain innovation (AL-Khatib, 2024). Based on the aforementioned literature, the following hypothesis was derived.

H₁: Digitalisation significantly impacts exporters' performance.

Second, previous studies have revealed factors that exist within the sphere of digitalisation, such as value chain digitalisation (Marín et al., 2023), internet usage (Zhang & Liu, 2023), digital diffusion (Hassan et al., 2023) have a positive and significant impact on innovation. Technological innovation refers to new development or improvement of existing products or processes (Scherer, 2001). Radicic and Petković (2023) revealed that digital value chains, which are a form of digitalisation, improved product and process innovation in micro firms, while digitalising manufacturing and logistics promoted process innovation in micro and medium-sized businesses (Radicic & Petković, 2023). These studies were conducted in the context of SMEs. Despite Hassan et al. (2023) recently revealing how the usage of digital technologies impacts innovation, these findings are contradictory to the prior findings of Usai et al. (2021), which reveal that the predictability of innovation is more dependent on research and development expenses rather than the implementation of digital technologies. Thereby, based on the above arguments, the following hypothesis was derived to be tested in the present study.

H₂: Digitalisation significantly impacts innovation.

A study that was conducted by Naglič et al. (2020) revealed that the adoption of Industry 4.0 technologies significantly influences a firm's level of EMO. Moreover, according to Aslam et al. (2023), EMO relies on a firm's understanding of the target international market's needs, wants, and requirements, and it greatly impacts the development and success of lower-level capabilities such as customer integration, which is essential for export performance. Katsikeas et al. (2019) highlight that using online capabilities, such as data mining and platforms like Google Cloud, improves international market focus by gathering crucial data on consumer demographics, psychographics, and product/service ratings, facilitating the development of effective international marketing strategies. Further, it was found that while geographic diversification has a negative impact on export performance, the adoption of digital technologies and EMO can help alleviate this effect (Luu, 2024). Thereby, based on the aforementioned arguments, the following hypothesis was derived.

H₃: Digitalisation impacts export market orientation.

Impact of Innovation on Export Performance

The term "Innovation" refers to a wide variety of modifications and breakthroughs. It can be used for an organisation's administrative and technological components as well as its goods and operations. The extent of these modifications varies; some are minor changes, while others are radical transformations (Murat Ar & Baki, 2011). Product innovation is the introduction of a substantially new or enhanced product or service to the market by the company, which sets it apart from its current offerings. Processes Innovation refers to a significantly innovative or enhanced approach to managing one or more tasks, applied internally and distinct from earlier

procedures. Product innovation essentially concentrates on what the business provides to clients, whereas business process innovation concentrates on how the organisation runs internally. Both entail notable advancements over the previous models (OECD & Eurostat, 2018). In 2023, Radicic and Petković (2023) highlight that utilising technology to develop new or better products or services is the broad definition of "Technological Innovation" (Radicic & Petković, 2023). The researchers have studied the links between innovation capabilities and export growth. The study conducted by Guan and Ma (2003) highlights the positive association between innovation and firm performance in SMEs. However, Ortigueira-Sánchez et al. (2022) revealed that technological innovation's process innovation has a positive effect on production performance but a negative effect on export performance, which contradicts the findings of the aforementioned studies. Additionally, Radicic and Petković (2023) highlight that firms focused on increasing export volume are less likely to introduce novel products to the market. Based on the above arguments, the following hypothesis was derived to be tested in the present study.

H₄: Innovation impacts export performance.

Impact of Export Market Orientation

Export Market Orientation is the extent to which a firm possesses knowledge about the needs, wants, and requirements of its target international markets (Naglič et al., 2020). According to studies conducted by Naglič et al. (2020) and Zehir et al. (2015), it is revealed that having a focus on export markets has a positive impact on the performance of exports. Integrating marketing effectiveness with EMO and marketing capabilities has been found to enhance export performance, as per the study conducted by Kayabasi and Mtetwa (2016). Moreover, Alotaibi and Zhang (2017) unveil that export strategy plays a mediating role in the connection between EMO and export performance. Additionally, previous studies have investigated the association between market orientation and export performance while considering export channels, institutional distance (He et al., 2018), and competition intensity (Acikdilli et al., 2022) as moderators and market capability as a mediator (Joensuu-Salo et al., 2018). A significant and positive impact in both the moderation and mediation scenarios has been highlighted. Accordingly, the following hypothesis was derived.

H₅: Export market orientation impacts export performance.

According to Peng and Shao (2021), the concept of international exploration is utilising existing knowledge and exploitation, which includes innovation, flexibility and discovery. This can lead to new product development. Additionally, Liu et al. (2024) highlight that more export-oriented firms are able to influence innovation capabilities and firm performance. Aligning with the aforementioned arguments, the following hypothesis was derived.

H₆: Export market orientation impacts Innovation.

Mediation of Innovation and Export Market Orientation

Previously, Freeman et al. (2023) emphasised that firms with technology-focused innovation in fast internationalising businesses provide insights into evolving performance metrics and improving innovation strategies. It is revealed that highly technology-focused firms enhance

their product and process innovation by utilising digital technologies, such as data analytics. Moreover, Cadden et al. (2023) reveal that big data analytics, which is one of the forms of digitalisation, impacts innovation significantly and consequently fosters competitive advantage. Also, it has been revealed that innovation as a mediator in the impact of digitalisation helps exporters reach their target international markets more rapidly and improves overall performance (AL-Khatib, 2024). Based on these arguments following hypothesis was derived.

H₇: Innovation mediates the impact of digitalisation on export performance.

Again, the study conducted by Naglič et al. (2020) emphasises that firms that adopt Industry 4.0 technology can influence becoming more export market-oriented and consequently enhance their export performance. Moreover, according to the aforementioned literature, the impact of digitalisation on market orientation and the impact of export market orientation on export performance have been well documented by past researchers. Also, a recent study has unveiled that EMO is a significant mediator that enhances the effect of digitalisation on export performance in the context of Sri Lankan apparel export performance (Abeyruwan et al., 2024). Thereby, the present study aimed to test the following hypothesis.

H₈: Export market orientation mediates the impact of digitalisation on export performance.

In addition to the literature used to derive the sixth hypothesis, *H₆*, EMO is an important factor that enhances innovation and high performance for firms entering the international market. Based on the data, researchers highlight that managers must build internal mechanisms to utilise market data, prioritise the target market and be technologically oriented to improve innovation capabilities. Additionally, the studies emphasise the importance of learning orientation for exporting firms that want to become export-oriented and further explain that EMO needs to blend innovation to achieve export performance (Bıçakcıoğlu-Peynirci et al., 2019; Kazemi et al., 2023). Therefore, the following hypothesis was derived to be tested.

H₉: Export market orientation and subsequently innovation mediate the impact of digitalisation on export performance.

Methodology

To test the research hypotheses of the present study, a cross-sectional survey was implemented in Sri Lankan apparel exporting firms. The data collected from the survey was analysed using the Partial Least Squares Structural Equation Modelling (PLS-SEM) technique using SmartPLS4. This has been vividly discussed in the following sections. Due to the absence of an officially announced single contact directory, the researchers compiled a unified contact database to reach Sri Lankan apparel exporters. The sources for preparing the contact base were the Sri Lanka Export Development Board (SLEDB), and the two member associations of the Sri Lanka Joint Apparel Association Forum (JAAF); Free Trade Zone Manufacturers Association (FTZMA), and Sri Lanka Apparel Exporters Association (SLAEA). After removing duplicate records, there were initially 178 contact records.

The research team, in a meticulous approach, decided to align with the census instead of sampling from the population, given the population of the apparel export venture. The population was defined based on its implementation of digital capabilities, digital technologies, and the scale of the apparel venture. Through an initial telephone interview with the representative of the apparel exporter, it was inquired if they implemented digital capabilities or used digital technologies in their operations (usage of digital technologies such as IT programming services, owning an internet domain, Computer-Aided Design (CAD) (Martín-Peña et al., 2019) process automation and cloud infrastructure (Omrani et al., 2022). If the apparel exporter has not implemented at least three of these digital capabilities or technologies, it was excluded from the population, ensuring a comprehensive and inclusive edge to the study. The approach of recognising if an export venture is digitalised or not, using effective digital technologies and capabilities, was designed based on the Digital Economy and Society Index, a composite index summarising relevant indicators on Europe's digital performance (Martín-Peña et al., 2019).

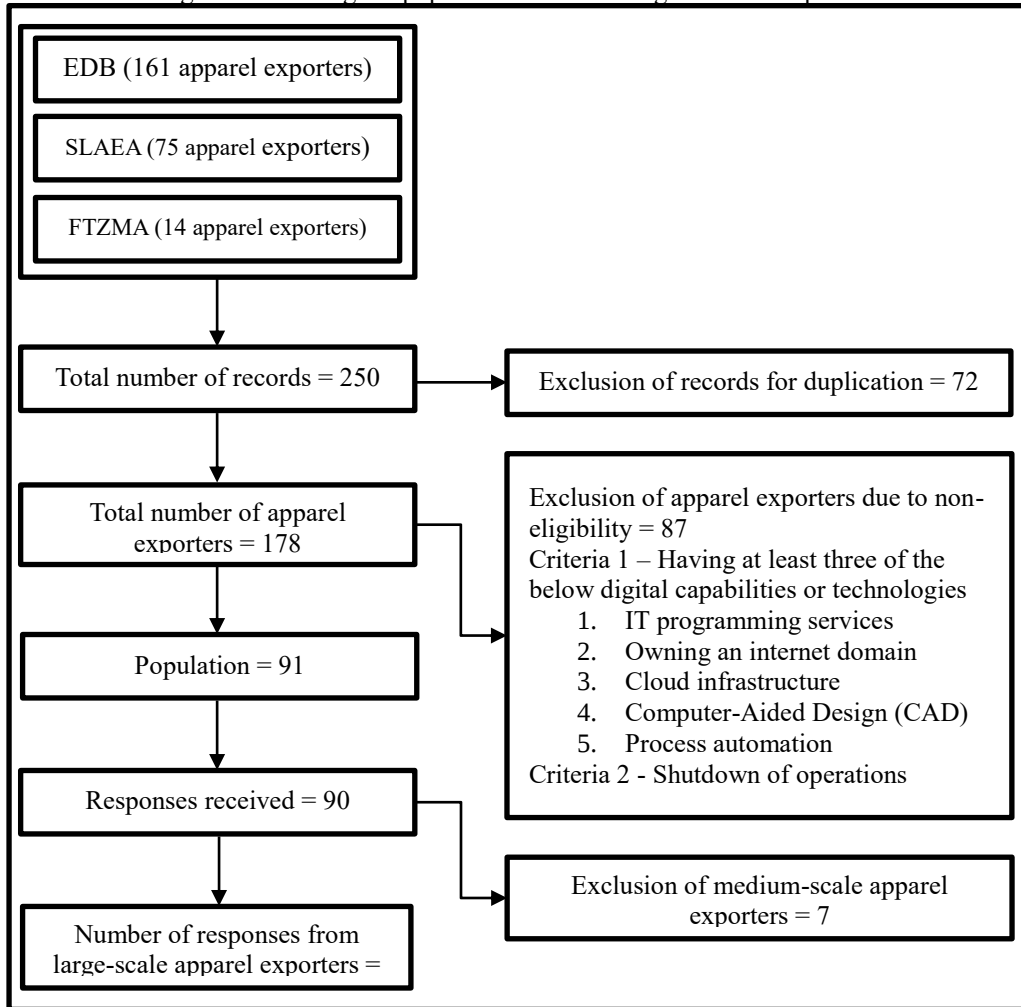
Next, the size of the apparel manufacturing exporter was assessed. The Sri Lankan National Policy Framework for SME Development states that medium-sized manufacturing SMEs should have 51 - 300 employees. Based on this threshold, manufacturing exporters with more than 300 employees were considered large-scale. Previously, a survey conducted in Sri Lanka revealed that the adoption of digital maturity in small and medium-scale companies is less than that in large-scale companies due to managerial vision and a lack of resources and funding (Ceylon Chamber of Commerce, 2022). Therefore, this was one of the significant reasons for excluding small- and medium-scale apparel export ventures from this study. Following the initial contact base with 178 apparel export ventures, those that had ceased operating, were small in scale, and did not meet the criteria for implementing digital capabilities or using digital technologies outlined earlier, were filtered out. This resulted in a total of 91 apparel exporters.

The questionnaire utilised the English language. The questionnaire comprised five sections. The first four contained items designed to measure the constructs of digitalisation, innovation, export market orientation, and export performance, followed by the final section, which gathers demographic information. To capture the underlying construct of digitalisation, researchers utilised an eight-item instrument (Abou-foul et al., 2021; Westerman et al., 2014). This instrument focused on integrating digital capabilities into operational processes, aiming to enhance the supply chain and performance of apparel manufacturing operations (Abou-foul et al., 2021). Innovation was captured through two underlying subconstructs, product and process innovation, which were adopted from Radicic and Petković (2023). Prior studies have corroborated the effectiveness of using these two indicators to measure innovation (Marín et al., 2023; OECD & Eurostat, 2018; Radicic & Petković, 2023). Next, export market orientation was captured via an eight-item scale, which was adopted from (Acikdilli et al., 2022). Finally, a seven-item instrument derived from the EXPERF scale was designed to capture export performance. EXPERF scale is a perceptual measure used to gauge export performance from the perspective of an individual representing the export venture (Zou et al., 1998).

The structured questionnaire hosted in Google Forms was sent to the representatives of the 91 apparel manufacturing export ventures. 90 responses from 91 export ventures were received. Then, seven medium-scale apparel exporters were excluded, and only 83 large-scale apparel

exporters were considered for the analysis. A summary of deriving the population and receiving effective responses has been summarised in Figure 1.

Figure 1: Deriving the population and receiving effective responses



Source: Survey Data (2025)

The questionnaire utilised the English language and comprised five sections. The first four contained items designed to measure the constructs of digitalisation, innovation, export market orientation, and export performance, followed by the final section, which gathered demographic information. Table 1 outlines the operational definitions, indicators, and sources of measurement strategies for the key constructs under investigation.

Table 1: Operationalisation of Constructs

Constructs	Definition	Indicators	Measurement (Likert scale)	Question items	Sources
Digitalisation	The utilisation of digital opportunities is known as digitalisation. Combining a variety of technologies (i.e.: cloud technologies, sensors, big data, 3D printing) enables possibilities for the development of novel products, business models, and digital services integrated into tangible goods.	Digital capabilities embedded in the operational process	1 = Strongly disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly agree	8	(Abou-foul et al., 2021; Westerman et al., 2014)
Innovation	“An innovation is a new or improved product or process (or combination thereof) that differs significantly from the unit’s previous products or processes and that has been made available to potential users (product) or brought into use by the unit (process)” (OECD and Eurostat, 2018, p.20).	- Product innovation - Process innovation	1 = Strongly disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly agree	2	(OECD & Eurostat, 2018; Radicic & Petković, 2023)
EMO	EMO can be defined as the ability of the firm to continuously monitor and collect information regarding its international customers, competitors and market conditions. This information can then be used to develop products and strategic operational decisions that are more suitable for these export markets.	- Intelligence generation - Intelligence dissemination - Responsiveness	1 = Strongly disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly agree	8	(Acikdilli et al., 2022; Lin et al., 2014; Naglič et al., 2020)

Constructs	Definition	Indicators	Measurement (Likert scale)	Question items	Sources
Export Performance	Export performance can be defined as the financial and strategic operational outcomes of an export operation, as well as the level of satisfaction that firms will enjoy due to successful ventures in a specific international market.	• Financial performance • Strategic performance • Satisfaction with export activity	1 = Strongly disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly agree	7	(Zou et al., 1998)

Notably, the indicators adopted from the literature and modified, which belong to the constructs, were all reflective. Another reason for modelling the constructs as reflective is due to their nature of interchangeability and the fact that reflective indicators facilitate flexibility, as “any single item can generally be left out without changing the meaning of the construct, as long as the construct has sufficient reliability” (Hair et al., 2014, p. 43). All these items in the constructs were captured through a five-point Likert scale, which indicated 5 as strongly agree, and 1 as strongly disagree. The last section of the questionnaire gathered information about the participant departments, positions, annual turnover and number of employees.

For the analysis of data, the primary objective of using PLS-SEM was to maximise explained variance in dependent constructs while assessing the quality of the data based on the characteristics of the measurement model (Dash & Paul, 2021). Additionally, compared to Covariance-Based Structural Equation Modelling (CB-SEM), the researchers have chosen the PLS-SEM technique due to its flexibility in handling data issues (i.e. non-normality) (Dash & Paul, 2021). Unlike CB-SEM, PLS-SEM is found to be effective when a smaller population leads to smaller sample sizes, especially in business-to-business research. This study involved a small population size of 83 large-scale apparel exporters who have adopted digitalisation, which justifies the use of PLS-SEM. Also, PLS-SEM is effectively capable of handling complex structural models with many constructs, indicators, and model relationships. (Hair et al., 2019). Linked to the present study, the model developed has many relationships, and the construct export market orientation and digitalisation has eight indicators, making PLS-SEM the ideal statistical analytical technique to be utilised. Additionally, the PLS is a comprehensive SEM estimator technique that provides considerable flexibility and reduces estimation bias when modelling latent variables, particularly in situations where the underlying measurement model is not clearly defined (Sarstedt et al., 2023). Also, PLS-SEM facilitates better management of the reflective model in the present study, along with analytical capabilities that align with multiple regression analysis (Hair et al., 2019). Finally, this decision was also based on earlier studies investigating various effects on the dependent variable, export performance, using PLS-SEM. (Chen et al., 2016). Therefore, these key details influenced the decision to choose PLS-SEM as the analytical method for this study.

Data Analysis and Results

This section will discuss descriptive statistics of demographic data, the measurement, the structural model, and the results.

Descriptive Statistics of Demographic Data

Descriptive statistics of the 90 responses collected from the apparel exporters are presented in this section. 83 (92.2%) exporters who participated in the survey were from large-scale, followed by 7 (7.8%) medium-scale exporters, based on the number of employees working in the apparel exporting firm. The study focuses on large-scale apparel exporters. From 83 responses, the majority of respondents (43.4%) were from the IT department, followed by merchandising (21.7%), financial (8.4%), commercial (6.0%), and other (20.5%) departments. Moreover, considering the position of the respondents, the majority were managers (38.6%), followed by executives (28.9%), department heads (19.3%), directors (3.6%), and others (9.6%).

Common Method Bias (CMB)

The CMB arises due to the measurement model employed rather than the causal relationships within the model under examination (Kock, 2015). CMB was evaluated through the Variance Inflation Factor (VIF), which examines collinearity to ensure the absence of biases in regression results (Hair et al., 2019). The results shown in Table 2 indicate that the model is free of the CMB problem because the highest VIF value is 2.006, which is below the 3.3 threshold (Kock, 2015).

Table 2: Common Method Bias Test. Full Collinearity VIFs

	VIF
DIGI	2.016
INN	1.651
EMO	1.880
EXPERF	1.507

(Source: survey data, 2025)

Notes: DIGI: Digitalisation. INN: Innovation. EMO: Export market orientation. EXPERF: Export performance

Measurement Model

Through the measurement model, internal consistency reliability, discriminant validity, and convergent validity were assessed. Factor loadings were derived to determine the extent to which each of the items in the correlation matrix correlates with the given principal component (Pett, Lackey et al., 2003, p.299). This analysis helps to understand whether the items in question represent the underlying construct. It is recommended to have factor loadings exceeding 0.708, which tends to clarify more than 50% of the indicator's variance (Hair et al., 2019). Outer loadings for items, except for DIGI3, DIGI4, DIGI8, DIGI9, EMO4, EMO5, and EMO6, were found to be exceeding 0.708. Outer loadings less than 0.708 were given attention in instances where the internal consistency reliability, composite reliability, convergent validity, and discriminant validity have been compromised.

The next step was to evaluate the reliability of internal consistency. Cronbach's alpha assesses internal consistency, with reliability values of 0.60 to 0.70 seen as acceptable, 0.70 to 0.90 as satisfactory, and values at 0.95 and above as undesirable response patterns (Hair et al., 2019). All the constructs were found to be reliable, except export performance, which was slightly undesirable.

The evaluation of convergent validity determines the extent to which an underlying construct unites to clarify the variation in its items. The average variance extracted (AVE) across all items within each construct is the metric used to assess the convergent validity of a particular construct. A minimum AVE value of 0.50 is considered acceptable (Hair et al., 2019). All the constructs, except digitalisation, were above the minimum AVE value and thus, convergent validity was established. For digitalisation, (Fornell & Larcker, 1981) contend that convergent validity may be deemed sufficient on the basis of composite reliability alone, notwithstanding the possibility that over half of the variance is attributable to measurement error. Thereby, the convergent validity of the construct digitalisation is also established.

The factor loadings, internal consistency reliability results evaluated through Cronbach's alpha, and convergent validity results evaluated through average variance extracted are summarised in Table 3.

Table 1: Factor loadings and construct reliability, and validity

Construct	Items	Outer loadings	Cronbach's alpha (a)	Composite reliability (rho_c)	Average variance extracted (AVE)	Convergent validity
DIGI	DIGI1	0.761	0.851	0.884	0.459	Established
	DIGI2	0.727				
	DIGI3	0.531				
	DIGI4	0.712				
	DIGI5	0.759				
	DIGI6	0.723				
	DIGI7	0.665				
	DIGI8	0.694				
INN	INN1	0.901	0.741	0.885	0.793	Established
	INN2	0.881				
EMO	EMO1	0.704	0.868	0.897	0.521	Established
	EMO2	0.763				
	EMO3	0.790				
	EMO4	0.661				
	EMO5	0.635				
	EMO6	0.672				
	EMO7	0.780				

Construct	Items	Outer loadings	Cronbach's alpha (a)	Composite reliability (rho_c)	Average variance extracted (AVE)	Convergent validity
	EMO8	0.754				
EXPERF	EXPERF 1	0.789	0.925	0.940	0.690	Established
	EXPERF 2	0.883				
	EXPERF 3	0.845				
	EXPERF 4	0.822				
	EXPERF 5	0.832				
	EXPERF 6	0.845				
	EXPERF 7	0.795				

Source: survey data, (2025)

Notes: DIGI: Digitalisation. INN: Innovation. EMO: Export market orientation. EXPERF: Export performance

Subsequently, discriminant validity was assessed via the HeteroTrait-MonoTrait ratio (HTMT), which involves using empirical standards to determine the extent to which a particular construct is distinct from others. An HTMT value above 0.9 suggests a lack of discriminant validity. A more conservative value of 0.85 indicates greater conceptual distinction between constructs (Hair et al., 2019). The discriminant validity of the constructs has been established, and they have been presented in Table 4.

Table 2: Discriminant Validity - HTMT Ratio

	01. DIGI	02. INN	03. EMO	04. EXPERF
01. DIGI				
02. INN	0.783			
03. EMO	0.707	0.631		
04. EXPERF	0.523	0.471	0.659	

Source: survey data, (2025)

Notes: DIGI: Digitalisation. INN: Innovation. EMO: Export market orientation. EXPERF: Export performance

Structural Model

After the verification of the measurement model, the structural model was assessed. Before advancing toward hypothesis testing, the coefficient of determination (R^2) was evaluated. The R^2 value of the endogenous construct measures the model's in-sample explanatory power, disregarding the out-of-sample predictive power. The R^2 value of the present study of 0.397 means the model explains 39.7% of the variance in the dependent variable, export performance.

Additionally, the effect sizes determining the relative impact of each exogenous construct on the endogenous constructs were evaluated using the f^2 metric (Cohen, 2013). According to Cohen's guidelines, f^2 values of 0.02, 0.15, and 0.35 represent small, medium, and large effects, respectively. Table 5 summarises f^2 values. Overall, the findings emphasise that digitalisation has the most substantial impact on both innovation and EMO, while EMO also makes a moderate contribution to export performance. In contrast, the role of innovation as a direct predictor of export performance is negligible.

Table 3: f^2 Effect Size

Path	f^2	Effect size interpretation
DIGI → INN	0.275	Medium-Large
DIGI → EMO	0.645	Large
DIGI → EXPERF	0.017	Small
INN → EXPERF	0.003	Negligible
EMO → EXPERF	0.236	Medium
EMO → INN	0.038	Small

Source: survey data, (2025)

Notes: DIGI: Digitalisation. INN: Innovation. EMO: Export market orientation. EXPERF: Export performance

Next, the model's out-of-sample predictive power was evaluated. It has to be based on a single key target construct (Shmueli et al., 2019). Following Hair et al., (2021)'s guidelines for assessing predictive power, the researchers used PLS_{predict} option in SmartPLS4 to generate results. In this study, the target construct is the endogenous construct export performance. The assessment began by evaluating the degree of prediction error. To initiate the process, the researchers set k-fold cross-validation, $k = 10$ subgroups (recommended), and one repetition was set. One repetition was recommended because the PLS model will eventually be used to predict new observations using a single model (Shmueli et al., 2019). Since the prediction errors of the target construct indicators were symmetrically distributed, the root mean squared error (RMSE) was used to assess prediction error. However, the prediction statistics vary depending on the indicator scales, and their raw values lack meaningful interpretation. Therefore, the RMSE values were compared with a naïve benchmark. The recommended naïve benchmark uses a linear regression model (LM) to make predictions for the observed variables, achieved by running a linear regression for each target construct indicator using the exogenous

latent construct indicators in the PLS path model. Table 6 summarises the RMSE and LM values generated for the target construct indicators.

Table 4: PLSpredict assessment of the export performance (EXPERF)

		Predict ion statistic	EXP ERF 1	EXP ERF 2	EXP ERF 3	EXP ERF 4	EXP ERF 5	EXPE RF6	EXP ERF 7
PLS	out-of-sample metrics	RMSE	0.884	0.902	0.777	0.863	0.941	0.905	0.960
LM	out-of-sample metrics	RMSE	0.97	1.04	1.059	1.134	1.065	0.948	1.094

Source: survey data, (2025)

Notes: PLS: Partial least squares. LM: Linear regression model. RMSE: Root mean squared error. EXPERF: Export performance.

According to the presented values, all indicators in the PLS-SEM analysis show lower RMSE values compared to the naïve LM benchmark, indicating that the model has strong predictive power (Hair et al., 2019, 2021; Shmueli et al., 2019). This suggests that this model produces generalisable results that could be applied to other contexts in different geographical locations (Shmueli et al., 2019).

Subsequently, path coefficient and hypothesis testing were initiated. Path coefficients are “estimated path relationships in the structural model (i.e., between the constructs in the model)” (Hair et al., 2014, p.116). The results of the direct impact and indirect impacts are presented in Table 7. The structural model is presented in [Figure 1](#). Hypothesis 1 (H_1) evaluated whether digitalisation has a direct impact on export performance. The results revealed that digitalisation has an insignificant impact on export performance ($\beta = 0.147$, $p = 0.107$). Hence, H_1 is not supported. The second hypothesis (H_2) evaluated whether digitalisation impacts innovation. The results revealed that digitalisation has a significant impact on innovation ($\beta = 0.512$, $p = 0.000$). Hence, H_2 is supported. Thirdly, Hypothesis 3 (H_3) evaluated whether digitalisation impacts EMO. The results revealed that digitalisation has a significant impact on EMO ($\beta = 0.626$, $p = 0.000$). Hence, H_3 is supported.

Table 5: Direct Effect, Total Effect and Specific Indirect Effects

	Beta coefficient (β)	Standard deviation (STDEV)	p-value	Supported
H_1 : DIGI $\rightarrow$ EXPERF	0.147	0.118	0.107	No
H_2 : DIGI $\rightarrow$ INN	0.512	0.105	0.000*	Yes
H_3 : DIGI $\rightarrow$ EMO	0.626	0.073	0.000*	Yes
H_4 : INN $\rightarrow$ EXPERF	0.056	0.144	0.350	No
H_5 : EMO $\rightarrow$ EXPERF	0.493	0.122	0.000*	Yes
H_6 : EMO $\rightarrow$ INN	0.191	0.120	0.056	No

Total effect (DIGI→EXPERF)		Direct effect (DIGI→EXPERF)		Indirect effects of DIGI on EXPERF			
Coefficient	p-value	Coefficient	p-value		Coefficient	SD	Supported
0.491	0.000*	0.147	0.107*	H ₇ : DIGI→INN →EXPERF	0.029	0.079	0.359 No
				H ₈ : DIGI→EMO →EXPERF	0.309	0.084	0.000* Yes
				H ₉ : DIGI→EMO →INN →EXPERF	0.007	0.022	0.381 No

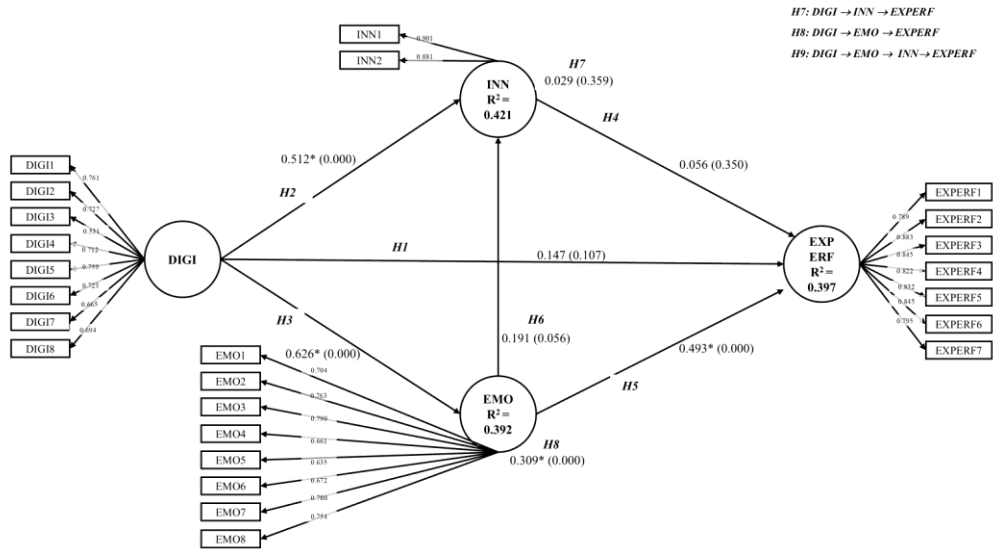
Source: survey data (2025)

Note: Impact is significant at *p-value < 0.01. **p-value < 0.05. DIGI: Digitalisation. INN: Innovation. EMO: Export market orientation. EXPERF: Export performance.

Fourthly, Hypothesis 4 (H₄) evaluated if innovation has an impact on export performance. The results revealed that innovation has an insignificant impact on export performance ($\beta = 0.056$, $p = 0.350$). Hence, H₄ is not supported. Subsequently, Hypothesis 5 (H₅) evaluated whether EMO impacts export performance. The results revealed that export performance has a significant impact on EMO ($\beta = 0.493$, $p = 0.122$). Hence, H₅ is supported. Finally, Hypothesis 6 (H₆) evaluated whether EMO impacts innovation. The results revealed that EMO has an insignificant impact on innovation ($\beta = 0.191$, $p = 0.056$). Hence, H₆ is not supported.

After testing for direct effects, testing for indirect effects (mediations) was initiated. Hypothesis 8 (H₈) evaluated whether EMO mediates the effect of digitalisation on export performance. The results (see Table 4) revealed a significant indirect effect of digitalisation on export performance through EMO ($\beta = 0.309$, $p = 0.000$). The total effect of digitalisation on export performance was significant ($\beta = 0.491$, $p = 0.000$), and with the inclusion of the mediator, the effect of digitalisation on export performance was insignificant ($\beta = 0.147$, $p = 0.107$). This denoted a complementary partial mediating role of EMO in the relationship between digitalisation and export performance. Hence, H₈ is supported.

Figure 2: Path Coefficient - Graphical Output

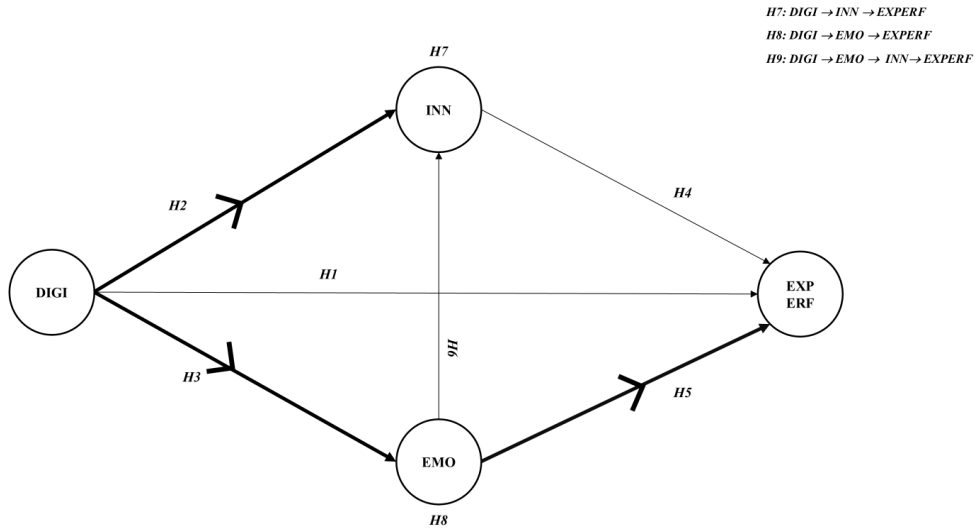


Source: survey data (2025)

Note: Impact is significant at *p-value < 0.01. **p-value < 0.05. DIGI: Digitalisation. INN: Innovation. EMO: Export market orientation. EXP ERF: Export performance.

However, the other mediating effects investigated, first, mediation of innovation in the impact of digitalisation on export performance (H_7) and second, mediation of EMO and subsequently innovation in the impact of digitalisation on export performance (H_9), are insignificant. Hence, H_7 and H_9 are not supported. A summary highlighting the significant paths is presented in Figure 3.

Figure 3: Summary of significant structural paths in the PLS-SEM model



Source: survey data (2025)

Results and Discussion

The present study intended to examine the impact of digitalisation on apparel exporters' performance and the potential mediating roles of innovation and EMO. The impact of digitalisation on export performance (H_1), innovation (H_2), and EMO (H_3) is significant. Innovation does not significantly impact export performance (H_4). EMO significantly affects export performance (H_5) but not innovation (H_6). EMO partially mediates the relationship between digitalisation and export performance (H_8). Other mediations, including innovation, are insignificant (H_7 , H_9).

The study highlights the impact of digitalisation on export performance (H_1). This finding aligns with previous research examining overall organisational performance (Abou-foul et al., 2021; Martínez-Caro et al., 2020; Martín-Peña et al., 2019) and international performance (Li et al., 2024; Y. Wang et al., 2024). However, it contradicts the findings of Fayos et al. (2023).

Next, this study emphasises the substantial influence of digitalisation on innovation (H_2). This result validates earlier research findings (Hassan et al., 2023; Marín et al., 2023; Radicic & Petković, 2023; Zhang & Liu, 2023) suggesting that the extent of digitalisation within a company directly correlates with innovation performance.

Thirdly, the study highlights that digitalisation has a significant impact on EMO (H_3). The findings are consistent with previous research by Aslam et al. (2023), Grankina et al. (2019), Katsikeas et al. (2019), Luu (2024) and Naglič et al. (2020) indicating that integrating digital technologies improves the generation, dissemination, and responsiveness of export intelligence. This, in turn, contributes to enhancing overall EMO.

Fourthly, the study reveals a negative and insignificant impact of innovation on export performance (H4). Aligning with the insignificant impact, Boehe & Barin Cruz (2010) have unveiled that the effect of product innovation differentiation strategies followed by export firms has an insignificant effect on export performance when the particular firm serves many countries (broad horizontal export market scope). However, the impact of innovation on export performance was positive but negligible. The negative coefficient could probably occur due to multiple reasons, as proven by previous authors. Silva et al. (2017) revealed that innovation that disrupts existing buyer preferences negatively affects export performance because the buyer takes a considerable time to realize its benefits and understand the product. Similarly to Silva et al. (2017), Ortigueira-Sánchez et al. (2022) also unravel that innovation has a lag effect on export performance. Additionally, despite the insignificance, the results align with the explanations provided by Marín et al. (2023); Ortigueira-Sánchez et al. (2022); and Radicic & Petković (2023) which unveiled the negative correlation between innovation performance and export intensity.

Fifthly, the study reveals a positive and significant impact of EMO on export performance (H5), aligning with the findings of Acikdilli et al. (2022) and Zehir et al. (2015). Sixthly, despite the literature revealing the positive impact of EMO on innovation (Bıçakcıoğlu-Peynirci et al., 2019; Kazemi et al., 2023; Liu et al., 2024; Peng & Shao, 2021), the present study revealed an insignificant impact of EMO on innovation (H6).

The impact of digitalisation on export performance was partially mediated only by EMO when discussing the indirect effect (H8). This hypothesis is grounded in the recognition that export performance can be influenced separately by both digitalisation and EMO. Numerous studies have demonstrated that digitalisation positively influences EMO. For example, Naglič et al. (2020) revealed that export-oriented firms that utilise Industry 4.0 technology could contribute to better-informed decisions for exporting firms, which would ultimately enhance export performance. Similarly, Katsikeas et al. (2019) highlighted how leveraging online capabilities can enhance firms' international market orientation. The relationship between EMO and export performance is well documented in the literature. A Study by Lin et al. (2014) highlighted that enterprises with a strong EMO tend to be more competitive and will achieve superior export performance with ease. Given these established relationships, it is reasonable to propose that EMO mediates the impact of digitalisation on export performance (H8). Therefore, aligning with previous literature, the present study indicates that EMO serves as a crucial intermediary mechanism through which digitalisation enhances export performance. Digitalisation contributes to export performance through its positive effect on EMO.

Hypotheses H₇ and H₉ are insignificant and have a negative beta coefficient due to the embedding of the impact of innovation on export performance in the path model. Despite digitalisation's impact on innovation and digitalisation's impact on export market orientation, the rationale for rejecting H₇ and H₉ could probably be the same as rejecting H₄.

Managerial Implications

Policy Implications

According to the study's results, the indirect effect of digitalisation on export performance is substantial, even though the direct impact is less significant. Digitalisation's indirect effect on export performance through EMO is a key mediation pathway in the context of apparel manufacturing exporters in Sri Lanka. As a result, this study's policy implications can be cautiously recommended for both individual manufacturing exporters and the country level.

This study serves as a guideline for apparel manufacturing exporters to develop strong EMO and strategies related to EMO as a critical mediator for digitalisation's impact on export performance. Hence, previous and current studies have proven that digitalisation alone may not directly drive export success; policy and digital strategy formulation should concentrate on fostering dynamic market-oriented capabilities. This includes gathering relevant market insights, organising and expanding overseas markets, and supporting existing activities that uphold strategic objectives and prioritise export buyer satisfaction and value. Additionally, export venture policy formulation should also focus on export venture flexibility, which directly impacts the effectiveness of negotiating business transactions with international clients. Thereby, it allows the export venture to manage export deals and modify contractual agreements if needed (Fuchs, 2011).

At the national level, the Government of Sri Lanka has failed to implement a National Export Strategy for the 5 years from 2023 to 2027 because of a lack of coordination among the 40-50 organisations involved in developing the strategy and insufficient government initiatives. Furthermore, the International Trade Centre is still reviewing the export strategy for the 5 years from 2018 to 2023 and collecting data to assess the programme's true impact (Navaratnarajan, 2024). Therefore, it is essential to have a well-developed national export strategy in a country that adopts pragmatic approaches. It would also be effective if the national export strategy highlights industry-specific strategies, such as export strategies for the apparel manufacturing sector and other industry-related strategies. Therefore, the national export strategy will serve as a practical roadmap for those export ventures to succeed globally. Also, it is vital that emerging countries, including Sri Lanka, formulate their export policies focusing on Trade Information and Promotion organisations, ultimately supporting their efforts to uplift export ventures. Additionally, nations must develop policies and strategies relevant to the digital economy, including digitalisation roadmaps for sectors, focusing on industries that make substantial contributions to the gross domestic product, employment, and export potential, such as the apparel sector (Ministry of Technology, 2024). Digital strategies implemented by large-scale export ventures could serve as inputs in the development of such strategies, benefiting micro and SMEs involved in the same sector.

Given these details, export ventures and governments can formulate policies and strategies relevant to the digital and export context, concentrating on EMO. Also, to maintain a competitive edge, executing these policies formulated by the export venture and nation-wise is important. Further, when formulating policies and strategies, it is important to focus on the scale of operations and the relevant sector. In the following section, practical implications will be delved into and discussed, and these implications will be essential for executing policies.

Practical Implications

Apparel manufacturing export ventures and other exporters across various industries must capitalise on digitalisation. Digital transformation does not happen overnight by purchasing digital tools and installing them in the office. The ideal approach is to develop a long-term and comprehensive digital strategy that aligns with exporters' goals and objectives. When developing a digital strategy for an export venture, it is crucial to consider multiple sources, such as expertise, knowledge, input from business consultants, and more. This helps to ensure that the strategy is tailored to the specific needs of the export venture. The digital strategy in place is not enough to digitalise the export venture. A steering committee is also crucial to drive the strategy forward and deliver the benefits of effective digitalisation. As the first step in developing a digital strategy, it is recommended to adopt cloud technologies to host the apparel manufacturing export venture's infrastructure. This facilitates supply chain efficiency, scalability, data-driven decision-making, cost savings, flexibility, collaboration, and innovation.

Furthermore, alongside digital technologies and capabilities, there are multiple practical implications that governments across the world can implement to boost export sectors that drive their economies. For instance, setting up a centralised, reliable, accessible, and affordable trade information platform that is capable of providing analysed data and information is one way. Another is accessing resources from overseas missions to collect and analyse market, product, and regulatory information effectively. Fostering solid coordination between public and private agencies to share information is also essential. Establishing a help desk at the regional and district levels can be beneficial. Promotion of export buyer awareness of the vast range of products available for export, and strengthening of connections between target market industry bodies and related networks, is also important (Government of Sri Lanka, 2018). These practical implications can greatly benefit policy implementation, leading to improved export performance and ultimately contributing to the country's economy.

Limitations

Even though this thesis contributes insightful information theoretically and practically, it is not entirely free of limitations. Firstly, this study was conducted using a cross-sectional design, which involved gathering data from research participants at a single time point. Additionally, the data was collected from a single individual who represented the export venture. Collecting each exporter's performance through their financial statements would allow future researchers to investigate export performance for a time series. Unfortunately, this would be a complex approach because the information related to all the export ventures is not published publicly. Not only on export performance but other information related to digital technology utilisation and agreements with trading partners is also confidential. Thereby, information access on export ventures is a significant barrier to conducting research.

Secondly, for data analysis, the utilised approach was PLS-SEM. Another opportunity for future researchers would be to use alternative methodological approaches such as regression analysis, probit model, two-stage least squares, and three-stage least squares to analyse the effect of digitalisation on export performance. Also, future researchers can examine if the results align with this study. Comparing these results with the present study's findings could provide valuable insights.

Additionally, researchers can incorporate constructs such as supply chain-related concepts (M. Wang & Prajogo, 2024; X. Wang et al., 2024), servitisation (Abou-foul et al., 2021; Martín-Peña et al., 2019), digital strategy (AlNuaimi et al., 2022), and digital culture (Martínez-Caro et al., 2020) into the present study's conceptual framework. Future research could evaluate the effect of digitalisation or related concepts on the previously mentioned constructs, and subsequently, they could investigate their impact on export performance. Those constructs could also be utilised as independent variables. Furthermore, there are valuable opportunities for researching people and processes, as well as security and compliance within the context of digitalisation or digital transformation. By employing these concepts as constructs, it will be possible to conduct quantitative or qualitative research exploring the impact on international performance in the future.

Thirdly, in the present study, digitalisation has been captured comprehensively, covering the dimension of digital capabilities embedded in the operational process (Abou-foul et al., 2021). Past researchers have utilised different digital technologies, such as Industry 4.0 technologies, to capture the digitalisation of firms (Martín-Peña et al., 2019; Radicic & Petković, 2023). This could be an area for exploration for upcoming researchers who are willing to examine the effect of digitalisation on the firm's performance or global performance.

Finally, this study was conducted in the Sri Lankan apparel export sector context. Future researchers could investigate this effect of digitalisation on export performance using different mediating variables in the context of apparel exporters in other emerging countries, or it could be evaluated in the context of other industries or sectors.

Conclusion

The primary objective of this study was to investigate the impact of digitalisation on Sri Lankan apparel exporters' performance and to examine the mediating roles of EMO and innovation between the two constructs. The results show that incorporating digital technologies positively impacts EMO and innovation. Digital transformation enhances a company's comprehension of the export market, resulting in improved export performance. The findings of the present study reveal that while digitalisation directly impacts export performance, this link is partly mediated by EMO. However, the mediating roles of innovation and combined mediation through EMO and innovation are insignificant.

In conclusion, this research highlights the crucial role of digitalisation in enhancing export performance through EMO. By implementing digital tools and fostering a strong EMO, companies can manage the complexities of global markets more effectively and attain superior performance results. The findings obtained from this study establish a valuable groundwork for forthcoming research and practical approaches in the digital age.

References

- Abeyruwan, N., Wijesekara, H., Weerasuriya, H., Amarasekera, A., Rajapakse, V., & Wisenthige, K. (2024). Enhancing Export Potential: The Synergistic Impact of Digitalisation and Export Market Orientation in Driving Export Success in Sri Lanka's Apparel Sector. <https://doi.org/10.54389/OXCR2926>

- Abou-Foul, M., Ruiz-Alba, J. L., & Soares, A. (2021). The impact of digitalization and servitization on the financial performance of a firm: an empirical analysis. *Production Planning & Control*, 32(12), 975-989. <https://doi.org/10.1080/09537287.2020.1780508>
- Acikdilli, G., Mintu-Wimsatt, A., Kara, A., & Spillan, J. E. (2022). Export market orientation, marketing capabilities and export performance of SMEs in an emerging market: A resource-based approach. *Journal of Marketing Theory and Practice*, 30(4), 526–541. <https://doi.org/10.1080/10696679.2020.1809461>
- Alam, M. D., Kabir, G., & Mirmohammadsadeghi, S. (2023). A digital twin framework development for apparel manufacturing industry. *Decision Analytics Journal*, 7, 100252. <https://doi.org/10.1016/j.dajour.2023.100252>
- AL-Khatib, A. W. (2024). The determinants of export performance in the digital transformation era: empirical evidence from manufacturing firms. *International Journal of Emerging Markets*, 19(10), 2597-2622. <https://doi.org/10.1108/IJOEM-08-2022-1223/FULL/HTML>
- AlNuaimi, B. K., Singh, S. K., Ren, S., Budhwar, P., & Vorobyev, D. (2022). Mastering digital transformation: The nexus between leadership, agility, and digital strategy. *Journal of Business Research*, 145, 636–648. <https://doi.org/10.1016/j.jbusres.2022.03.038>
- Alotaibi, M. B. G., & Zhang, Y. (2017). The relationship between export market orientation and export performance: an empirical study. *Applied Economics*, 49(23), 2253-2258. <https://doi.org/10.1080/00036846.2016.1237743>
- Aslam, H., Waseem, M., Muneeb, D., Ali, Z., Roubaud, D., & Grebinevych, O. (2023). Customer integration in the supply chain: the role of market orientation and supply chain strategy in the age of digital revolution. *Annals of Operations Research*, 1-25. <https://doi.org/10.1007/s10479-023-05191-y>
- Bıçakcıoğlu-Peynirci, N., Hizarci-Payne, A. K., Özgen, Ö., & Madran, C. (2019). Innovation and export performance: A meta-analytic review and theoretical integration. *European Journal of Innovation Management*, 23(5), 789–812. <https://doi.org/10.1108/ejim-06-2019-0149>
- Boehe, D. M., & Barin Cruz, L. (2010). Corporate Social Responsibility, Product Differentiation Strategy and Export Performance. *Journal of Business Ethics*, 91(2), 325–346. <https://doi.org/10.1007/s10551-010-0613-z>
- BOI, Sri Lanka. (2022). Apparel Sector. <https://www.investsrilanka.com/wp-content/uploads/2022/03/Apparel-Brochure-V3.pdf>
- Cadden, T., Weerawardena, J., Cao, G., Duan, Y., & McIvor, R. (2023). Examining the role of big data and marketing analytics in SMEs innovation and competitive advantage: A knowledge integration perspective. *Journal of Business Research*, 168, 114225. <https://doi.org/10.1016/j.jbusres.2023.114225>

- Central Bank of Sri Lanka. (2022). Annual Report (Volume 1) of the Monetary Board, Year 2022 (p. 528).
https://www.cbsl.gov.lk/sites/default/files/cbslweb_documents/publications/annual_report/2022/en/Full_Text_Volume_I.pdf
- Chen, J., Sousa, C. M., & He, X. (2016). The determinants of export performance: a review of the literature 2006-2014. *International marketing review*, 33(5), 626-670.
<https://doi.org/10.1108/IMR-10-2015-0212>
- Cohen, J. (2013). *Statistical power analysis for the behavioral sciences*. routledge.
<https://doi.org/10.4324/9780203771587>
- Dallocchio, M., Lambri, M., Sironi, E., & Teti, E. (2024). The role of digitalization in cross-border e-commerce performance of Italian SMEs. *Sustainability*, 16(2), 508.
<https://doi.org/10.3390/su16020508>
- Dash, G., & Paul, J. (2021). CB-SEM vs PLS-SEM methods for research in social sciences and technology forecasting. *Technological Forecasting and Social Change*, 173, 121092.
<https://doi.org/10.1016/j.techfore.2021.121092>
- Fayos, T., Calderón, H., Cotarelo, M., & Frasquet, M. (2023). The contribution of digitalisation, channel integration and sustainability to the international performance of industrial SMEs. *Management of Environmental Quality: An International Journal*, 34(3), 624-646. <https://doi.org/10.1108/MEQ-06-2022-0159>
- Foerstl, K., Kähkönen, A.-K., Blome, C., & Goellner, M. (2021). Supply market orientation: A dynamic capability of the purchasing and supply management function. *Supply Chain Management: An International Journal*, 26(1), 65–83. <https://doi.org/10.1108/SCM-06-2019-0233>
- Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18(1), 39. <https://doi.org/10.2307/3151312>
- Freeman, S., Vissak, T., Nummela, N., & Trudgen, R. (2023). Do technology-focused fast internationalizers' performance measures change as they mature? *International Business Review*, 32(5), 102168. <https://doi.org/10.1016/j.ibusrev.2023.102168>
- Fuchs, M. (2011). Export performance and managerial capabilities in German SMEs. In *Internationale Unternehmungen und das Management ausländischer Tochtergesellschaften* (pp. 209-228). Wiesbaden: Gabler. https://doi.org/10.1007/978-3-8349-6104-4_8
- Gobble, M. M. (2018). Digitalization, digitization, and innovation. *Research-Technology Management*, 61(4), 56-59. <https://doi.org/10.1080/08956308.2018.1471280>
- Gomez-Sanchez, A. M., Máñez Castillejo, J. A., & Sanchis-Llopis, J. A. (2024). On the direct and indirect effects of ICT on SMEs export performance: Evidence from Colombian

- manufacturing. *Journal of the Knowledge Economy*, 15(2), 6178-6200.
<https://doi.org/10.1007/s13132-023-01378-7>
- Government of Sri Lanka. (2018). National export strategy of Sri Lanka—Trade information and promotion strategy—2018—2022 (National Export Strategy of Sri Lanka - 2018 - 2022, p. 43). Government of Sri Lanka.
<https://www.srilankabusiness.com/pdf/nes/sri-lanka-trade-information-and-promotion-4-1-web.pdf>
- Grankina, S. V., Kryuchkova, N. A., & Sayamova, Y. G. (2019). Features of information support of export marketing in the conditions of digitalization of the global economy. In *Digital transformation of the economy: Challenges, trends and new opportunities* (pp. 54-65). Cham: Springer International Publishing.
https://doi.org/10.1007/978-3-030-11367-4_5
- Guan, J., & Ma, N. (2003). Innovative capability and export performance of Chinese firms. *Technovation*, 23(9), 737-747. [https://doi.org/10.1016/S0166-4972\(02\)00013-5](https://doi.org/10.1016/S0166-4972(02)00013-5)
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2014). A primer on partial least squares structural equations modeling (PLS-SEM). SAGE.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R: A Workbook. Springer International Publishing. <https://doi.org/10.1007/978-3-030-80519-7>
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24.
<https://doi.org/10.1108/EBR-11-2018-0203>
- Hassan, S. S., Meisner, K., Krause, K., Bzhalava, L., & Moog, P. (2023). Is digitalization a source of innovation? Exploring the role of digital diffusion in SME innovation performance. *Small Business Economics*, 62(4), 1469–1491.
<https://doi.org/10.1007/s11187-023-00826-7>
- He, X., Brouthers, K. D., & Filatotchev, I. (2018). Market orientation and export performance: The moderation of channel and institutional distance. *International Marketing Review*, 35(2), 258–279. <https://doi.org/10.1108/IMR-09-2015-0194>
- Hervé, A., Schmitt, C., & Baldegger, R. (2020). Digitalization, Entrepreneurial Orientation & Internationalization of Micro-, Small-, and Medium-Sized Enterprises. *Technology Innovation Management Review*, 10(4), 5–17.
<https://doi.org/10.22215/timreview/1343>
- Joensuu-Salo, S., Sorama, K., Viljamaa, A., & Varamäki, E. (2018). Firm performance among internationalized SMEs: The interplay of market orientation, marketing capability and digitalization. *Administrative sciences*, 8(3), 31.
<https://doi.org/10.3390/admsci8030031>

- Katsikeas, C., Leonidou, L., & Zeriti, A. (2019). Revisiting international marketing strategy in a digital era: Opportunities, challenges, and research directions. *International Marketing Review*, 37(3), 405–424. <https://doi.org/10.1108/IMR-02-2019-0080>
- Kayabasi, A., & Mtetwa, T. (2016). Impact of marketing effectiveness and capabilities, and export market orientation on export performance: Evidence from Turkey. *European Business Review*, 28(5), 532–559. <https://doi.org/10.1108/EBR-11-2014-0084>
- Kazemi, A., Ganji, S. F. G., & Johnson, L. W. (2023). How external network and innovation affect the link between export orientations and export performance? *Review of International Business and Strategy*, 33(5), 786–809. <https://doi.org/10.1108/RIBS-02-2022-0026/FULL/HTML>
- Kock, N. (2015). Common method bias in PLS-SEM: A full collinearity assessment approach. *International Journal of e-Collaboration (ijec)*, 11(4), 1-10. <https://doi.org/10.4018/ijec.2015100101>
- Lee, Y. Y., & Falahat, M. (2019). The Impact of Digitalization and Resources on Gaining Competitive Advantage in International Markets: Mediating Role of Marketing, Innovation and Learning Capabilities. *Technology Innovation Management Review*, 9(11), 26–38. <https://doi.org/10.22215/timreview/1281>
- Li, Z., Xu, Z., & Sukumar, A. (2024). Digital resilience and firm internationalization: a study of Chinese listed companies. *Journal of Enterprise Information Management*, 37(5), 1479-1498. <https://doi.org/10.1108/JEIM-02-2023-0095>
- Lin, K.-H., Huang, K.-F., & Peng, Y.-P. (2014). Impact of export market orientation on export performance: A relational perspective. *Baltic Journal of Management*, 9(4), 403–425. <https://doi.org/10.1108/BJM-03-2012-0012>
- Liu, G., Chen, Y., & Ko, W. W. (2024). The influence of marketing exploitation and exploration on business-to-business small and medium-sized enterprises' pioneering orientation. *Industrial Marketing Management*, 117, 131-147. <https://doi.org/10.1016/j.indmarman.2023.12.012>
- Luu, T. D. (2024). Should SMEs diversify their global destinations? The role of market insights and digital transformation. *Marketing Intelligence & Planning*, 42(3), 438-458. <https://doi.org/10.1108/MIP-04-2023-0176>
- Madushanka, C., Hakeem, A., Uththarangi, C., Rupigeena, J., Wickramaarachchi, C., Ehalapitiya, S., & Madhavika, N. (2023, June). the impact of industry 4.0 on supply chain integration in apparel sector, Sri Lanka. In *2023 International Research Conference on Smart Computing and Systems Engineering (SCSE)* (Vol. 6, pp. 1-10). IEEE. <https://doi.org/10.1109/SCSE59836.2023.10215014>
- Marín, R., Santos-Arteaga, F. J., Tavana, M., & Di Caprio, D. (2023). Value Chain digitalization and technological development as innovation catalysts in small and

- medium-sized enterprises. *Journal of Innovation & Knowledge*, 8(4), 100454. <https://doi.org/10.1016/j.jik.2023.100454>
- Martínez-Caro, E., Cegarra-Navarro, J. G., & Alfonso-Ruiz, F. J. (2020). Digital technologies and firm performance: The role of digital organisational culture. *Technological Forecasting and Social Change*, 154, 119962. <https://doi.org/10.1016/j.techfore.2020.119962>
- Martín-Peña, M.-L., Sánchez-López, J.-M., & Díaz-Garrido, E. (2019). Servitization and digitalization in manufacturing: The influence on firm performance. *Journal of Business & Industrial Marketing*, 35(3), 564–574. <https://doi.org/10.1108/JBIM-12-2018-0400>
- Ministry of Technology. (2024). National digital economy strategy 2030 (Digital Sri Lanka 2030, p. 49). <https://mot.gov.lk/assets/files/National%20Digital%20Economy%20Strategy%202030%20Sri%20Lanka-bc77184e0b6035d235cd0bb1ebf75707.pdf>
- Murat Ar, I., & Baki, B. (2011). Antecedents and performance impacts of product versus process innovation: Empirical evidence from SMEs located in Turkish science and technology parks. *European Journal of Innovation Management*, 14(2), 172–206. <https://doi.org/10.1108/14601061111124885>
- Naglič, A., Tominc, P., & Logožar, K. (2020). The impact of industry 4.0 on export market orientation, market diversification, and export performance. *Organizacija*, 53(3), 227–244. <https://doi.org/10.2478/orga-2020-0015>
- Navaratnarajan, M. (2024, May 12). National Export Strategy: The coordination problem remains. Latest in the News Sphere | The Morning. <https://themorning.lk/articles/VzRthS3Mk5ribCIUF6Ae>
- Nhelekwa, L. B., Mollel, J. Z., & Taifa, I. W. R. (2022). Assessing the digitalisation level of the Tanzanian apparel industry: Industry 4.0 perspectives. *Research Journal of Textile and Apparel*, 28(2), 185–205. <https://doi.org/10.1108/RJTA-11-2021-0138>
- OECD & Eurostat. (2018). Oslo Manual 2018: Guidelines for Collecting, Reporting and Using Data on Innovation, 4th Edition. OECD. <https://doi.org/10.1787/9789264304604-en>
- Oktora, S. I. (2019). The Impact of Information and Communication Technology (ICT) on the Indonesian Apparel Export. *Buletin Ilmiah Litbang Perdagangan*, 13(1), 119–136. <https://doi.org/10.30908/bilp.v13i1.363>
- Omrani, N., Rejeb, N., Maalaoui, A., Dabić, M., & Kraus, S. (2022). Drivers of digital transformation in SMEs. *IEEE transactions on engineering management*, 71, 5030–5043. <https://doi.org/10.1109/TEM.2022.3215727>
- Ortigueira-Sánchez, L. C., Welsh, D. H., & Stein, W. C. (2022). Innovation drivers for export performance. *Sustainable Technology and Entrepreneurship*, 1(2), 100013. <https://doi.org/10.1016/j.stae.2022.100013>

- Peng, M. Y.-P., & Shao, L. (2021). How Do the Determinants of New Product Development Matter in the International Context? The Moderating Role of Learning Orientation. *Journal of Competitiveness*, 13(3), 129–146. <https://doi.org/10.7441/joc.2021.03.08>
- Pett, M. A., Lackey, N. R., & Sullivan, J. J. (2003). *Making sense of factor analysis: The use of factor analysis for instrument development in health care research*. sage.
- Pezeshkan, A., Fainshmidt, S., Nair, A., Lance Frazier, M., & Markowski, E. (2016). An empirical assessment of the dynamic capabilities–performance relationship. *Journal of Business Research*, 69(8), 2950–2956. <https://doi.org/10.1016/j.jbusres.2015.10.152>
- Pradana, M., Silvianita, A., Syarifuddin, S., & Renaldi, R. (2022). The implication of digital organisational culture on firm performance. *Frontiers in Psychology*, 13, 840699. <https://doi.org/10.3389/fpsyg.2022.840699>
- Radicic, D., & Petković, S. (2023). Impact of digitalization on technological innovations in small and medium-sized enterprises (SMEs). *Technological Forecasting and Social Change*, 191, 122474. <https://doi.org/10.1016/j.techfore.2023.122474>
- Ritter, T., & Pedersen, C. L. (2020). Digitization capability and the digitalization of business models in business-to-business firms: Past, present, and future. *Industrial Marketing Management*, 86, 180–190. <https://doi.org/10.1016/j.indmarman.2019.11.019>
- Sarstedt, M., Hair Jr, J. F., & Ringle, C. M. (2023). “PLS-SEM: indeed a silver bullet”–retrospective observations and recent advances. *Journal of Marketing theory and Practice*, 31(3), 261–275. <https://doi.org/10.1080/10696679.2022.2056488>
- Scherer, F. M. (2001). Innovation and Technological Change, Economics of. In *International Encyclopedia of the Social & Behavioral Sciences* (pp. 7530–7536). Elsevier. <https://doi.org/10.1016/B0-08-043076-7/02308-1>
- Shmueli, G., Sarstedt, M., Hair, J. F., Cheah, J.-H., Ting, H., Vaithilingam, S., & Ringle, C. M. (2019). Predictive model assessment in PLS-SEM: Guidelines for using PLSpredict. *European Journal of Marketing*, 53(11), 2322–2347. <https://doi.org/10.1108/EJM-02-2019-0189>
- Silva, G. M., Styles, C., & Lages, L. F. (2017). Breakthrough innovation in international business: The impact of tech-innovation and market-innovation on performance. *International Business Review*, 26(2), 391–404. <https://doi.org/10.1016/j.ibusrev.2016.10.001>
- Teece, D. J. (2007). Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal*, 28(13), 1319–1350. <https://doi.org/10.1002/smj.640>
- Usai, A., Fiano, F., Petruzzelli, A. M., Paoloni, P., Briamonte, M. F., & Orlando, B. (2021). Unveiling the impact of the adoption of digital technologies on firms’ innovation

- performance. *Journal of Business Research*, 133, 327-336.
<https://doi.org/10.1016/j.jbusres.2021.04.035>
- Vadana, I. I., Torkkeli, L., Kuivalainen, O., & Saarenketo, S. (2020). Digitalization of companies in international entrepreneurship and marketing. *International Marketing Review*, 37(3), 471-492. <https://doi.org/10.1108/IMR-04-2018-0129>
- Wang, M., & Prajogo, D. (2024). The effect of supply chain digitalisation on a firm's performance. *Industrial Management & Data Systems*, 124(5), 1725–1745.
<https://doi.org/10.1108/IMDS-09-2023-0629>
- Wang, X., Ma, L., Niu, Q., & Zhang, Y. (2024). Supply chain digitalization and sports industry performance in Chinese context: a mediated moderated model. *Business Process Management Journal*, 30(7), 2213-2236. <https://doi.org/10.1108/BPMJ-10-2023-0776>
- Wang, Y., Wang, T., & Wang, Q. (2024). The impact of digital transformation on enterprise performance: An empirical analysis based on China's manufacturing export enterprises. *Plos one*, 19(3), e0299723. <https://doi.org/10.1371/journal.pone.0299723>
- Warner, K. S. R., & Wäger, M. (2019). Building dynamic capabilities for digital transformation: An ongoing process of strategic renewal. *Long Range Planning*, 52(3), 326–349. <https://doi.org/10.1016/j.lrp.2018.12.001>
- Westerman, G., Bonnet, D., & McAfee, A. (2014). *Leading digital: Turning technology into business transformation*. Harvard Business Press.
- Wijethunga, K., Dickson, S., Weerathunga, N., Senevirathne, S., Samarakkody, T., & Thelijjagoda, S. (2023, December). Impact of Industry 4.0 on Organizational Performance in Sri Lankan Apparel Industry. In *2023 5th International Conference on Advancements in Computing (ICAC)* (pp. 298-303). IEEE.
<https://doi.org/10.1109/ICAC60630.2023.10417415>
- Zehir, C., Köle, M., & Yıldız, H. (2015). The mediating role of innovation capability on market orientation and export performance: An implementation on SMEs in Turkey. *Procedia-Social and Behavioral Sciences*, 207, 700-708.
<https://doi.org/10.1016/j.sbspro.2015.10.141>
- Zhang, W., & Liu, X. (2023). The impact of internet on innovation of manufacturing export enterprises: Internal mechanism and micro evidence. *Journal of Innovation & Knowledge*, 8(3), 100377. <https://doi.org/10.1016/j.jik.2023.100377>
- Zou, S., Taylor, C. R., & Osland, G. E. (1998). The EXPERF Scale: A Cross-National Generalized Export Performance Measure. *Journal of International Marketing*, 6(3), 37–58. <https://doi.org/10.1177/1069031X9800600307>