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2024, Vol.6, Issue.2

Transforming Industrial E-commerce Adoption to Achieve Business Success

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Abstract

This research aims to explore the transformation of e-commerce adoption in the industrial sector, identifying barriers to success and opportunities for growth and innovation. Utilizing the Technology Acceptance Model (TAM), we conducted a comprehensive literature review to assess factors influencing e-commerce adoption, focusing on perceived usefulness and ease of use. The research methodology includes a detailed analysis of expert insights and existing literature, targeting the industrial sector's unique challenges. Key factors such as customer service, product selection, and payment options were evaluated for their impact on e-commerce implementation. The study's findings reveal that, despite the potential benefits of increased efficiency, productivity, and profitability, industrial e-commerce faces higher project failure rates compared to retail. This discrepancy highlights the need for tailored strategies to enhance adoption rates within the industrial domain. The research also acknowledges limitations due to the scarcity of specific literature and the focus on only two variables in the conceptual model. Ultimately, this paper provides valuable recommendations for policymakers and business leaders aiming to leverage industrial e-commerce for organizational growth.

Keywords: E-commerce, Digital Transformation, Technology adoption, Industrial sector, Extended Technology Acceptance Model (TAM).

1. INTRODUCTION

E-commerce refers to the buying and selling of goods and services online. It involves conducting commercial transactions through the online platform and can include activities such as online shopping, electronic payments, and online auctions (Tuli et al., 2022). E-commerce has become increasingly popular over the past few decades, with the widespread adoption of digital technologies and the growth of the internet. It offers businesses and consumers a range of benefits, including the ability to access a wider market, increased convenience and flexibility, and lower transaction costs. However, e-commerce also presents challenges such as security and privacy concerns, as well as the need to compete in an increasingly crowded online marketplace (Liu et al., 2022).

E-commerce platforms have revolutionized the way businesses operate, providing unprecedented opportunities for growth and expansion (Sun, 2020). However, despite the widespread adoption of E-commerce platforms by organizations, the industrial sector is still grappling with challenges in fully embracing the benefits of this technology and successfully

adapting based on enterprise size, exporting activity, business sector, awareness of benefits, customers and influence of trading partners (Pickernell et al., 2013). The limited success of E-commerce implementation in this sector can be attributed to several factors, including the complexity of the systems, the lack of technological expertise, and the resistance to change.

The industrial sector has experienced significant growth across the world over the past few decades (Salendu, 2021). This growth has been driven by various factors such as advancements in technology, transportation costs, increased globalization, and changes in government policies (Ibrahim et al., 2021). There have been several major business changes in the industrial sector that have made investing in e-commerce more important. Such as increasing demand for faster and more efficient supply chains (Daneshvar et al., 2020) as customers expect quicker delivery times and lower costs. Another change is the shift towards digitalization and automation, with many industrial businesses implementing new technologies to improve their operations and reduce costs (Wang et al., 2022). E-commerce can help to facilitate this shift by providing an online platform for businesses to manage their inventory, track shipments, and streamline their supply chain processes.

Additionally, the COVID-19 pandemic has accelerated the adoption of e-commerce in many industries, as businesses have had to adapt to remote working and social distancing measures. This has led to a greater reliance on online platforms for purchasing and selling goods (Leskovar et al., 2022). The industrial sectors have been under immense pressure to reduce operational costs and enhance efficiency due to these changes. The adoption of digital technologies has proven to be an optimal solution for achieving high operational performance. Overall, investing in e-commerce can offer industrial businesses benefits such as enhanced efficiency, expanded customer reach, and the ability to adapt to the evolving demands of the marketplace.

The importance and difficulties of e-commerce are apparent, emphasizing the urgent requirement for a scientific assessment of how institutional factors impact the adoption of e-commerce. Such an evaluation would provide valuable guidance for policymaking and business decision-making (Zhu, 2008). In response to these challenges, this research paper proposes a conceptual model for transforming E-commerce adoption and acceptance to achieve business success in the industrial sector. The study draws on the Technology Acceptance Model (TAM) to develop a comprehensive framework that takes into account critical factors affecting the adoption and acceptance of E-commerce platforms. The proposed model provides a roadmap for stakeholders seeking to leverage E-commerce platforms for growth and development in the industrial sector. By identifying the key drivers of E-commerce adoption and acceptance, the research aims to inform policy formation and strategic investments, ultimately leading to sustained success in the use of E-commerce technology in the industrial sector.

This study primarily aims to review the current literature on the adoption of e-commerce in the industrial sector and devise a technology acceptance model (TAM) to facilitate the adoption and continual expansion of e-commerce technology. The paper's structure is as follows: (1) offers a review of relevant literature and accentuates the review's principal findings. (2) explores and constructs an extended TAM model. (3) concludes the paper and outlines prospects for future research.

2. LITERATURE REVIEW

In this section, we will assess the current literature on e-commerce adoption within the industrial sector, as well as examine the technology acceptance model (TAM).

2.1 Adoption of E-commerce in the Industrial Sector

A comprehensive literature search was conducted to identify research on the adoption of e-commerce platforms in industrial sectors. The search utilized academic databases such as Proquest Central, Emerald, and ScienceDirect. The findings indicate that there are limited studies available on e-commerce adoption in the industrial sector. Li et al., (2020) investigated the critical factors that affect consumers' willingness to adopt vegetable e-commerce, their behavior, and the alignment between their willingness and actions and the study identified three variables: perceived usefulness, perception of logistics service quality, and the distance to the nearest vegetable market. Other studies tend to overlook the industry and instead center their focus on small companies SMEs (Peiris et al., 2015; Gengatharen, 2008; Sharma et al., 2004; Abdel Nasser, 2012; Walker et al., 2016). The majority of these studies are concerned with how companies can optimize their adoption of e-commerce for generating revenue, improving business efficiency, and streamlining processes, rather than focusing on the acceptance and adoption of e-commerce by customers.

Peiris et al., (2015) investigated the impact of various factors on e-commerce adoption by consumers in Sri Lanka, The study focused on analyzing consumer buying behavior and found that all six hypotheses, including perceived usefulness and perceived ease of use, were supported by the results. Gengatharen (2008) also explored the cultural perspective of the success and failure of regional internet community portals in promoting e-commerce adoption by SMEs, According to the study's findings, an individual's perception of usefulness and personal benefits are the most critical factors in accepting technology from a cultural standpoint. In addition, Hong and Zhu (2006) explored strategies for firms to effectively position themselves while adopting e-commerce to generate revenue. Fawzy et al., (2018) investigated Malaysian attitudes and behaviors regarding online shopping or e-commerce. The study concluded that the level of education is linked to the adoption and acceptance of e-commerce websites. Furthermore, the study highlighted the significance of the physical appearance of online platforms and how well they are optimized for search engines in determining the success and revenue generation of e-commerce. Kwun et al., (2010) investigated the factors that impacted the perceived strategic value of e-commerce among small businesses. The findings indicated that perceptions of the strategic value of e-commerce by small businesses were influenced by organization compatibility, entrepreneurial mindset, and industry competitiveness. Sharma et al., (2004) aimed to gain a better understanding of the factors that impeded SMEs' adoption of e-commerce in Asia, particularly in relation to the business environment of SMEs. The research identified significant hindering factors in e-commerce adoption. Abdel Nasser (2012) identified hindering factors in the adoption of e-commerce, with technical barriers being the most significant, followed by legal and regulatory barriers. Additionally, the findings highlighted that the lack of Internet security was the highest barrier inhibiting the implementation of e-commerce in SMEs. Looi (2005) investigated the impact of various factors on the adoption of e-commerce among small and medium enterprises. The research findings revealed that competitive pressure was the most critical factor, followed by IT knowledge, relative advantage, security, and government support. Walker et al., (2016) utilized logistic regression to examine the adoption and non-adoption factors of 230 SMEs. The findings indicated that compatibility and organizational readiness, decision and operational aids, and external pressure were significant factors in determining e-commerce adoption. An all-encompassing model was developed to explain the adoption of business-to-business e-commerce, utilizing five business factors: external environment, organizational context, technology context, decision-maker's characteristics, and organizational learning. The research findings revealed that price intensity and perceived barriers had a negative impact on the adoption decision.

Masarweh et al., (2016) explored the barriers to e-commerce adoption in Jordan, and the major findings revealed that despite the increasing trend towards online shopping, the adoption rate remains low due to several barriers. These include weak infrastructure throughout the country, except for the capital city, societal trends and culture, and low levels of educational and computer literacy. An analysis was performed by Hayati, I., & Andrawina (2019) to examine the various factors that influence the adoption of e-commerce. The study identified four external dimensions, including the institutional environment, socio-cultural environment, economic environment, and technology environment. In addition, there were five internal dimensions that were found to impact e-commerce adoption, which were managerial demography, corporate strategy, company capabilities, company size, and company knowledge management. Andrew and Tham (2022) carried out a research with the aim of investigating the main factors that encourage small and medium-sized enterprises (SMEs) in the retail and food and beverage industry to adopt e-commerce. The study's results indicate that the most significant challenges that SMEs face in adopting e-commerce are organizational barriers, followed by environmental barriers. The findings suggest that having young leaders plays a crucial role in promoting the adoption of e-commerce by SMEs. Moreover, the study highlights that technology is not the only factor that determines the success of e-commerce adoption.

The study conducted by Al-Bakri and Katsioloudes (2015) aimed to investigate the impact of internal and external organizational factors on the adoption of electronic commerce (e-commerce) systems by small and medium-sized enterprises (SMEs) in Jordan. The study revealed that the adoption of e-commerce systems by SMEs is influenced by various internal and external organizational factors, such as readiness, strategy, managers' perceptions, and external pressure from trading partners. A new model for e-commerce innovation and adoption was developed by Sabah et al. (2015), which takes into consideration different stages of e-commerce adoption, including interactive, non-interactive, and stabilized phases. The model also encompasses various factors, such as technological, organizational, and environmental aspects. In their research, Haryanti and Subriadi (2020) categorized the stages of technology acceptance in e-commerce to identify the factors that will drive the adoption of e-commerce in the future. The study highlights the significance of the technological dimension in addressing human concerns as a crucial factor in technology acceptance.

The evolution of the e-commerce industry is an essential factor in determining the drivers of community acceptance. Trust is identified as a crucial factor during the initial introduction of e-commerce. On the other hand, user experience as a part of the technological dimension is found to be a key factor in the determination phase of e-commerce, based on its market. Merhi (2022) investigated the significant drivers of e-commerce adoption at the national level, beyond individual and organizational levels. The presented model includes technological, governmental, cultural factors, and social trust as antecedents of e-commerce adoption. The study indicated that connectivity and technological effectiveness have a direct impact on e-commerce. Furthermore, the legal environment and connectivity have an influence on social trust, which, in turn, affects uncertainty avoidance.

Jahongir and Shin (2014) analyzed the factors that impact the adoption of e-commerce by SMEs in Uzbekistan. They consolidated these factors and determined their level of influence on e-commerce adoption. The study categorized these factors into three enterprise contexts: technological, organizational, and environmental, based on previous research. The research model proposed enterprise context factors that have been found to be influential in earlier studies on e-commerce adoption. The research findings revealed a positive relationship between some of these three context factors and the perceived benefits of e-commerce adoption. Li and Xie (2012) identified ten factors that influence a firm's adoption of e-commerce. The study revealed that four

factors were particularly important, namely managerial attitudes, external pressures, corporate strategies, and technology strengths of the firm.

Previous studies have primarily focused on either retail e-commerce or e-commerce as a general concept, with no attention paid to the industrial sector. The products or services offered, target customers, and transactional nature differ between e-commerce in the retail sector and e-commerce in the industrial sector. To the best of our knowledge, there have been limited studies that specifically concentrate on the industrial sector, and this study is one of the few that address this topic. Li, B. (2020) conducted a study that analyzed the impact of e-commerce on industrial manufacturing in the context of big data and proposed ways for manufacturing and industrial companies to enhance their use of e-commerce. The study discovered that 81.08% of surveyed enterprises viewed e-commerce as a valuable communication platform that can expand their sales market. The study advocates for the creation of tactics to encourage the adoption of e-commerce within the industrial sector.

In general, even though online transactions are common to both retail and industrial e-commerce, they vary in terms of their intended audience, products offered, transaction volumes, and sales timelines. E-commerce in the industrial sector and the retail sector differ in the types of products or services they offer. Retail e-commerce commonly involves the selling of consumer goods, such as electronics, clothing, and home appliances (Seo, 2002). In contrast, industrial e-commerce primarily entails the selling of raw materials, machinery, and equipment that are utilized in the manufacturing or construction industry (Shen and Ren, 2021). The majority of these studies have focused primarily on the factors that affect the effective implementation of e-commerce, particularly during the pre-implementation and implementation stages of the e-commerce life cycle. However, there has been a lack of research and documentation regarding what happened during the e-commerce adoption stage and how decisions were made for such a complex investment in the industrial sector.

`The adoption of e-commerce poses several challenges, Such as Technological Infrastructure including a secure and reliable network, hardware, software, and skilled IT personnel (Li, 2022), Security and Privacy Concerns including data breaches, identity theft, and fraud (Saeed, 2023), Efficient and reliable logistics and delivery networks (Nel and Badenhorst, 2020). The unequal distribution of access to digital technology (Jaković et al., 2021), and privacy regulation (Zhu, 2020). This deficiency is highlighted in the limited exploration of e-commerce adoption in the literature. Therefore, A comprehensive approach that involves collaboration between stakeholders, including government, industry, and consumers, is required to address these challenges and encourage the adoption of e-commerce while ensuring its long-term sustainability. this study aims to focus on the adoption stage of the e-commerce life cycle and develop a theoretical model that can be used to determine e-commerce adoption in the industrial sector. The ultimate goal is to improve the success rate of e-commerce platforms in this sector.

2.2 TAM Adoption of e-Commerce Platforms

Numerous research studies have been conducted to comprehend user acceptance of information technology. To examine the acceptance of a technology, several well-established frameworks, theories, and theoretical models have been employed. Over the last two decades, certain theoretical models have dominated the theoretical foundation of information technology acceptance. Among these, the technology acceptance model (TAM) (Davis and Venkatesh, 1996) has been the most widely used to discuss the acceptance and usage of technology, as depicted in Figure 1.
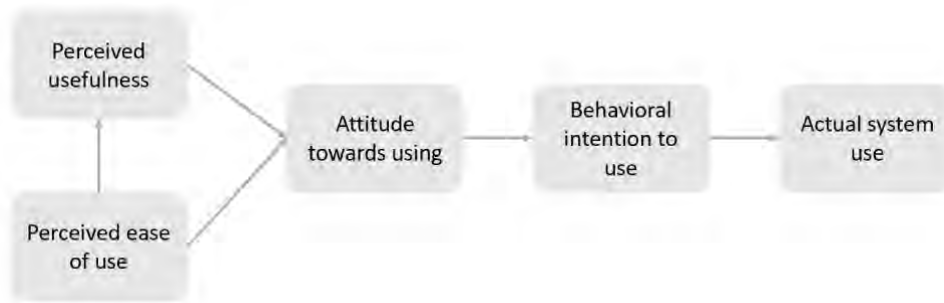
Figure 1. Technology Acceptance Model (Davis and Venkatesh, 1996)

The Technology Acceptance Model (TAM) is a theoretical framework that explains the process of technology adoption and how users perceive and accept it. It was developed to understand the adoption and use of information technology (Davis and Venkatesh, 1996) including e-commerce platforms. Researchers have attempted to expand the TAM model by introducing new variables and analyzing their impact on Perceived ease of use (PEOU) and Perceived usefulness (PU), aiming to identify the boundary conditions.

For example, Albarghouthi et al., (2020) explored four factors (Top Management support, user training, subjective norms, and computer self-efficacy) that could affect PEOU and PU in ERP adoption. Agarwal and Prasad (1999) explored five factors (Role in relation to technology, training, prior experiences, job position, and level of education as external factors that could affect PEOU and PU. In the context of ERP, Sternad et al. (2011) classified the factors influencing PEOU and PU as either individual, organizational, or technological variables.

The TAM model has been criticized for its broad framework, which does not provide specific guidance for any particular industry. Consequently, Anjum (2023) has discussed the TAM model and its applications in various domains, particularly in the post-COVID-19 era. The paper highlights the significant impact of the pandemic on technology adoption, transforming the way people live, communicate, conduct business, and thrive. The study identifies potential areas for future research, given technological advancements and increased global technology penetration. Advanced technology adoption models should be explored to account for the ever-changing environment, with a focus on potential application areas such as e-commerce, cloud computing, IoT, artificial intelligence, blockchain, virtual and augmented reality, machine learning, and deep learning techniques. Therefore, researchers should investigate other factors influencing user acceptance, as well as PEOU and PU.

Klopping and McKinney (2004) applied the TAM to forecast online shopping behavior in the context of e-commerce, which included the intention to shop online and actual purchases. They made two minor adjustments to the traditional application of TAM. First, perceived ease of use is not linked to perceived usefulness. Second, perceived usefulness is directly linked to actual use. D'souza et al. (2021) utilized the Technology Acceptance Model (TAM) to validate the readiness of consumers to adopt e-commerce for purchasing. The findings revealed that consumers' behavioral intentions are the driving force behind their actual utilization of e-commerce. In this regard, behavioral intention has a significant and positive impact on the actual adoption of e-commerce. TAM offers valuable insights into the determinants of user acceptance and adoption of e-commerce platforms, including PEOU and PU. Nevertheless, the assessment of PEOU and PU remains vague.

2.3 Research Model Development

The industrial business sector operates differently from the retail business and has its own set of unique user requirements. Therefore, there may be specific factors related to technology and customer experience that need to be given special attention in this context. Amidst the COVID-19 pandemic, technology played a vital role in keeping people connected, facilitating education, providing medical assistance, conducting business, facilitating governance, fostering innovation, and more. Consequently, it is imperative to conduct a thorough investigation of technology adoption and acceptance, particularly in the post-COVID-19 era (Anjum, 2023). A frequently asked question among researchers, technocrats, developers, and others is, "What motivates individuals to embrace novel technologies?" Finding an answer to this question can aid in the development of more effective strategies for creating, assessing, and anticipating user reactions to emerging technologies (D'souza et al., 2021)

2.3.1 Perceived Usefulness Variables

Based on the literature review, these factors have the potential to shape a user's perception of an e-commerce platform's usefulness, thereby influencing their decision to adopt and utilize the platform. These factors have the potential to affect the key construct of perceived usefulness in the Technology Acceptance Model (TAM) from an e-commerce perspective.

Product selection: The user's perception of an e-commerce platform's usefulness can be impacted by the range and diversity of products it offers. An e-commerce platform that provides a broad selection of products that cater to the user's requirements is more likely to be viewed as advantageous (Stanley Frederick etl al., 2018). Product selection and Product availability refer to the likelihood of having goods in inventory when a consumer places an order. Therefore, In e-commerce adoption, a platform that provides a diverse selection of products that cater to the user's needs is more likely to be perceived as beneficial. When it comes to the adoption and acceptance of technology among customers, various factors come into play, including personal preferences, convenience, availability, and expectations related to performance and effort (Anjum, 2023). From an ERP adoption perspective, Accessing information at any time and from any location can also enhance ERP adoption by streamlining business processes and increasing user acceptance (Gill et al., 2011). Concerning this matter, Hypothesis 1 was formulated:

Hypothesis 1: The Product selection will positively influence a consumer's willingness to adopt e-commerce.

Price and value: The perceived usefulness of an e-commerce platform can be influenced by the pricing of the products offered. Users are more likely to perceive an e-commerce platform as useful if they can find products at a competitive price or if they perceive that the value of the products justifies the price. According to the research conducted by Kaur and Arora (2023), perceived benefits and price value have a positive influence on behavioral intention. Sharma et al. (2019) conducted a study that examined the positive impact of perceived risk and price on the most relevant online shopping behavior and Web interactivity. They found that discount pricing was crucial in motivating customers to engage in online shopping. The adoption decision of Business-to-business e-commerce is negatively impacted by price intensity and perceived barriers, as reported by Gorla et al., (2017). Considering the overall logistic costs, Han and Li (2021) conducted a study on e-commerce poverty alleviation and discovered that offline prices were at least 10% higher than online prices. Additionally, they reported that e-commerce retail platforms reduced costs by more than $2.1 billion in 2015 and over $2.8 billion in 2016 in specific areas. The present study hypothesizes that price and value will have a favorable impact on a consumer's inclination to embrace e-commerce, as outlined in Hypothesis 2.

Hypothesis 2: Price and Value will positively influence a consumer's willingness to adopt e-commerce.

Convenience and accessibility: A user's perception of usefulness can be influenced by the convenience and accessibility of an e-commerce platform. A platform that offers easy navigation, a user-friendly interface, and fast and reliable delivery can be perceived as more useful. Audrey et al., (2022) discussed the role of quality perceptions and perceived ubiquity in adoption intention of online and digital mobile knowledge management systems and proposed a new integrated model based on TAM, The results showed that Service Quality plays a vital role in increasing the perception of online and mobile platforms, while Perceived User-friendliness promotes the intention to adopt the online and mobile platforms. Meghana et al., (2018) explored the factors that impact the adoption of cloud ERP systems. The study reported data accessibility, availability, and data backup and recovery as the most prioritized criteria. Rotchanakitumnuai and Speece (2009) utilized the technology acceptance model (TAM) to analyze internet securities trading and determine the factors that shape the perception of usefulness. Additionally, they examined the influence of trust and investor attitudes towards using online systems. The research findings revealed that factors such as information quality and accessibility have a positive impact on the perceived usefulness of the online trading process. Rotchanakitumnuai and Speece (2009) employed the technology acceptance model (TAM) to evaluate internet securities trading and identify the factors that influence the perception of usefulness. They also investigated the impact of trust and investor attitudes towards using online systems. The study's outcomes indicated that ease-of-use is a crucial factor that positively affects the perceived usefulness of the online trading process. Li et al., (2020) investigated the main determinants that affect consumers' willingness to adopt vegetable e-commerce, The findings indicate that the perceived quality of service is a crucial factor that influences e-commerce adoption. Additionally, the proximity of the nearest vegetable market has a substantial impact and is positively associated with the level of adoption willingness. Concerning this matter, Hypothesis 3 was formulated:

Hypothesis 3: Convenience and accessibility will positively influence a consumer's willingness to adopt e-commerce.

Trust and security: The perceived usefulness of an e-commerce platform can be influenced by how trustworthy and secure it is perceived to be. If users have confidence that their personal and financial information is secure and the platform is reliable, they are more likely to view the platform as useful. Salih et al., (2021) identified security, Trust, and usability as the three most frequently mentioned critical concerns for the adoption of cloud-based ERP. The literature presents diverse viewpoints on how trust and security impact technology adoption. Ahn and Ahn (2020) discovered that factors such as data security and complexity do not have a considerable influence on ERP adoption. However, other studies, such as Nakeng et al. (2021), have demonstrated a positive correlation between security and privacy concerns and the acceptance of Cloud ERP. The research analyzed the low adoption rate of Cloud ERP and identified security and privacy concerns as a crucial factors influencing the solution's adoption. Liu and Tang (2018) discussed the trust-building methods in e-commerce and presented a comprehensive insight into how the perceived effectiveness of trust-building mechanisms online affects trust in both the e-marketplace and the e-seller. Their study uncovered that the perceived effectiveness of seller-based mechanisms has an impact on trust in both the e-marketplace and the e-seller. Rotchanakitumnuai and Speece (2009) applied the technology acceptance model (TAM) to internet securities trading to investigate the factors that influence the perception of usefulness. They also explored the role of trust and investor attitudes towards using online systems. The study revealed that trust has a beneficial impact on the perceived usefulness of the online trading process. In relation to this matter, Hypothesis 4 was formulated.

Hypothesis 4: Trust and security will positively influence a consumer's willingness to adopt e-commerce.

2.3.2 Perceived Ease of Use

After reviewing the literature, it appears that these factors can impact how a user perceives the ease of use of an e-commerce platform, which may, in turn, affect their decision to adopt and use the system in a friendly manner. These factors have the potential to influence the main construct of perceived ease of use in the Technology Acceptance Model (TAM) from an e-commerce perspective.

Customer service: The perceived usefulness of an e-commerce platform can also be influenced by the quality of customer service it provides. If users receive prompt and beneficial customer support, including aid with product selection, returns, or exchanges, they are more inclined to perceive the platform as useful. Mohamad et al., (2019) emphasized the significance of customer support in the post-implementation phase of ERP and highlighted that the training programs for ERP systems are a crucial step towards achieving project adoption. In their research on ERP adoption among SMEs, Lutfi et al. (2022) confirmed that the provision of continuous support by service providers has a notable effect on the adoption of ERP systems. Al-Tit (2020) investigated the key factors that have a significant impact on e-commerce adoption in SMEs and identified customer satisfaction as one of the primary predictors of e-customer loyalty, which is strongly influenced by excellent customer support. Han and Li (2021) examined the notion that inadequate post-purchase customer service is a perceived risk associated with online shopping. Regarding this issue, Hypothesis 5 was developed:

Hypothesis 5: Customer service will positively influence a consumer's willingness to adopt e-commerce.

The design and navigation of online platforms: Al-Tit (2020) examined the factors that significantly influence e-commerce adoption among SMEs and concluded that customer trust, user interface quality, and customer satisfaction are the primary predictors of e-commerce adoption. The design of an e-commerce platform can shape a user's perception of its ease of use. If a platform provides straightforward navigation and a user-friendly interface, it is more likely to be perceived as easy to use. According to Audrey et al. (2022), perceived user-friendliness can encourage the adoption of online and mobile platforms. Meghana et al. (2018) investigated the factors that influence this adoption. Their findings revealed that user-friendliness is among the most crucial factors for the adoption of ERP systems. Hwang and Grant (2011) conducted research aimed at examining the impact of integration on ERP performance within a group of users who required a high level of user-friendliness. The study's findings revealed that both system-specification and socio-organizational integration had a significant effect on ERP performance. Shimange and Pillay (2023) identified 13 factors that contribute to a successful implementation and adoption of ERP systems. They highlighted that one of the key factors is having a user-friendly system, which greatly aids in facilitating adoption. Therefore, The significance of a user-friendly system and the end-users' perception in influencing the performance of an ERP system is crucial and cannot be overstated. How easily customers can navigate an e-commerce platform to find what they need can impact their perception of the website's ease of use. Muhammad and Rhee (2018) put forward an IS-CB model for online shopping that integrates information systems and consumer behavior to analyze the factors that affect online shopping. Specifically, the study suggested that information design, visual design, and navigation design are crucial factors that influence the adoption of online platforms. Concerning this matter, Hypothesis 6 was formulated:

Hypothesis 6: The design and navigation will positively influence a consumer's willingness to adopt e-commerce.

Clarity of product information: Clarity of product information on e-commerce plays a crucial role in improving the ease of use and achieving business success. E-commerce content quality encompasses the issue of information. Web content must be personalized, comprehensive, pertinent, and easy to comprehend as it is regarded as one of the key factors in satisfying e-commerce users. Online shoppers require comprehensive product information to feel assured about completing the purchasing process. In addition to instilling confidence, providing detailed product information may also enhance the user experience and reduce cognitive strain, leading to a higher likelihood of completing a purchase. Ballantine (2005) confirmed that the level of interactivity and amount of information significantly affected consumer satisfaction. Huang et al., (2013) explained that offering more information regarding product features or pricing can increase consumer trust, thereby decreasing their price sensitivity and improving the ease of use of an e-commerce platform. Overall, the literature indicates that delivering unambiguous and comprehensive product information can enhance the ease of use and promote business success in e-commerce. This can be accomplished by decreasing cart abandonment rates, elevating the customer experience, and lowering the rate of product returns. By prioritizing the provision of accurate and complete product information, businesses can achieve greater success in the e-commerce realm. Janita and Miranda (2013) explored the service quality dimensions in B2B e-marketplaces. Their research revealed that the perceived utility of information and value-added services are the main dimensions of service quality, as seen from the perspective of users who sell products online on e-marketplaces. Hypothesis 7 was formulated with regards to the clarity of product information:

Hypothesis 7: The clarity of product information will positively influence a consumer's willingness to adopt e-commerce.

Payment option: The ease of use of payment options can have a significant impact on the success of e-commerce adoption for businesses. According to research conducted by ACQUISDATA (2021), 21% of online shoppers abandoned the checkout process and their cart because of a lack of payment options and a checkout process that was too long and complicated. This underscores the significance of offering multiple simple and user-friendly payment options to decrease cart abandonment rates and drive sales. The absence of a customer's preferred payment option could lead to cart abandonment, and a negative payment experience could discourage customers from returning to that merchant for future purchases, Offering a variety of payment options can boost conversion rates, increase successful payment transactions, and encourage customers to return to the business for future purchases (Tielman, 2003). In summary, the study implies that offering simple and convenient payment options can notably influence the success of businesses adopting e-commerce. By lessening the instances of cart abandonment, boosting conversion rates, and enhancing the payment experience for customers, businesses can attain greater triumph in the e-commerce realm.

2.4   Theoretical Model

This study involved an extensive literature review, which led to the development of eight hypotheses. In particular, we focused on breaking down the key components of perceived ease of use (PEOU) and perceived usefulness (PU). Peiris et al. (2015) noted that TAM has a significant limitation in that it views e-commerce solely as a communication medium, but fails to take into account consumer behavior and the specific features of the medium used for the transaction. Therefore, After conducting a thorough literature review, we concluded that combining

additional variables with TAM would be necessary for predicting the factors that impact perceived usefulness and ease of use in the service industry.

 we formulated 4 hypotheses to measure the construct of perceived ease of use and four hypotheses to measure the perceived usefulness. These hypotheses are presented and discussed in the preceding section. Table 1, which follows, summarizes the constructs, and Figure 1 depicts our proposed theoretical model.

Table 1: Explanation of Constructs in the Theoretical Model.

Construct	Description
Product Selection (PS)	The product selection process has a positive impact on perceived ease of use.
Price and Value (PV)	Price and value have a positive impact on perceived ease of use.
Convenience and accessibility (CA)	Convenience and accessibility have a positive impact on perceived ease of use.
Customer Service (CS)	Customer service has a positive impact on perceived ease of use.
Design and Navigation (DN)	Design and navigation have a positive impact on perceived ease of use.
Product Information (PI)	Product information has a positive impact on perceived ease of use.
Payment options (PO)	Available payment options have a positive impact on the perceived ease of use for customers.
Trust and security (TS)	Perceived ease of use is positively affected by Trust and security.
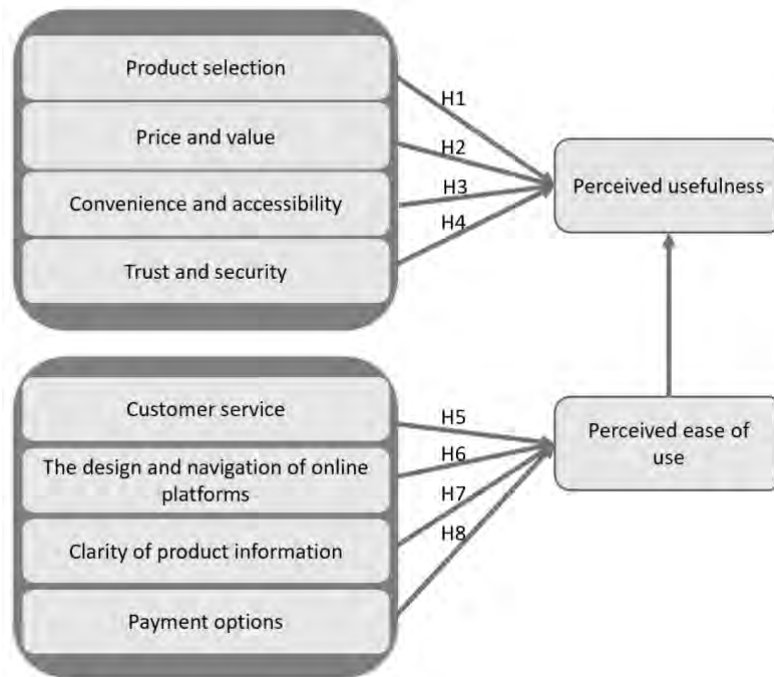
Figure 2. An extended technology acceptance model for e-commerce adoption

3. METHODOLOGY

This section addresses the selection process of the survey sample and the creation and deployment of the survey instrument for the current study, along with considerations of reliability and validity. The available literature suggests that technology and e-commerce research employs both quantitative and qualitative concepts. The objective of this study is to investigate the motivating factors that prompt a UAE consumer to engage in an online transaction within the industrial sector. While using qualitative methods in researching the adoption of e-commerce in the industrial sector, several factors need to be considered as the interpretation of a single case may not be sufficient enough to propose a model to assist in the adoption of e-commerce. However, utilizing qualitative approaches can be advantageous in capturing an overview of the population as a whole and forming a collective understanding of the segment under consideration. Some researchers who have employed quantitative methods in technology and e-commerce research, particularly in the context of TAM, are Yung-Ming (2020); Yung-Ming, (2018); and Klopping and McKinney (2004).

Given the considerations, the qualitative method was deemed the most appropriate approach for this study. To conduct the survey, a simple random sampling method was employed. The main population of interest for this study consists of individuals who use e-commerce platforms online within the industrial sector in the UAE. Statistics projected that the number of users in the UAE eCommerce market would reach 7.32 million by 2027. To obtain results with a 5% margin of error for a population of over one million, a minimum sample size of 385 was recommended (Peiris et al., 2015). For this study, a sample size of at least 385 was estimated, but the actual response to our online questionnaire was 480. The questionnaire was divided into two sections. The first section aimed to collect demographic information from the respondents, while the second section was designed to gather their opinions on the variables identified in our hypotheses using multiple questions. To ensure maximum response rates, we employed both online and offline methods for distribution. The online survey was distributed using SurveyMonkey, while the offline survey was distributed to various governmental and non-governmental entities.

4. RESULT

To ensure questionnaire reliability, we conducted four pilot studies in four iterations prior to administering it. The 75 responses we received from the pilot studies were gathered through the online survey. The analysis of the responses was conducted using SPSS. The reliability check was conducted using the Cronbach's alpha value. Table 2 presents the findings from the final pilot study, which indicate that all variables exhibit a Cronbach's alpha value > 0.7, signifying strong consistency among the variables (Mohamad et al., 2019). After confirming the internal consistency of the questionnaire, we distributed the instrument to a sample of 480 respondents.

Table 2: Reliability Test Results.

Construct	Cronbach's *a*
Product Selection (PS)	0.895
Price and Value (PV)	0.741
Convenience and accessibility (CA)	0.798
Customer Service (CS)	0.978
Design and Navigation (DN)	0.855
Product Information (PI)	0.905
Payment options (PO)	0.855
Trust and security (TAS)	0.841

The questionnaire data was analyzed using SPSS, The responses were encoded using a five-point Likert scale with the following values: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree. Upon conducting the analysis, it was determined that the data did not follow a normal distribution. Consequently, we employed Spearman's correlation coefficient to assess the degree of variance of the dependent variable with respect to the independent variable. According to the findings presented in Table 3, all hypotheses were confirmed to be valid. The correlation coefficient values for Hypothesis 5 ("Customer service will positively influence a consumer's willingness to adopt e-commerce.") and Hypothesis 7 ("The clarity of product information will positively influence a consumer's willingness to adopt e-commerce.") were the highest. The elevated values suggest a significant association between the consumer's intention to use e-commerce and both customer service and product information.

Table 3: Correlation Coefficient Results

Construct	Correlation Coefficient	Accept/ Reject
Product Selection (PS)	0.821	Accept
Price and Value (PV)	0.640	Accept
Convenience and accessibility (CA)	0.820	Accept
Customer Service (CS)	0.861	Accept
Design and Navigation (DN)	0.710	Accept
Product Information (PI)	0.851	Accept
Payment options (PO)	0.790	Accept
Trust and security (TAS)	0.770	Accept

5. DISCUSSION AND CONCLUSION

After analyzing the data, we found that the variables we identified have an impact on consumers' willingness to buy from e-commerce platforms in the industrial sector, as depicted in Figure 2.

The results indicate that the variables of Product Selection, Price and Value, Convenience and Accessibility, and Customer Service have an impact on the dependent variable of perceived usefulness, which in turn influences the behavioral intention of consumers to use the industrial e-commerce platform. The study's findings also indicate that the variables Design and Navigation, Product Information, Payment options, and Trust and security have an impact on the dependent variable of perceived ease of use, which consequently influences the behavioral intention of consumers to use the industrial e-commerce platform.

The variables with the strongest relationship to the behavioral intention to use for the perceived usefulness variable are Customer Service and product selection. Additionally, product information and Payment options show a significant relationship to the behavioral intention to use for the perceived usefulness variable. This finding suggests that industrial companies need to focus on improving consumer perception of Product Selection, Price and Value, Convenience and Accessibility, and Customer Service, and how to effectively promote these values of perceived usefulness in order to enhance and increase consumer adoption of e-commerce. The results of this study suggest that industrial companies in the UAE need to shift their focus when it comes to their e-commerce platforms. In addition to showcasing their product and service offerings, these companies must also prioritize factors such as payment options and improving the overall customer experience. It is important for them to pay close attention to the product information that is published on their e-commerce platform to enhance the user's browsing experience.
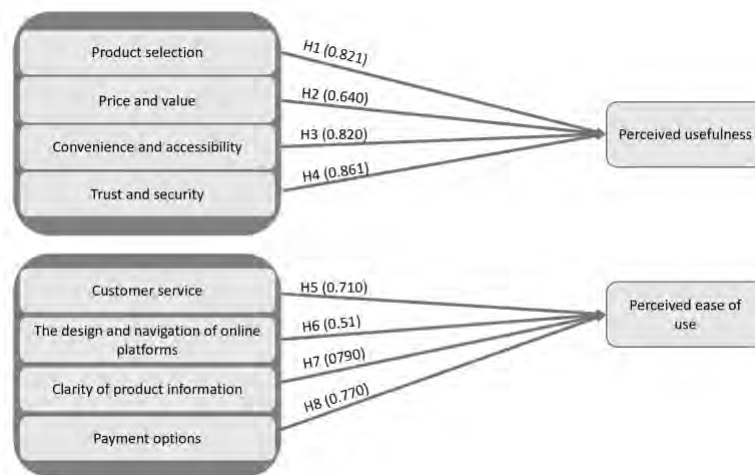
Figure 3. Proposed Theoretical Model Reflecting the Significance of Influence

According to Ajibade (2018), a thorough comprehension of the frameworks and models utilized in technology investigation is essential for gaining a proper understanding of the factors that facilitate the greater adoption of technology. Therefore, When applying a theoretical framework, researchers must consider several factors and be highly conscious of the inherent limitations involved in such an attempt. The TAM has a limitation in that the variable related to user behavior is assessed subjectively, using measures such as perceived usefulness and perceived ease of use, without clear identification. Additionally, the system can be complicated and not

user-friendly due to a complex business process that is reflected in an automated manner. Another limitation highlighted by Ajibade is that behavioral underpinnings cannot be accurately quantified in empirical research due to various subjective factors, such as societal norms and values, personal attributes, and personality traits. Another limitation of the TAM model, as pointed out by Ajibade, pertains to the subjective assessment of the user behavior variable, which is based on factors such as behavioral intention and interpersonal influence. The subjective norm of interpersonal influence refers to the impact of colleagues or friends through word of mouth. However, it should be noted that while a superior can give directives to subordinates regarding the use of technology in line with their IT policy, a friend cannot exert the same level of directive influence over an employee who is accountable to their line manager. Another limitation is that it is challenging to quantify underlying behaviors accurately in empirical research due to several subjective factors such as personal attributes, personality traits, and societal norms and values. Therefore, it is crucial to establish well-defined procedures and regulations for utilizing information systems (IS) provided by the organization. This way, behavioral intention can be assessed in terms of the degree of compliance with measurable factors such as product selection, price and value, convenience and accessibility, and other aspects in an e-commerce context, instead of solely relying on employees' perceptions. Hence, suggesting that the attitude towards technology usage at work is mainly influenced by perceived usefulness and ease of use may be viewed as a purely theoretical notion, and concrete measures need to be implemented.

The Technology Acceptance Model (TAM) assumes that its key constructs - perceived ease of use and perceived usefulness - fully mediate the influence of external variables on technology usage behavior. However, Burton-Jones and Hubona (2005) conducted a study to investigate the impact of individual user differences, such as staff seniority, age, and education level, on usage behavior. The results showed that these factors have significant direct effects on both the frequency and volume of usage. This suggests that the TAM model overlooks many external variables, such as age and education, and further research is required to explore other factors that may impact technology adoption in this digital age.

The literature review carried out in this research has revealed gaps in the study of e-commerce adoption. In particular, there is a lack of research that focuses on the adoption stage of e-commerce and provides clear instructions for effectively adopting and implementing e-commerce systems with clear measures to assess the perceived ease of use and perceived usefulness in the context of e-commerce. There are two primary limitations of this research. First, the scarcity of literature sources in the specific research domain restricts the research. Second, the research only focuses on examining and analyzing the two constructs of the TAM model to develop a theoretical research model. The future research will concentrate on conducting an empirical study to validate the developed research model. A quantitative research approach may be utilized to examine the connections among the model's variables.

In conclusion, this research paper reviewed the Technology Acceptance Model (TAM) in the context of e-commerce adoption. The paper identified that the model has been widely used in various contexts but may lack some variables necessary for the e-commerce field. To address this gap, the paper introduced new variables that can be incorporated into the TAM model to make it more mature in the e-commerce field adoption. These new variables can enhance the model's ability to explain e-commerce adoption behavior among consumers. Future research should focus on validating the proposed model through empirical studies. Overall, this research paper contributes to the development of the TAM model and provides insights into its application in the e-commerce context. The study provides valuable perspectives on the challenges hindering the adoption of industrial e-commerce by consumers in the UAE. Consumer reluctance is primarily attributed to their unease with product selection, and establishing trust and security is

essential in enhancing the perceived usefulness of industrial e-commerce and promoting consumer acceptance. The study supports this apprehension by revealing the growing number of security vulnerabilities and inadequate measures to safeguard personal information. Furthermore, the study uncovered significant hurdles in customer service and payment options that could adversely affect the perceived ease of use of the e-commerce platform.

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Domestic Market Determinants of Foreign Portfolio Flows to an Emerging Market: A Study of Saudi Capital Market

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Abstract

This study examines the domestic market determinants of portfolio flows from foreign institutional investors in Saudi stock market. Monthly data relating to domestic market size, return, volatility liquidity and proportion of free float shares for the period, March 2017 to September 2023 is analysed. Granger causality shows that foreign portfolio flows cause domestic market return in Saudi Arabia and the reverse causality is absent. Multivariate time series regression analysis is employed to finds that market size as measured by market capitalization and domestic market return volatility are the covariates of foreign portfolio flows. Results of the study have important implications for the regulators of emerging markets to decide what factors to focus on in policymaking to attract foreign portfolio flows.

Keywords: Foreign Institutional Investors; Portfolio Flows; Domestic Market Return; Volatility; Liquidity; Free Float Ratio; Granger Causality Test

1. INTRODUCTION

Foreign portfolio flows to the stock market do not add to the real investment in the economy. These flows impact the economic growth through its effect on the stock market. Qualified foreign institutional investment (QFII) in the stock market decreases market return volatility by broad basing investors and improving risk sharing (Sharif, 2019), makes informativeness of stock prices better through active monitoring (Vo, 2017), restrict tunnelling of cashflows by controlling shareholders (Zhang et al., 2017), enhance reporting standards of listed firms and their governance (Lin et al., 2018), and so on. These benefits prompt regulators of markets across the globe to open up their markets for QFIs (Qualified foreign institutional investors) and constantly prompt theses flows through close monitoring and policy amendments. Knowledge of what domestic market factors attract foreign institutional portfolio flows will help the policymakers to implement appropriate policies to enhance investments by QFIs.

This study examines if market size measured by market capitalization, domestic market return, domestic market return volatility, market liquidity and proportion of free float shares impact QFII in Saudi stock market. Pairwise Granger causality test shows that QFII granger causes domestic market return and reverse causality is absent. Results confirm that QFII exerts price pressure on the small evolving Saudi stock market. A bidirectional causality is found between QFII and domestic market return volatility. QFII is found to both Granger cause return volatility and is impacted by volatility. A multivariate regression analysis shows that market size is the only variables that impacts QFII in Saudi stock market. This study contributes to the empirical literature significantly by focusing on the domestic market factors that explain the variations in portfolio flows by foreign institutional investors. Previous works on this topic generally focus on

the broad framework of what factors of developed markets push the institutional investors away from these markets and pull factors of the emerging markets that attract the foreign investors. But studies that exclusively focus on a wide range of domestic market characteristics are limited. This study contributes to the literature because of characteristics of Saudi stock market which makes it distinct and different from other emerging markets. Saudi Arabia is a small emerging stock market with a market capitalization of around 11.25 trillion Saudi riyals with just 232 listed firms as of the fourth quarter of 2023. The secondary market is opened for QFIs investment only very recently, in June 2015 while most of the emerging market were opened for foreign investment in 90s. Saudi Arabian currency is pegged fixedly to the US dollar which removes the currency risk for the foreign investors and may prove to be attractive. Previous works show that currency price fluctuations affect the attractiveness of the country (Gupta & Ahmed, 2020) as it impacts the investment performance and may involve high hedging costs. (Deng, 2020) Study of determinants of QFIs investment in Saudi stock market given its unique characteristics contributes significantly to the literature on QFI investment. (QFII)

The paper is organized in 5 sections. This section that introduces the study is followed by the section that reviews the previous works. Section 3 discusses the methodology employed. Section 4 presents the empirical results and the final section concludes the study.

2. DATA AND METHODS

This section presents the data analysed, variables studied and the model estimated to examine the market specific determinants of QFII in Saudi stock market.

2.1 Data

Monthly data relating to 79 months, March 2017 to September 2023, is analysed. QFIs are allowed to invest in Saudi stock market since June 2015. Initial flows were less than 0.20 percent of total market capitalization till September 2016. In order to increase the QFII, a major amendment is made to the rules governing QFII in September 2016 both broadening the categories of foreign institutional investors that are qualified to invest and enhancing their investment limits. As a response to this amendment, QFII started registering an increase in the subsequent months and the flows made a huge leap during early 2017. Hence, data from March 2017 till September 2023 is studied. Data is accessed from the website of Saudi stock exchange. Period of study includes the months during which Covid-19 precautionary measures were in force. In order to account for probable impact of Covid-19 on QFII, a dummy variable that is equal to 1 during months of Covid-19 precautionary measures and 0 otherwise. Previous works document the effect of Covid-19 on stock market. (See for example, Albulescu, 2021)

2.2 Variables Defined

Table 1 below gives the definition of the variables studied. This study examines the variables that are suggested by previous works and relate to domestic market characteristics. Market capitalization (See for example, Hussain et al., 2022), return (See for example, Mukherjee et al., 2022), return volatility (See for example, Hiremath et al., 2017), liquidity (Koepke, 2019) and free float ratio. (Kalyanaraman, 2011)

Table 1. Variables Studied

Variable	Definition
QFII	Investment by qualified foreign institutional investors. It is defined as
	Qualified foreign institutional investors' investment holding value of this month

	divided by the free float market capitalization of the previous month.
MC	Log (Free float market capitalization)
RN	Domestic market return. It is equal to the logarithmic difference of this month market index value, Tadawul All Share Index, and its value at the end of previous month.
SD	Standard deviation of daily returns on the domestic market index during the month.
LQ	Number of shares traded during the month as a percentage of free float shares.
FF	Free float shares as a percentage of issued shares during the month
Dummy	Dummy is to find out the effect of Covid19 on QFII. It takes the value 1 during months of Covid19 precautionary measures are implemented and is equal to 0 otherwise.

Table 2 presents the summary statistics and the correlation matrix. It can be noticed from the table that QFII as a percentage of the previous month market capitalization ranges from 16.85% to 0.62% with the average around 8.84% during the study period. Panel B of the table shows that the correlation between none of the study variables is high enough to cause any concern of multicollinearity. However, test of multicollinearity is also carried out and the results are presented in the results section.

Table 2. Summary Statistics and Correlation Matrix

Panel A: Summary Statistics						
	QFII	MC	RN	SD	LQ	FF
Mean	8.8400	12.1125	0.0061	0.0085	12.3761	30.1646
Median	11.5440	12.0706	0.0126	0.0070	11.1281	21.1628
Standard Deviation	5.4229	0.1773	0.0506	0.0048	5.5847	15.2872
Maximum	16.8479	12.4241	0.1009	0.0362	4.4521	51.4746
Minimum	0.6182	11.8758	-0.1592	0.0031	5.5847	12.7460
Panel B: Correlation Matrix						
QFII	1.0000					
MC	0.7907[1]	1.0000				
RN	0.0022	0.0319	1.0000			
SD	0.0399	-0.0495	-0.2350[5]	1.0000		
LQ	-0.0451	-0.2987[1]	0.2209[5]	-0.0890	1.0000	
FF	-0.8372[1]	-0.6808[1]	-0.0846	-0.1182	-0.1667	1.0000

[1] and [5] denote significance at 1% and 5% respectively

Variables are employed either at level or first difference depending on considerations of stationarity, seasonality and trend. Augmented Dickey-Fuller test results are presented in table 3 below.

Table 3. Augmented Dickey-Fuller test results

Variable	Level	First difference
QFII	-1.4864	-4.0072[1]
MC	-2.9600	-9.8112[1]
SD	-7.4790[1]	-14.3842[1]
LQ	-4.0220[1]	-9.5231[1]
FF	-1.9731	-9.5953[1]

[1]denotes significance at 1% based on MacKinnon one-sided p-values

Null hypothesis: Variable has a unit root

Exogeneous: Constant, Linear Trend

2.3 Methods

The following steps are employed to evaluate what domestic market characteristics affect QFII in Saudi stock market.

1. Initially, Granger causality test is used to check the direction of causation of domestic market return and its volatility with QFII to determine if these two variables can be employed as explanatory variables in a model that estimates the covariates of QFII.
2. A multivariate regression framework is applied to estimate the covariates of QFII.
3. To control for the effect of Covid-19 on QFII, a dummy variable that is equal to 1 during months of Covid-19 precautionary measures implementation and 0 otherwise is included in the model estimated.

2.3.1 Investigating the Direction Of Causation Of Domestic Market Return and Its Volatility to QFII

Granger causality test is applied to check the direction of causation of return and its volatility with QFII. Both theories and empirical works make varied suggestions about the direction of causation between domestic market return and QFII.

Base broadening hypothesis suggests that foreign investors help improve liquidity and risk sharing resulting in reduced market risk premium required by investors increasing the share price. This argument suggests that QFII causes return. (Angelovska, 2020) Positive feedback trading argument contends that foreign investors enter the market when the return is high and exit when the return is low showing market return as a cause for QFII. (See for example, Choudhary et al., 2022) Price pressure hypothesis argues that foreign institutional investors bring pressure on demand-supply equilibrium of low liquidity markets. Thus, QFII causes market return changes. (Richards, 2005) Some empirical studies find a bidirectional relationship between the two variables. (See for example, Mukherjee et al., 2022) Agarwal et al. (2020) find no relationship between QFII and market return.

Earlier works show that institutional investment flows impact stock market volatility. (See for example, Derbali et al., 2020) Contradicting direction of causation between stock market volatility and QFII. Some works show that QFII increases stock market volatility (See for example, Aggarwal, et al., 2022; Naik, et al., 2022), while others argue that volatility of stocks deter QFII. (Badhani et al., 2023) In view of this conflicting evidence produced and varied suggestions provided by theories, this study examines the direction of causality of market return and its volatility with QFII.

Pairwise Granger (2001) causality test is applied and the results of the test is presented in table

4. It can be inferred from the results that QFII Granger causes domestic market return in Saudi Arabia at various lags and reverse causality is absent. A similar association is found between lagged domestic market return and QFII. Return volatility Granger causes QFII and QFII does not Granger cause return volatility. Results confirm price pressure hypothesis. Saudi stock market is relatively small and evolving market with 228 stocks listed with a market capitalization of SAR 11,410.53 billion (USD 3,042.81 billion) as of September 2023. Hence, foreign institutional investors with a holding of SAR 290.069 which constitutes around 11.28% of free float market capitalization is bound to affect the market return. In view of the results of Granger causality test, both domestic market return and its volatility are not included in the model estimated.

Table 4. Pairwise Granger Causality Test Results

Lags $\longrightarrow$	F-statistic		
	2	**3**	**4**
Panel A: QFII and domestic market return			
RN does not Granger cause QFII	0.2944	1.2175	2.3734
QFII does not Granger cause RN	12.2915[1]	7.9764[1]	9.5986[1]
Lagged RN does not Granger cause QFII	2.0687	2.1551	2.2441
QFII does not Granger cause lagged RN	30.2475[1]	20.1524[1]	14.1386[1]
Panel B: QFII and domestic market return volatility			
SD does not Granger cause QFII	5.7057[1]	4.3191[1]	3.4119[1]
QFII does not Granger cause SD	3.3336[5]	2.2597	2.1122
Panel C: QFII and market size			
MC does not Granger cause QFII	38.6318[1]	26.1815[1]	18.7859[1]
QFII does not Granger cause MC	2.7972	2.2707	1.4739
Panel D: QFII and liquidity			
LQ does not Granger cause QFII	0.1112	0.1840	0.1376
QFII does not Granger cause LQ	0.0214	0.0164	0.0827
Panel E: QFII and free float ratio			
FF does not Granger cause QFII	2.2966	2.3023	3.1446[1]
QFII does not Granger cause FF	0.3526	0.3827	0.4801

[1] and [5] denote significance at 1% and 5% respectively

2.4 The Model

The following model that includes the pull factors of the domestic market is estimated.

$$QFII_t = b_0 + b_1 MC_t + b_2 LQ_t + b_3 FF_t + b_4 Dummy_t + e_t$$

$QFII_t$	Qualified foreign institutional investors' investment during month t as a percentage of market capitalization of month t-1
MC_t	Log(Market capitalization)
LQ_t	Volume traded as a percentage of free float shares during month t
FF_t	Free float shares as a percentage of issued shares during month t
$Dummy_t$	Dummy variable equal to the value 1 for months during which Covid-19 precautionary measures were implemented and 0 otherwise.

3. RESULTS

Results of the base model using monthly data from March 2017 to September 2023. Only market size variable is found to be statistically significant. One percent increase in market capitalization increases QFII by 0.17%. Domestic market liquidity, free float ratio and COVID-19 dummy variable are found to be statistically insignificant in explaining variations in QFII. Results of the base model are found to be robust to changing the sample period as shown by the subperiod model. Subperiod model is estimated with data relating to October 2018 to September 2023. Results of this study is in line with some of the earlier works that confirm that domestic market capitalization is one of the determinants of QFII. (See for example, Oke et al., 2020) In a small emerging market like Saudi Arabia, domestic market liquidity and free float ratio do not explain the variations in QFII. Covid-19 does not affect QFII. Baker et al., (2020) find no association between incidence of infectious disease and changes in stock prices. However, they find that government's restrictive measures to curb the outbreak of disease affect stock market volatility. Since both stock price and its volatility are not affected by epidemic disease outbreak, QFII is also not likely to be impacted by COVID-19.

Table 5. Multivariate Regression Results

Variables	Base Model	Subperiod Model
MC	17.5993	18.5214
	3.0681[1]	3.4428[1]
LQ	0.0262	0.0314
	0.0139	0.0169
FF	-0.0044	-0.0009
	0.0112	0.0125
Dummy	-0.2905	-0.3593
	0.2904	0.3578
Constant	0.1181	0.1742
	0.1589	0.2504
R-squared	0.2462	0.2589
Adjusted R-squared	0.2055	0.2050
F-statistics	6.0431[1]	4.8046[1]
Durbin-Watson statistic	1.7442	0.0021

Regression is estimated by Ordinary Least Squares method with Newey-West heteroskedasticity

autocorrelation consistent standard errors and covariance. Figures in parentheses are robust standard errors.

[1],and [5] denote significance at 1% and 5% levels respectively

Base model relates to data from entire sample period, March 2017 to September 2023.

Subperiod model relates to data from the sub-sample period, October 2018 to September 2023.

Absence of the problem of multicollinearity inferred from pairwise correlations presented in Panel B of table 2 is confirmed by the variance inflation factors given in table 6. Variance inflation factors do not exceed a general rule value of 10. (Belsley et al., 1980)

Table 6. Variance Inflation Factors

	Model 1	Model 2
MC	2.0488	2.5286
LQ	1.0790	1.1155
FF	2.1959	3.1449
Dummy	1.6898	2.2768

Since lagged dependent variable is not included in the model, Durbin Watson (1951) test is carried out to check for autocorrelation in the model residuals. Table 5 presents the Durbin Watson test statistic for both the base model and the subperiod model. This statistic is compared with the upper and lower bound values taking into consideration the number of observations and variables included in the models is accessed from the table provided by Savin and White (1977). Durbin Watson test results are inconclusive as the test statistics of both the models lie between the upper and lower bounds. Hence, Breusch-Godfrey (1981) Lagrange multiplier test is done to check for autocorrelation at and up to 4 lags. This test confirms absence of autocorrelation in residuals of both models.

Table 7. Breusch-Godfrey Serial Correlation Lagrange Multiplier Test of Residuals

	Model 1	**Model 2**
F-statistic	0.5202	0.4082
	0.7212	0.8019
Obs*R-squared	2.2804	1.8612
	0.6843	0.7613

Null hypothesis: No serial correlation at up to 4 lags

p-value in parentheses

Lagrange multiplier test is applied to check for autoregressive conditional heteroskedasticity in the residuals. (Engle 1982) Test results presented in table 8 rule out the need to include ARCH terms in the estimation of the models.

Table 8. Heteroskedasticity Test: ARCH

	Model 1	Model 2
F-statistic	0.0853	0.0513
	0.7712	0.8214
Obs*R-squared	0.0882	0.0526
	0.7665	0.8186

p-value in parentheses

Table 9 that presents the results of Ramsey (1969) regression specification error test confirms the adequacy of linear model specification.

Table 9. Ramsey Regression Equation Specification Error Test

	Model 1	Model 2
F-statistic	0.2017	0.0740
	0.6551	0.7863

p-value in parentheses

4. CONCLUSION AND IMPLICATIONS

Policy makers across the globe attract foreign portfolio flows for reasons related to balance of payments problems to capital market quality. Regulations on QFII focus on the eligibility criteria defining which foreign institutional investors are qualified and the ceiling on their investments. Additionally, these regulations are periodically amended to achieve intended goals. This study is carried out in an emerging market, Saudi Arabia, which opened its market for qualified foreign institutional investors for capital market centric reasons like increasing market stability, decreasing volatility, enhance market efficiency, improve transparency and governance of listed firms, enhance professionalism of market players and so on.

This study's findings have important implications for the policy makers of emerging markets. It is found that QFIs Granger cause market return. A bidirectional causation is found between QFII and market return volatility at 2 lags. At lags higher than 2, return volatility deters QFIIs. Market size measured by free float market capitalization is found to be the only significant variable that explains the variations in QFII. These findings seem interrelated. The number of stocks listed stands at 228 as of September 2023. Average monthly traded volume stands at around 4,598 million shares and around 30% of the issued shares are available during the study period. In a market with such a restrictive opportunity set for investment, QFIs are bound to exert price pressure affecting the domestic market return and its volatility. Their investment is likely to be affected by the market capitalization as confirmed by this study. Policy makers of emerging markets with characteristics to similar to that of Saudi stock market should focus on both expanding the number of shares listed and the free float shares available for trading to attract more QFII.

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EU Green Deal, Opportunities and Challenges for Vietnam's Exports to the EU Market

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Abstract

By synthesizing, analyzing and commenting, the article clarifies the regulations in the EU green agreement. Thereby, the article predicts the channels through which this agreement can affect Vietnam's export activities to the EU. The result shows that EGD will affect Vietnam's key export product groups such as electricity and electronics; Agricultural and aquatic products; Textiles, garments, footwear;... At the same time, based on the assessment of the current export situation between Vietnam and EU countries, the article also points out the main opportunities and challenges for Vietnamese exports in the context of implementation of the EU green deal.

Keywords: European Green Deal, EU, export, Vietnam

1. INTRODUCTION

The European Union's (EU) long-term and comprehensive plan to address global climate emergencies until 2050 is known as the European Green Deal (EGD). The EU's plan to reach net zero greenhouse gas emissions and develop into the least resource-intensive economic zone by 2050 is shaped by the EU Green Growth Deal, which was approved on January 15, 2020. It serves as a development plan as well. Businesses will need to adapt their production activities to meet the new sustainability requirements. Additionally, the approach will open up new avenues for conducting business inside and outside of the EU.

Therefore, the EU Green Growth Deal is a topic that many scholars are interested in and analyzing. Typical examples include the studies of Deal (2020) and Fetting (2020) on regulations in the European green agreement; Kougias, Taylor, Kakoulaki & Jäger-Waldau (2021) on the role of renewable energy in the European Green Deal; Leonard, Pisani-Ferry, Shapiro, Tagliapietra & Wolff (2021) on the grand politics of the European green Deal; Szpilko & Ejdys (2022) on research directions in the European green Deal; Claeys, Tagliapietra & Zachmann (2019) discuss how to implement the EU green agreement; or Eckert & Kovalevska (2021) analyze the role of green contracts in the EU's sustainable development,...

A bilateral free trade agreement EVFTA between Vietnam and the European Union (EU) was signed and will go into effect on August 1, 2020. The objective of fostering bilateral trade between Vietnam and the EU is being greatly advanced by the agreement's implementation. Vietnam shouldn't be complacent, though, as the EU market continues to present hurdles. The European Green Deal and other policy-making initiatives in the EU region have the potential to somewhat offset the benefits of the EVFTA. Meeting green criteria is a need for export businesses in order to continue taking advantage of EVFTA in the future, and many significant export businesses

have been getting ready for this procedure. The author of this study will explain the EU green agreement's regulations, examine Vietnam's export situation both before and after the EU implemented the green agreement, and use this information to highlight Vietnam's opportunities and obstacles when promoting exports to EU markets.

2. LITERATURE REVIEW

The EU's aim to reach net zero greenhouse gas emissions (emissions neutrality) and transform into an economy that utilizes the fewest natural resources by 2050 is essentially shaped by the Green Deal policy package. Since every economic activity has an impact on environmental degradation and/or contributes to climate change, the EU Green Deal is intended to address all areas. The EU economy includes cross-sector policy elements to produce cooperative outcomes in the realization of the ultimate objective of carbon neutrality by 2050.

In other words, the EGD's policies have varied degrees of impact on every area and facet of the EU economy. However, the EGD focuses on a number of economic sectors—agriculture, industry, services, energy, finance, transportation, and construction—to speed up the process of becoming emission neutral due to the significant impact on the environment and climate change. The EU Green Deal, being an internal policy package of the European Union, is limited in scope to EU subjects and objects (goods, services, economic activities) that are sold on EU territory.

Therefore, there are many studies on the impact of the EU green agreement on the trade of each country and different regions in different industries. Typically, we can mention the research of Boix-Fayos & de Vente (2023) on opportunities and challenges in sustainable agricultural development with the EU green deal; Siddi (2020) research on the current status and prospects of implementing the EU green deal; Research on opportunities and challenges for the South Mediterranean region in implementing the EU green deal by Sandri, Hussein, Alshyab & Sagatowski (2023). Or studies on the impact of the EU green deal on some specific industries, such as the electronics industry in the study of Şahin, Taksim & Yitgin (2021), mechanical goods industry gas in the study of Thormann, Neuling & Kaltschmitt (2023).

Lee-Makiyama (2021) demonstrates that the EU Green Deal (EGD) is a crucial framework for the modernization and decarbonization of European industry, fostering innovation and investment in green technologies to enhance the global competitiveness of EU industries. Similarly, Kuci and Fogarassy (2021) emphasize that the EGD promotes the adoption of circular economy principles, leading to more sustainable resource use and waste reduction, and providing opportunities for innovation in product design, recycling technologies, and sustainable business models. However, they note that the EGD's focus on the circular economy presents substantial benefits as well as challenges that require coordinated efforts, investment, and policy support. Wolf et al. (2021) highlight that while the EGD aims for climate neutrality by 2050, its scope also includes promoting economic growth, social inclusion, and environmental sustainability by integrating various policy areas such as energy, transport, agriculture, industry, and biodiversity. They regard the EGD as a transformative agenda necessitating significant commitment and collaboration to achieve its ambitious goals. Paleari (2022) points out that the EGD has resulted in stricter regulations and more ambitious targets for emissions reductions within the EU, influencing the revision of existing policies and the introduction of new environmental initiatives.

In certain circumstances, however, the EU Green Deal's policies will also affect economic actors outside the EU but linked to EU economic activity, in particular:

Policies and regulations that are mandatory for goods and services circulating, trading, using, consuming and/or generating emissions in the EU: Because the target group of these measures includes some types of goods imported from outside (third countries) into the EU market and

used and consumed here, foreign manufacturers and exporters supplying these goods and services to the EU will also must comply with relevant policies;

Policies and regulations that apply directly to goods and services imported from outside the EU: Compared to the above case, this group is smaller and is used by the EU in some situations to promote implementation. the EU's climate and environmental goals in a thorough and comprehensive way, avoiding the situation where the EU consumes imported goods that indirectly invalidate the EU's climate goals or promote economic production activities. business that harms the environment in the exporting country. In these cases, the EU importer and correspondingly the foreign manufacturers and exporters of the products concerned will be subject to these measures.

Thus, although it is an internal document of the EU, in a number of specific policies and implementation measures, the Green Agreement will apply to goods and services imported from outside the EU as well as importers. related foreign production and export. From here, the Green Deal is expected to affect both directly and indirectly many trade flows of goods and services from all parts of the world into the EU, the region with the second largest import turnover. globally (behind only the United States). Therefore, the EU's implementation of the Green Deal will inevitably affect a significant portion of Vietnam's exports.

3-METHODOLOGY

The article uses statistical and descriptive methods based on analysis of import and export data between Vietnam and EU countries. The article will evaluate changes in international trade between Vietnam and other countries. EU. At the same time, by applying the SWOT model, the article will also point out opportunities and challenges for Vietnam's import and export activities with the EU in the coming time.

4-RESULTS

Although not popular, some policies and actions within the framework of the Green Deal require Vietnamese manufacturers and exporters to bear additional amounts of money (directly or indirectly in different forms) to can export goods into the EU, for example: Amounts payable under the Extended Producer Responsibility Regulation (EPR): Manufacturers of manufactured products (except for certain types of products) product) may have to pay the importing country a certain fee to treat waste arising from the use of the exported product; Amounts payable to purchase CBAM certificates for each ton of CO_2 emitted under the Border Carbon Adjustment Mechanism.

A number of new requirements under the policies and plans in the EU Green Deal will force Vietnamese manufacturers and exporters to carry out declaration procedures, provide information and documents to prove green responsibility. , for example: Procedures for reporting the level of CO_2 emissions of imported goods under the Border Carbon Adjustment Mechanism - CBAM; Request to provide documents and evidence proving that the goods are not raised, grown or originated on land acquired through deforestation or from forest degradation according to the Anti-Deforestation Regulations - EUDR; Procedures for proving, confirming/recognizing equivalence for organic products according to the Regulations on Organic Production and Organic Product Labeling...

Theoretically, the Green Deal covers all economic sectors in the EU, so in the long term, all Vietnamese export products to this market may be affected by EU green policy At different levels, according to roadmaps and in different forms. In the early stages of implementation, the policies and measures of the Green Deal focus on priority areas that the EU considers to be the main

contributors to environmental degradation, climate change and/or inflation. use natural resources. Specifically:

In manufacturing: Iron and Steel, Aluminum, Cement, Fertilizers, Electricity and Hydrogen are listed as generating the majority of industrial emissions in the EU (94%); There are also high-risk products related to many industries (such as chemicals, batteries, accumulators...)

In consumption: Food, Housing, Textiles and Transport are respectively the groups that have adverse impacts on the EU environment (and respectively the agriculture, forestry and fishery industries, food processing, wood and wood production, construction materials, vehicles...).

With the above priority aspects and the reality of green programs and strategies identified to date in the EU Green Deal, Vietnam's export products in the following fields are being targeted. Symbols of many EU green standards: Electricity, electronics, information technology products, related equipment and components; Agricultural products (especially coffee, cashew, pepper, cocoa, meat,...), aquatic products, wood and wood products; Foods of all kinds (especially organic foods); Textiles, footwear; Chemicals, fertilizers, batteries, accumulators; Iron, steel, aluminum, cement; Packaging of all types of products (especially food packaging, chemicals...).
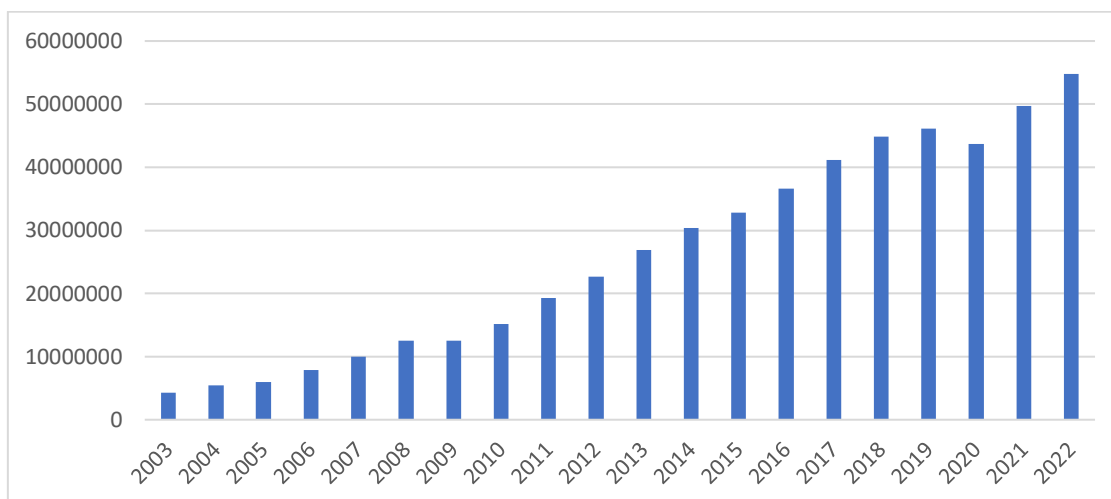
Fingure 1. Vietnam's export turnover to the EU market

Source: trademap.org

Diagram 1 shows that Vietnam's total export turnover to the EU market basically maintains a steady upward trend for 20 years from 2003 to 2022. However, in 2020 it decreased slightly. The slight decrease in export turnover to the EU in 2020 partly shows the impact of the EU green agreement on Vietnam's export turnover. The implementation of the EU green agreement somewhat causes difficulties for export businesses in terms of procedures and costs, so in 2020 export turnover shows signs of decreasing slightly. However, soon after, from 2021 export turnover began to slowly increase again. This shows that businesses have begun to get used to the regulations in the EU green agreement. In addition, at the end of 2020, Vietnam will officially enjoy incentives in the EVFTA Agreement, which partly offsets costs for businesses when exporting to the EU market.
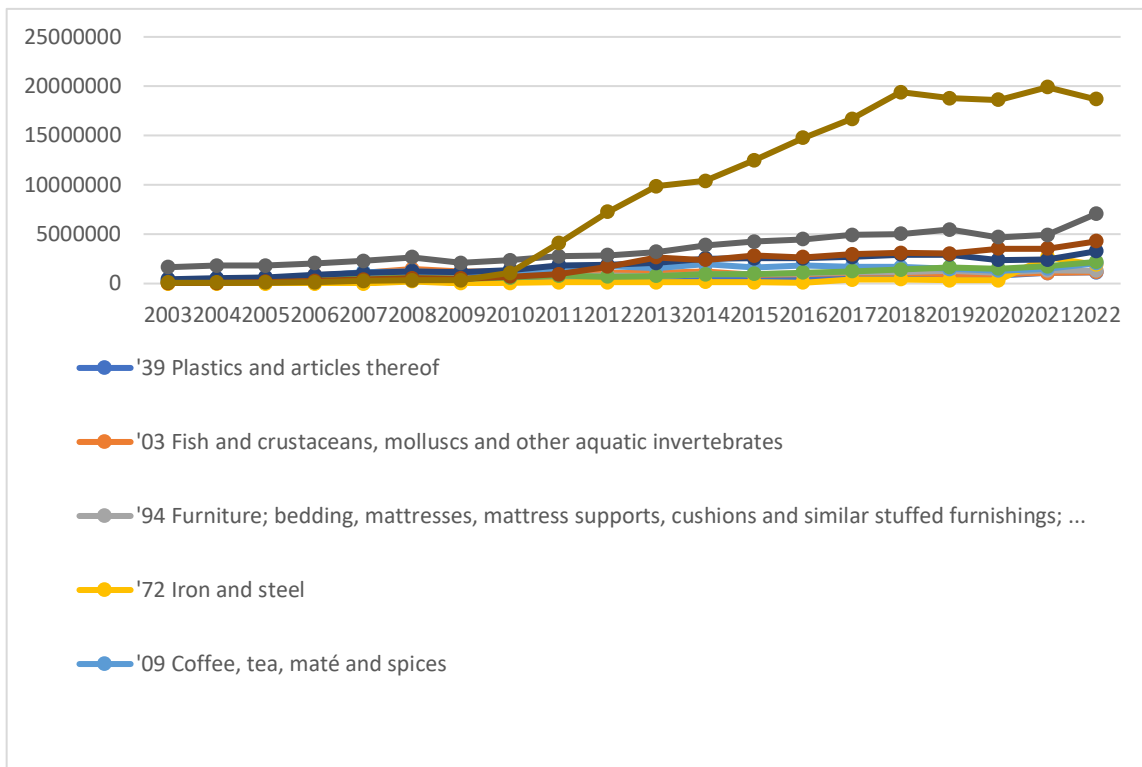
Figure 2. Export turnover of some main products of Vietnam to the EU

Source: trademap.org

The diagram 2 shows that Vietnam's main export products to the EU in recent times are mainly electronic equipment, shoes, mechanical equipment, textiles, agricultural products, and seafood. These are also products affected by the EU green agreement. However, the graph also shows that from 2020 to now, the export turnover of these products does not tend to decrease but still maintains an increase throughout this period. Meanwhile, 2020 is considered the year the EU green agreement is officially applied and is also the year the European Union - Vietnam Free Trade Agreement (EVFTA) takes effect. This shows that Vietnam's main export products to the EU market are still not much affected by the EU green agreement as well as with the implementation of EVFTA, the incentives that the Agreement brings have partly compensated. Barriers imposed by the EU green agreement on Vietnam's export goods to the EU market. The tariff reduction in EVFTA really has an impact on the volume and price of Vietnam's export products to Europe. In fact, reducing tariffs will partly offset transportation costs as well as costs to ensure the implementation of the EU green agreement.

5-DISCUSSION AND CONCLUSION

The challenge that the Green Deal poses to Vietnamese exports lies first of all in changing and raising awareness of businesses, associations and related entities. As a comprehensive policy package with a very long roadmap, the Green Agreement and the policies and measures to implement this Agreement are not only numerous in number and complex in nature, but also continuously evolving. through time. There is no common set of green standards, no unified green transition roadmap for all types of goods exported to the EU.

Going deeper into the requirements of green policies, the challenge for Vietnamese manufacturers and exporters lies in the ability to comply with these requirements. Meeting the

EU's usual technical standards (TBT), food hygiene and safety and quarantine (SPS) is already not easy for many businesses, the challenge will of course be even greater. many with new green standards or upgrades from current TBT and SPS in a higher, stricter and more difficult direction. Depending on each business, that challenge may be in the capacity to transform technology, in supply chain control, in labor skills or in the ability to explain, declare and store information. Behind all these technical challenges is the affordability or investment required for transformation. With the majority of businesses being small and micro-scale, with limited capital, technology and management capacity, and currently in a volatile business period, responding to challenges from The Green Deal is a very difficult task.

There are many challenges, however, if there is early preparation, meeting the EU's green requirements can in fact still be feasible for the majority of Vietnamese businesses that have been exporting to the EU.

On the one hand, all EU green policies are publicly drafted and consulted for a very long period of time before being decided on adoption. Even when effective, these policies have a step-by-step implementation roadmap, with difficult requirements that must only be fully implemented after a long period of time. On the other hand, not all green standards require high compliance costs but may require changes in the way of action (for example, requirements on emission declaration, product information...).

At the same time, in some cases, EU green standards are legislated from previous voluntary standards that businesses have implemented at the request of customers, so it may not require too big changes to the system. enterprise.

Although in the immediate future, the EU's green policies pose great challenges for Vietnamese exports, in the long term, proactively implementing green transformation in a synchronous and comprehensive manner can bring the most opportunities. set for businesses.

From a market perspective, this is the best way for businesses to be one step ahead and gain early access to the EU's potential green products market with a rapidly increasing number of customers conscious of green consumption. strength of this area. At the same time, early adaptation to green requirements in the EU also provides certain guarantees for businesses' ability to export to other developed markets that are also promoting actions to realize the goals. The climate is similar to the EU (like the US, UK, Japan, Australia...).

From an efficiency perspective, although green transformation may require high initial investment, it can be a factor that helps reduce costs and improve business efficiency for businesses in the long term. Not only that, on a macro level, each enterprise's participation in green transformation will make an important contribution to promoting the green transformation process in the domestic economy, thereby making a meaningful contribution to sustainable development. stability of Vietnam itself.

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The Models of Indonesian Students to Study in Higher Education Institutions in China

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Abstract

Studying in China for educational purposes is one of the genuine aspects of China's higher education and an essential component of talent development via higher education. It is also an important factor in Chinese education overseas. With the opening of numerous areas and regions, education has become an important field and a point of entry for interactions between China and other nations owing to its unique qualities. This research seeks to identify the Models of the Role of the CNY Agency for Indonesian Students Enrolling in Chinese Higher Education Institutions. This research used the SEM (Structural Equation Model) approach using the SMART-PLS 3.0 analytic tool, which was proved on 201 respondents who are students studying in China through the CNY Agency's consultation. This research discovered that student motivation, personal relationship, discipline, and student satisfaction directly affect student performance and that student satisfaction mediates the effects of student motivation and discipline on student performance.

Keywords: Student Motivation, Personal Relationship, Discipline, Student Satisfaction, Student Performance

1. INTRODUCTION

The number of Chinese students studying abroad surpassed 600,000 mark for the first time in 2017. During the 40 years of reform and opening up, 5,194,900 people have studied abroad, and 1,454,100 are currently studying and researching abroad (Ministry of Education of the People's Republic of China, 2019). In 2017, the Chinese government sent 31,200 people to study abroad in 94 countries and enjoyed government scholarships. In 2020, China became the world's fourth and Asia's biggest study destination. The total number of international students studying in China exceeds 500,000 (Ka Ho Mok, 2020). Many Indonesian students recommended by CNY to study

in China also enjoy this scholarship. In 2021 as many as 546 Indonesian students had to postpone graduation due to the Covid-19 pandemic impact (Santosa, 2021)

CNY Agency/Consultancy is a consulting agency with its characteristics. It serves as a bridge between Chinese universities/colleges, Indonesian students, and their parents. CNY provides guiding, matching, registering and managing, following up, and problem-solving services. Their service covers before, during, and after students' study in China or a life-long service, not a one-shot service. Moreover, they also make sure all candidate students recruited by their relevant institutions and majors to study is CNY's target.

CNY also endeavor to guide candidate students to prepare and submit necessary documents which meet the requirement of different institutes respectively, and help arrange their medical checkups. Also, help process their no-criminal record, translate and notarize their application documents, and apply for appropriate visas to China.

CNY Agency/CNY Education Consultant was established in Jakarta Indonesia in April 2017. CNY is an abbreviation for Chinese New Year or China Yuan, which refers to China's currency. Its establishment aims to promote bilateral cooperation in education between Indonesia and China. The products/services offered by the institution follow the higher education process. CNY Agency has a role in helping prospective students determine the campus of their choice. In the past five years, CNY has successfully recommended 201 Indonesian students to different Chinese Universities and colleges. Some even were issued full scholarships. All majors in those Chinese universities are accessible, including medicine, Mandarin, business, economics, and engineering. The CNY agency was established in 2017 through notary Netty Maria Machdar which was legalized by the Ministry of Law and Human Rights on 11 August 1998. The mission of CNY is to send Indonesian students and scholars to pursue degree and non-degree programs with scholarships in China and vice versa. CNY hopes its activities will eventually promote people-to-people exchange and mutual understanding between the two countries. The beneficiaries of scholarship opportunities have also been granted admission to twelve state-owned public universities in China.

A preliminary survey of 50 students was undertaken to identify the factors influencing student success. Satisfaction and performance are crucial in modern higher education. This satisfaction also leads to student retention, attraction for new students, and positive word-of-mouth communication (Dhaqane & Afrah, 2016). The variables described previously were described in one research method: The Model of the CNY Agency Role for Indonesian Students to Study in Higher Education Institutions in China.

The role of the CNY Agency is highlighted and essential, especially to some students who have difficulties settling down or getting used to their lives in China. To facilitate their study and lives on campus, CNY help set up alumni and WeChat groups for information sharing. Direct and instant contact between Chinese teachers and Indonesian students' families outside China is almost impossible due to the language barrier and limited communication methods. The author chose the CNY agency as a model in this dissertation because the business CNY conducts is meaningful and unique and rarely draws attention from other researchers. The public can pay attention to the status quo between Indonesia and China regarding the people-to-people exchange and eventually promote the exchange better. The author is very familiar with the vision and mission of CNY, the strategy and tactics of the company, as well as daily operations. Studying in China for education is one of the essential contents of China's higher education and an important part of talent training through higher education. It is also an essential part of Chinese study-abroad education. With the opening up of various fields and regions, education, due to its characteristics, has become an important field and a breakthrough point for exchanges between

China and other countries. This study aims to determine the Models of the CNY Agency Role for Indonesian Students to Study in Higher Education Institutions in China

2. LITERATURE REVIEW

2.1. Student Motivation

The term "motivation" refers to the forces, both internal and external to a person, that inspire joy and persistence to perform a certain behavior (Filgona et al., 2020). The globalization of higher education results in the internationalization of institutions and students. International students are increasingly migrating abroad in search of education as well as other interests including employment opportunities, cultural and social experiences, and even migration (Park et al., 2017).

2.2. Personal Relationship

Personal relationship is a form of relationship closely linked to a person and which can only be important to that person. According to Tyler, Stevens-Morgan, and Brown-Wright (2016), personal relationships have the following dimensions: (1) Influence (Dominance Submission) and (2) Proximity (Opposition Cooperation). Regarding personal relationships and student satisfaction, several studies have been conducted by Bakadorova & Raufelder, 2018; Borishade et al., 2021; Lavy & Bocker, 2018; Le et al., 2021 and Tsai, 2017, where research results show that there is a positive and significant relationship between interpersonal relationships and student satisfaction.

2.3. Student Satisfaction

Evaluation of students' educational experiences, services, and facilities may result in a short-term attitude known as student satisfaction.

According to Dhaqane and Afrah (2016) student satisfaction is the most important competitive advantage and also contributes to student engagement, student attraction to new students, and positive word of mouth communication. Student satisfaction has become an important concern for universities. Fieger (2012) identified the following elements that increase academic satisfaction: (1) Teaching (2) Assessment (3) Generic Skills and Learning Experiences. A number of studies have been conducted on student motivation and student satisfaction (Aminu et al., 2022; Damaris et al., 2019; Goulimaris, 2015; Kryshko et al., 2022; Obiosa, 2020; Subandi & Hamid, 2021), where the research results confirms that student motivation has a significant positive effect on student satisfaction.

2.4. Student Performance

For learning environments including universities and colleges, predicting student performance is one of the most important topics as it helps develop effective processes that, among other things, improve academic achievement and minimize dropout.

Student performance refers to aptitude, success, or motivation to perform a task. Individual performance in achieving certain goals or objectives. Reubenson, Leo, and Gucciardi (2020) stated that there are three dimensions for analyzing student performance: (1) Intellectual Behavior (2) Interpersonal Behavior (3) Intrapersonal Behavior. Many previous researchers have been interested in the relationship between motivation and student performance (Almulla & Alamri, 2021; Anwar, 2019; Meece et al., 2006; Steinmayr et al., 2019; Thi & Nguyen, 2021).

There are 2 (two) elements that influence student performance, including the following: (1) Internal factors originating from within the student himself, is the first element that has an impact

on student performance. The student's physiological or physical health, interest in learning, level of intelligence or intelligence, drive to learn, abilities, and interests are among the internal elements. (2) External factors are factors that have an impact on student performance but are not related to the students themselves. The school curriculum, teaching strategies, ways of enforcing discipline, teaching and learning facilities, student grouping systems, social systems common in the school environment, and interactions between teachers, staff and students are types of external variables.

3. RESEARCH METHOD

This study uses a quantitative approach that emphasizes the analysis of numerical data processed by statistical methods. Quantitative Research is a type of Research that produces findings that can be achieved (obtained) using statistical procedures or other means of quantification (measurement). Quantitative Research is an objective research approach that includes the collection and analysis of quantitative data and uses statistical testing methods. Quantitative methods are the use of data in the form of numbers that are generally collected through structured questions (Sekaran & Bougie, 2016).
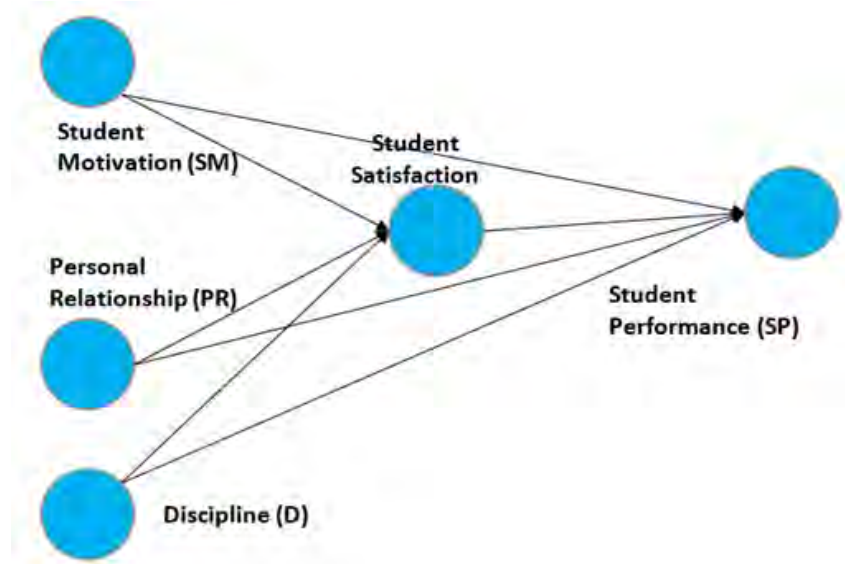
Figure 3.1. Conseptual Models

Population and Sample

A population is a group of several people, events or specific characteristics that make a researcher want to examine it deeper (Sekaran & Bougie, 2016). The population of this study are Indonesian degree students sent to study in China from 2017-2021 by CNY Education Consultant organization/CNY Agency; as many as 201 students became respondents. The sample is a part of the population to be studied that can represent all existing populations.

Measurement

A variable is anything that can distinguish or bring variation to a value. Values can be different at various times for the same object or person or at the same time for different objects or people (Sekaran & Bougie, 2016). There are five variables in this study consisting of three independent variables, one mediator/mediating variable and one dependent variable, which are shown in Table

Table 1. Research Variables and Dimensions

Variables	Dimensions	
SM Student Motivation	SM1	Academic & Education Quality
	SM2	Work
	SM3	Career & Migration
	SM4	Pleasure & Experience
PR PersonalRelationship	PR1	Influence (Dominance-Submission)
	PR2	Proximity (Opposition-Cooperation)
D Discipline	D1	Focus
	D2	Intention
	D3	Responsibility
	D4	Structure
	D5	Time
SS Student Satisfaction	SS1	Teaching
	SS2	Assessment
	SS3	Generic skills and learning experiences
SP Student Performance	SP1	Intellectual behavior
	SP2	Interpersonal behavior
	SP3	Intrapersonal behavior

Source: Research Data (2023)

Data Collection and Analysis

The type of data used is primary data from the CNY Education Consultant organization, which was obtained during the research. Data collection methods in this study will use several methods: questionnaires and literature study. The data analysis technique in this study used Partial Least Square (PLS). PLS is a Structural Equation Modelling (SEM) equation model with an approach based on variance or component-based structural equation modelling.

SEM has a higher degree of flexibility in research that connects theory and data and can perform path analysis with latent variables, so it is often used by researchers who focus on social sciences. Partial Least Square (PLS is a relatively analytical solid method because it is not based on many assumptions. The data also does not have to have a multivariate normal distribution (indicators with categorical, ordinal, interval to ratio scales can be used in the same model), and the sample does not have to be significant

4. RESULTS

4.1. Data Analysis Results

Outer Model Evaluation

a. Convergent Validity

Convergent validity testing of each construct indicator. According to Chin in Ghozali and Latan (2015), an indicator is said to be valid if its value is more significant than 0.70, while a loading factor of 0.50 to 0.60 can be considered sufficient. Based on this criterion, if there is a loading factor below 0.50, it will be dropped from the model.

Table 2. Convergent Validity Test Result

Variable		Indicator	Outer Loading	Description
Student Motivation	1	SM1-1	0.903	VALID
	2	SM1-2	0.886	VALID
	3	SM1-3	0.888	VALID
	4	SM2-1	0.912	VALID
	5	SM2-2	0.777	VALID
	6	SM2-3	0.856	VALID
	7	SM2-4	0.845	VALID
	8	SM3-1	0.866	VALID
	9	SM3-2	0.759	VALID
	10	SM3-3	0.830	VALID
	11	SM4-1	0.846	VALID
	12	SM4-2	0.862	VALID
	13	SM4-3	0.813	VALID
	14	SM4-4	0.898	VALID
Personal Relationship	1	PR1-1	0.834	VALID
	2	PR1-2	0.825	VALID
	3	PR1-3	0.710	VALID
	4	PR1-4	0.560	VALID
	5	PR1-5	0.785	VALID
	6	PR1-6	0.657	VALID
	7	PR1-7	0.566	VALID
	8	PR2-1	0.753	VALID
	9	PR2-2	0.804	VALID
	10	PR2-3	0.772	VALID
	11	PR2-4	0.659	VALID
	12	PR2-5	0.710	VALID
Discipline	1	D1-1	0.808	VALID
	2	D1-2	0.800	VALID
	3	D1-3	0.761	VALID
	4	D1-4	0.721	VALID

Source: Data Processing Results (2022)

b. Average Variance Extracted (AVE)

Table 3. Average Variance Extracted

Variable	AVE
Student Motivation (X1)	0.729
Personal Relationship (X2)	0.517
Discipline (X3)	0.510
Student Satisfaction (Y)	0.703
Student Performance (Z)	0.603

Source: Data processing results (2022)

A good model is needed to assess the validity of a construct by looking at the AVE value if the AVE of each construct is more significant than 0.50 (Ghozali, 2014). The results of the Average Variance Extracted (AVE) test show that all constructs have the potential for reliability to be

tested further. This is because the AVE value in the whole construct has been greater than 0.50 as follows:

a)   The Student Motivation variable has an AVE value 0.729 which is greater than 0.50, which means it has a good AVE value.

b)   The Personal Relationship variable has an AVE value of 0.517 which is greater than 0.50 which means it has a good AVE value.

c)   The Discipline variable has an AVE value of 0.510 which is greater than 0.50 which means it has a fairly good AVE value.

d)   The Student Satisfaction variable has an AVE value 0.703 which is greater than 0.50, which means it has good AVE value.

e)   The Student Performance variable has an AVE value 0.603 which is greater than 0.50, which means it has good AVE value.

c.Discriminant Validity

Based on table above it can be seen that the value of the square root average variance extracted (√) is 1,000. These values are greater than the correlation of each construct compared to the other constructs.

Based on the value of the square root average variance extracted (√) above, the constructs in the estimated model have met the discriminant validity criteria.

Table 4 Discriminant Validity

Variable	Discipline	Student Performance	Personal Relationship	Student Motivation	Student Satisfaction
Discipline	0.869				
Student Performance	0.777	0.806			
Personal Relationship	0.714	0.674	0.919		
Student Motivation	0.846	0.687	0.854	0.914	
Student Satisfaction	0.787	0.727	0.533	0.490	0.839

Source: Data processing results (2022)

d. Reliability

Table 5. Reliability

Variable	Cronbach's Alpha	Composite Reliability
Student Motivation (X1)	0.971	0.974
Personal Relationship (X2)	0.913	0.926
Discipline (X3)	0.936	0.943
Student Satisfaction (Y)	0.957	0.963
Student Performance (Z)	0.938	0.947

Source: data processing results (2022)

The Composite Reliability and Cronbach's Alpha indicators were utilized in the reliability

analysis. Composite Reliability and Cronbach's Alpha testing aims to examine the instrument's dependability in a research model. Alternatively, measure internal consistency, and the value must be above 0.60. For example, suppose all latent variable values have Composite Reliability and Cronbach's Alpha of 0.70. In that case, the construct has good reliability, and the questionnaire used as a tool in this study is reliable or consistent.

The reliability test results of the Student Motivation variable obtained Cronbach's alpha value of 0.941 and composite reliability of 0.974, which is greater than (>) 0.7, which means it has a good reliability construct value. The reliability test results of the Personal Relationship variable obtained Cronbach's alpha value of 0.913 and composite reliability of 0.926, which is greater than (>) 0.7, which means it has a good reliability construct value. The reliability test results of the Discipline variable obtained Cronbach's alpha value of 0.936 and composite reliability of 0.943, which is greater than (>) 0.7, which means it has a good reliability construct value.

The reliability test results of the Student Satisfaction variable obtained Cronbach's alpha value of 0.957 and composite reliability of 0.963, which is greater than (>) 0.7, which means it has a good reliability construct value. The reliability test results of the Student Performance variable obtained Cronbach's alpha value of 0.938 and composite reliability of 0.947, which is greater than (>) 0.7, which means it has a good reliability construct value.

The results of the composite reliability test and Cronbach's alpha in this study showed a fair value; all latent variables were reliable because all latent variable values had composite reliability and Cronbach's alpha of 0.70. So the questionnaire used as a research tool has been reliable and consistent.

Inner Model Evaluation

a. R Square

Table 6. R-Square

Variable	R-Square
Student Satisfaction	0.735
Student Performance	0.676

Source: data processing results (2022)

According to the R-Square Adjusted test findings, the R-Square adjusted value for student satisfaction is 0.735. It suggests that the environment influences 73.5% of student happiness (Student Motivation, Personal relationship, Discipline). Furthermore, the remaining 26.5% is impacted by variables beyond the scope of this research. According to the R-Square Adjusted test results, the R-Square adjusted value on student performance is 0.676. It suggests that the environment influences 67.6% of student achievement (Student Motivation, Personal relationship, Discipline, and Satisfaction). Furthermore, the remaining 32.4% is impacted by variables beyond the scope of this research.

b. Predictive Relevance

Table 7. Q-Square

Variable	Q-Square
Student Satisfaction	0.479
Student Performance	0.372

Source: data processing results (2022)

The correlation of relevance (Q²) is sure to test the Goodness of the Fit Structural model on the inner model. A Q-square value larger than zero (zero) implies that the model is predictive. This approach considers the predictive importance of student satisfaction indicators with a value of 0.479>0. Furthermore, the findings of this computation take into account the predictive importance of student performance indicators of 0.372>0. Consequently, it may be sure that the model's predicted values are plausible.

4.2. Hypothesis Testing

The estimated value for the path relationship in the structural model must be significant. The bootstrap procedure can obtain this significant value. It identifies the significance of the hypothesis by looking at the parameter coefficient values and the T-statistical significance value in the bootstrap algorithm report. The T-Table at alpha 0.05 (5%) = 1.96 can be utilized to determine whether it is significant, and then, T-Tables are evaluated to T-counts (T-statistics).

Table 8. Hypothesis Testing with Bootstrapping Process

| Variable	Original Sample	Sample Mean	Standard Deviation	T-Statistic	P Value
SM→SS	0.427	0.403	0.163	2.618	0.009
PR→SS	0.305	0.281	0.169	1.982	0.035
D→SS	1.414	1.372	0.167	8.464	0.000
SM→SP	0.301	0.332	0.176	2.715	0.007
PR→SP	0.126	0.133	0.161	2.780	0.005
D→SP	0.399	0.372	0.176	2.263	0.024
SS→SP	0.333	0.331	0.138	2.413	0.016
SM→SS→SP	0.142	0.135	0.072	1.969	0.050
PR→SS→SP	0.102	0.390	0.069	1.966	0.043
D→SS→SP	0.417	0.466	0.189	2.494	0.013

Source: data processing results (2022)
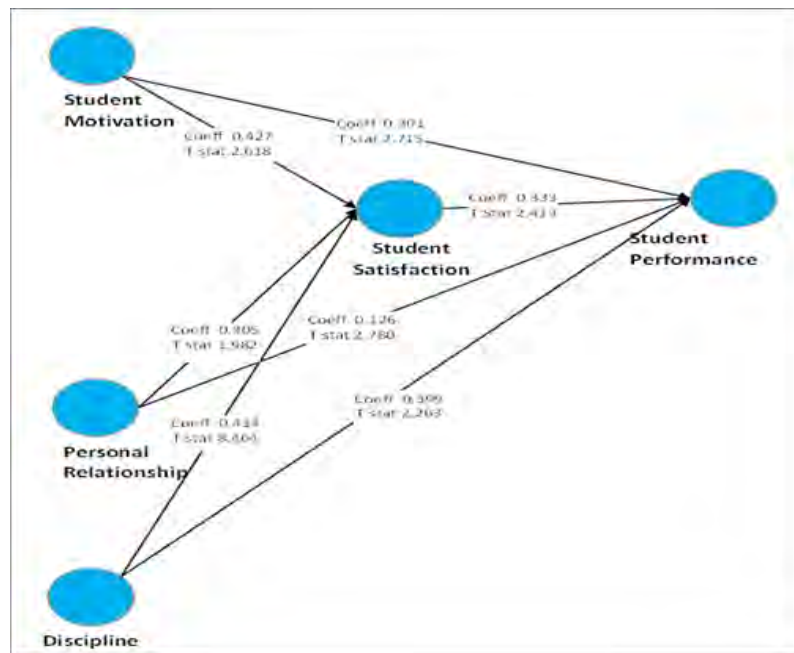
Figure 3.2 Path Coefficient and T Statistic

Based on the table and figure above, it can be seen that the results of hypothesis testing are as follows: The results of the hypothesis test for the student motivation variable obtained the original sample value of 0.427, the T statistic value of 2.618, which was more significant than 1.96 and the P Values of 0.009 greater than 0.05, which means that student motivation has a positive and significant direct effect on student satisfaction. The hypothesis test results for the personal relationship variable obtained the original sample value of 0.305, the T statistic value of 1.982 greater than 1.96 and the P Values of 0.035 greater than 0.05, which means that personal relationship has a positive and significant direct effect on student satisfaction. The results of the hypothesis test for the discipline variable obtained the original sample value of 1,414, the T statistic value of 8,464, which was more significant than 1.96 and the P Values of 0.000 greater than 0.05, which means that Discipline has a positive and significant direct effect on student satisfaction.

The hypothesis test results for the student motivation variable obtained the original sample value of 0.301, the T statistic value of 2.715 greater than 1.96 and P Values of 0.007 greater than 0.05, which means that student motivation has a positive and significant direct effect on student performance. The hypothesis test results for the personal relationship variable obtained the original sample value of 0.126, the T statistic value of 2.780 greater than 1.96 and P Values of 0.005 greater than 0.05, which means that personal relationship has a positive and significant direct effect on student performance. The hypothesis test results for the discipline variable obtained the original sample value of 0.399, the T statistic value of 2.263 greater than 1.96 and the P Values of 0.024 greater than 0.05, which means that Discipline has a positive and significant direct effect on student performance.

The hypothesis test results for the student satisfaction variable obtained the original sample value of 0.333, the T statistic value of 2,413 greater than 1.96 and the P Values of 0.016 greater than 0.05, which means that student satisfaction has a positive and significant direct effect on student performance.

The hypothesis test results for the student motivation variable obtained the original sample value of 0.142, the T statistic value of 1.969 greater than 1.96 and the P Values of 0.050 greater than 0.05, which means that student motivation has a positive and significant indirect effect through student satisfaction on student performance.

The hypothesis test results for the personal relationship variable obtained the original sample value of 0.102, the T statistic value of 1.966 greater than 1.96 and P Values of 0.043 greater than 0.05, which means that personal relationship has a positive and significant indirect effect on student satisfaction. The hypothesis test results for the discipline variable obtained the original sample value of 0.417, the T statistic value of 2,494 greater than 1.96 and P Values of 0.013 greater than 0.05, which means that Discipline has a positive and significant indirect effect on student satisfaction.

5. DISCUSSION and CONCLUSION

a. Discussion

To clarify the results that have been obtained based on the results of multiple linear regression analysis and hypothesis testing results, the following data analysis results can be tabulated as follows:

Table 9. Analysis Overview

No.	Variable	Directly /Indirect	Research result
1.	Student Motivation → Student Satisfaction	Directly	Significant positive
2.	Personal Relationship → Student Satisfaction	Directly	Significant positive
3.	Discipline → Student Satisfaction	Directly	Significant positive
4.	Student Motivation → Student Performance	Directly	Significant positive
5.	Personal Relationship → Student Performance	Directly	Significant positive
6.	Discipline → Student Performance	Directly	Significant positive
7.	Student Satisfaction → Student Performance	Directly	Significant positive
8.	Student Motivation → Student Satisfaction → Student Performance	Indirectly	Significant positive
9.	Personal Relationship → Student Satisfaction → Student Performance	Indirectly	Significant positive
10.	Discipline → Student Satisfaction → Student Performance	Indirectly	Significant positive

Based on table 3.9, student motivation has a direct and significant positive effect on student satisfaction at CNY Agency. It shows that there is student motivation provided by the CNY Agency so that it can increase student satisfaction.

Students' satisfaction can be defined as a short-term attitude resulting from an evaluation of students' educational experience, services and facilities.

Earlier it was measured by common satisfaction frameworks, but later higher education specify satisfaction models were developed (Weerasinghe & Fernando, 2017). Students' satisfaction is a short-term attitude resulting from an evaluation of a student's educational experiences. The high motivation that students have will also increase their satisfaction. It is supported by the results of research conducted by several authors (Ahn et al., 2021; Aminu et al., 2022; Yilmaz, 2017); thus, student motivation will affect student satisfaction

Based on table 3.9, personal relationship directly and significantly positively affect student satisfaction at CNY Agency. It shows the establishment of an excellent personal relationship to increase student satisfaction. Furthermore, this reveals that personal relationship have a significant meaning, which refers to student satisfaction as a short-term attitude resulting from evaluating students' educational experiences (Weerasinghe & Fernando, 2017). Thus, the better a person's relationships will increase their satisfaction. It is supported by another author (Bell, 2021); thus, a person's good personal relationship will affect student satisfaction (Y).

Based 0n table 3.9, Discipline has a direct and significant positive effect on student performance at the CNY Agency. It shows the high level of Discipline to increase student satisfaction. Discipline is also the awareness and willingness of a person to obey all laws and social norms in force. Student discipline can be seen from the responsibility, attitude, behaviour and action of a student in compliance with all forms of regulation as long as they study at the school. Providing better services and managing student satisfaction are among the top priorities for the university.

Many demonstrations occur because of the low quality of service in universities and student satisfaction (Martono et al., 2020).

With disciplined students, their motivation will increase; this is supported by the results of research conducted by previous authors (Andronicus, 2020; Buckman & Pittman, 2021); thus, Discipline will affect student satisfaction

Based on table 3.9, student motivation has a direct and significant positive effect on student performance at the CNY Agency. It shows that the high student motivation provided by the CNY Agency has resulted in good Student Performance. Indonesian students motivated to continue their higher education on scholarships from the Chinese government expect satisfaction if the opportunity to study in China can be realized. According to research conducted in China (K. H. Tan et al., 2021), it was found that Student Motivation (X1) had a significant effect on Student Performance (Z). Thus, this study hypothesizes that student motivation (X1) significantly affects Student Performance (Z). It is supported by previous authors' results (Miao et al., 2019; Sulistyanto et al., 2021; K. H. Tan et al., 2021); thus, a discipline will affect student satisfaction.

Based on table 13, the personal relationship has a direct and significant positive effect on student performance at CNY Agency. It shows that establishing a good personal relationship that leads to good Student Performance is also good. Performance can be interpreted as an achievement, showing activity or deed and carrying out the tasks that have been charged.

Student performance relates to feelings of pleasure or disappointment that arise from comparing their perceived performance of the product (or outcome) against their expectations influenced by Personal relationship. This study hypothesizes that Personal Relationship (X2) significantly affects Student Satisfaction (Z). It is supported by the results of research conducted in Vietnam (Tran et al., 2018) that a personal relationship will affect student satisfaction.

Based on table 3.9, Discipline has a direct and significant positive effect on student performance at the CNY Agency. It illustrates that a high level of Discipline can lead to good Student Performance. Discipline at school plays a vital role in achieving expectations and goals. It also plays a vital role in acquiring a sense of responsibility in learners and educators (Nyabuto & Njoroge, 2014). Therefore, if students have a high level of Discipline and are organized, their performance will also increase. In this study, it is hypothesized that Terms and Requirements (X3) have a significant effect on Student Satisfaction (Z). It is supported by the results of research conducted by previous authors (Bichage, 2013; Hanifah & Kamilah, 2019; Innocent & Andala, 2021; Sulistyanto et al., 2021); thus, Discipline will affect Student Performance.

According to table 3.9, student satisfaction has a direct and significant positive effect on student performance at the CNY Agency. It shows that there is student satisfaction provided by the CNY Agency, resulting in good Student Performance. During the learning process passed by a student concerned, there have been various interactions to get the information needed. Therefore, student Satisfaction (Y) will be able to affect Student Performance (Z). Thus, this study hypothesizes that the Student Satisfaction (Y) variable significantly affects Student Performance (Z).

It is supported by the results of research conducted by previous authors (Chitkushev et al., 2014; Loton et al., 2020); thus, a discipline will affect student satisfaction. Based on table 13, personal relationship have a significant positive indirect effect through student satisfaction on student performance at the CNY Agency. It demonstrates that good personal relationship can increase student satisfaction, leading to good Student Performance. Based on table 13, personal relationship have a significant positive indirect effect through student satisfaction on student performance at the CNY Agency. It shows that a good level of Discipline can increase student satisfaction which will lead to good Student Performance.

b. Conslusion

This study discusses The Models of the CNY Agency Role for Indonesian Students in Study Higher Education Institutions in China. The analytical method used is SEM (Structural Equation Modelling) with the help of an analytical tool called Smart PLS 3.0. From the analysis and discussion in the previous chapter, conclusions can be illustrated, and Student Motivation was found to have a direct and significant positive effect on Student Satisfaction. The personal relationship factor is a factor that can increase student satisfaction at CNY Agency. It proves that student satisfaction mediates between personal relationship and student performance. Discipline has a positive and significant influence on student satisfaction and Student Performance. Based on the research conducted, it is known that several managerial implications can be conducted by company management, namely: To optimize student performance, the CNY Agency needs to improve its managerial skills, including conceptual skills, understanding and operating organizations, interpersonal relationship skills, and technical skills such as using knowledge, methods, techniques, and equipment to complete tasks. The agency's managerial skills affect improving student performance.

Deciding where to study requires encouragement and motivation. CNY Agency can help students get motivated to determine the best place to study. It must provide detailed information with a clear picture to increase student motivation. Motivation can come from outside the student or from within the student lecturers, and students have very different personalities, styles, expectations, and perspectives on learning. Each lecturer displays certain behaviours, which differ from his peers, and students may or may not appreciate it.

Some lecturers specifically like or dislike the behaviour of some students. Maintaining a good personal relationship between students and lecturers is essential. Disciplines are frequently utilized to describe specialized fields of knowledge, study, and education. Discipline is the process of educating or training others. It is strongly intertwined with the training process undertaken by individuals who supply direction and guidance in instructional activities.

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Factors Affecting the Intention to Start-up of an E-commerce Business of Vietnamese Students: The Case of Students at Dai Nam University

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Abstract

This study was conducted with the purpose of showing the factors affecting the intention to start an e-commerce platform-based business of university students in Vietnam. Accordingly, we examine the impact of six factors on startup intention through direct and indirect mechanisms via the intemediate variable "Perception of startup feasibility". The study used the theory of planned behavior (TPB) and conducted a survey of 458 students majoring in Economics, Technology and Social Sciences in Vietnam. Next, we processed the data using linear structural equations – SEM – and on SPSS24 and AMOS24. Research results found that, the higher the students perceive the feasibility of the startup ideas, the higher the startup intention. Additionally, the factor of "Educational environment" plays the most important role in determining "Perception of startup feasibility" and "Startup intention", which reveals the universities' key role in student entrepreneurship training.

Keywords: Start-up, Intention to start-up, Start-up of an E-commerce

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1. INTRODUCTION

Current studies on students' intention to stat-up are mainly based on the theory of planned behavior (TPB) and are driven by factors originating mainly from within the subject without impacts from external factors associated with the activities of higher education institutions, especially a specific field such as e-commerce. In addition, studies on this issue mainly focus on examining the impact of factors on students' intention to start-up through a direct mechanism, while a few studies consider the impact of these factors to perception of the students' start up feasibility. From this approach, it is necessary to have a study on the impact of factors on students' intention to start-up through both direct and indirect impact mechanisms to make recommendations in terms of reasoning about which mechanism would be better. In addition, the research team decided to research on the scope of startup intentions based on e-commerce platforms because we predict this is a very attractive industry and has high growth potential in the future (Dang Anh Dung , 2023).

Indeed, electronic commerce (e-commerce) has become one of the priority issues for businesses around the world (I. O. Adam, Alhassan, & Afriyie, 2020). In Vietnam, although e-commerce transactions are gradually increasing, the number of start-ups based on e-commerce platforms is still quite modest (Ministry of Industry and Trade, 2022). The reason for that is startups based on e-commerce applications also face a high level of competition due to the early participation of big players such as Shopee, Lazada, Amazon or Tiki... In addition, there are obstacles coming from underdeveloped payment system, goods storage infrastructure, packaging, packing, warehousing, goods rotation, customs procedures, lack of confidence on the part of consumers when purchasing online (Ministry of Industry and Trade, 2022)... These things more or less affect the intention to start a business based on e-commerce applications of startups in general and of Vietnamese students in particular.

Research on intention to behavior performace, intention to start-up in genral and students' start-up in particular often focuses on examining factors affecting start-up intention (A. F. Adam & Fayolle, 2015; Alex, 2014; Doan Thi Thu Trang & Le Hieu Hoc, 2018; Krueger, Reilly, & Carsrud, 2000; Linan & Chen, 2009; Luong Ngoc Minh, 2019)... or, focus on considering factors that affect self-confidence about startup feasibility (Doan Thi Thu Trang & Le Hieu Hoc, 2018; Krueger et al., 2000; Truong Duc Thao & Nguyen Trung Thuy Linh, 2019). Meanwhile, confident feeling about the feasibility of starting a business is also one of the factors affecting the intention to start-up of a business.

From the above issues, this study focuses on assessing the current status of intention to start-up of an e-commerce business and the factors affecting this intention through two mechanisms of direct impact and indirect impact through the intermediate variable "Perception of startup feasibility", and we predict that the indirect impact mechanism will be stronger, because human behavior is strongly motivated by prior intentions.

2. LITERATURE REVIEW

2.1. E-commerce and intention to start-up

2.1.1. E-commerce

E-commerce has 3 levels: information; transaction; and cooperation (Nguyen & Ta, 2019). At the level of information exchange, contract negotiation between buyers and sellers is mainly through email and forums. Accordingly, buyers can make online purchases, but the payment method still follows traditional style. At the transaction level, electronic payments began to take shape, business activities were built on the basis of an internal network mainly for data sharing and the

application of management software. The third level is the highest level of development, requiring the application of information technology in the operating process from the input of the production process to the distribution of output products (Nguyen & Ta, 2019). Thus, it can be said that e-commerce is the use of the internet to buy and sell products and services, accompanying services and after-sale support (I. O. Adam et al., 2020). This is also the concept of e-commerce that the authors will use in this study.

2.1.2. Intention to Start-Up

Most of the current research on intention to start-up of an business is built on the foundation of the theory of planned behavior (TPB) initiated by Fishbein et al. (1975) when it is said that human behavior originates from their intentions (Fishbein & Ajzen, 1975). Ajzen (1991) built a model of planned behavior to explain that human behavior originates from pre-existing intentions and plans and is influenced by environmental factors such as people's beliefs around that behavior. Accordingly, the start-up intention is influenced by three factors: (1) Attitude towards a behavior is understood as the degree to which a person has a favorable or unfavorable assessment of starting a business; (2) Subjective norms, which refer to social pressure to perform or not to perform behavior, are influenced not only by business culture, but also the attitudes of individuals, especially such as family, friends, colleagues,... (3) Behavioral control refers to the degree to which individuals feel capable of performing the behavior, it is based on the individual's perception of problems that may occur to perform the behavior (Fishbein & Ajzen, 1975).

Based on this theory, there have been many studies on intention to start-up of an business conducted by many domestic and foreign authors and confirmed that entrepreneurial start-up intention is a state of mind that emphasizes individual's interest and experience to undertake new venture creation (Bird, 1988), it is a representation of planned actions to carry out an entrepreneurial behavior (Tubbs & Ekeberg, 1991), and is the process of identifying, evaluating and exploiting business opportunities (Shane & Venkataraman, 2000). Thompson (2009) believes that the entrepreneurial start-up intention is an individual's affirmation of their intention to own a new business and build an action plan at a certain time in the future (Thompson, 2009).

Besides, there are also authors who give a similar concept of starting a business, accordingly, starting a business is the process of carrying out all the necessary work to deploy a certain business activities (Nguyen Ngoc Huyen, 2016). From the above concepts, the authors believe that, " *Intention to start-up of a business is a state in which an individual aims to create a new business career for himself; They are not yet in business but have confidence that they will create a successful business of their own."*

2.2. Factors affecting the intention to start-up of a business

2.2.1. Personality Traits

This factor comes from the idea that we all have self-imagination. One's characteristics are distinguishing among different cultures (Markus & Wurf, 1987). That strong, modern or traditional, perfectionist traits are the main factors determining everyone's entrepreneurial behaviors (Arnould, Price & Zinkhan, 2004). Many personality traits may exist in each individual and have certain influence on his behaviors (Mai, Kwon, Lantz & Loeb, 2003). People with the tendency of modern personalities are often willing to adapt and accept new things (Mai, Smith & Cao, 2009). Personality traits influence one's need, confidence and ability to success, demonstrate his risk-taking willingness and have positive impact to the start-up desire and confidence (Nguyen Van Dinh, Le Thi Mai Huong & Cao Thi Sen, 2001)

From the above arguments, we propose the following hypotheses:

H1a: Personality traits having positive impacts on the intension to start-up based on e-commerce application of Dai Nam University students.

H1b: Personality traits having positive impacts on the perception of entrepreneurship feasibility based on e-commerce application of Dai Nam University students.

2.2.2. Attitude to Start-Up

One's future behaviors are predicted by his previously expressed attitudes, which is his subjective probability that he will perform certain behaviors (Fishbein & Ajzen, 1975). Attitude to start-up is considered to be the level of willingness to start a business when opportunities arise (Krueger et al., 2000). Student's positive attitude towards entrepreneurship nurtures their start-up determination (Linan, Cohard, & Cantuche, 2011). People with positive attitudes towards entrepreneurship are the ones who have positive attitude towards risks or have an independent personality (Kolvereid & Isaksen, 2006). Attitude to star-up has been confirmed to have positive influence on students' intention to start-up (Phan Quan Viet & Hao, 2020; Truong Duc Thao & Nguyen Trung Thuy Linh, 2019).

From the above arguments, we propose the following hypotheses:

H2a: Attitude to start-up having positive impacts on intension to start-up based on e-commerce application of Dai Nam University students.

H2b: Attitude to start-up having positive impacts on the perception of entrepreneurship feasibility based on e-commerce application of Dai Nam University students.

2.2.3. Perception of Behavioral Control

The perception of behavioral control refers to the individual's perception of ease or challenge; whether or not he is supervised when performing the behaviors (Ajzen, 1991). The perception of behavioral control is the awareness of the certain activity performance through the ability to establish, maintain and control opportunities (Linan & Chen, 2009). Individuals with optimistic about their abilities are more confident in behavior performance (Krueger et al., 2000). The perception of behavioral control performs through the situation handling and future business idea nurturing abilities (Brannback, Carsrud, Kickul, & Krueger, 2006). An individual with potential to start a business must have desires and perceive the feasibility of the ideas (Phan Quan Viet & Hao, 2020).

From the above arguments, we propose the following hypotheses:

H3a: Perception of behavioral control having positive impacts on intension to start-up based on e-commerce application of Dai Nam University students.

H3b: Perception of behavioral control having positive impacts on the perception of entrepreneurship feasibility based on e-commerce application of Dai Nam University students.

2.2.4. Subjective Standards

Subjective standards are personal beliefs which are socially affected and influenced by surrounding individuals, it is understood as the beliefs that people think that the surrounding ones have on them (Fishbein & Ajzen, 1975; Krueger et al., 2000). Subjective standards shows the influence of important and close related people have on the performing individual (Ajzen, 1991). People whose parents do business easily get supports when starting their business (Greve & Salaff, 2003). Subjective standards have certain impacts on student's intention to start-up (Alex,

2014). Subjective standards or subjective beliefs have a positive influence of student's intention to start-up (Truong Duc Thao & Nguyen Trung Thuy Linh, 2019).

From the above arguments, we propose the following hypotheses:

H4a: Subjective standards having positive impacts on intension to start-up based on e-commerce application of Dai Nam University students.

H4b: Subjective standards having positive impacts on the perception of entrepreneurship feasibility based on e-commerce application of Dai Nam University students.

2.2.5. Education Environment

The school's education and training programs provide students with the knowledge, skills and abilities to pursue a business career (Ooi, Selvarajah, & Meyer, 2011), educational activities are considered to be the first steps to help students be more confident and more willing to entrepreneurship (Linan et al., 2011). On that basis, Rengiah (2013) built the content of the entrepreneurship training program including analyzing business strategies; learning about different business environments; acquiring skills and knowledge through learning activities; getting familiar with analysis, planning…; practicing skills that can be applied to various complex business situations (Rengiah, 2013). The educational environment is said to play a role in fostering student's business spirit and experiential activities to gain confidence to start a business. Participating in entrepreneurship training programs contributes greatly to the formation and development of student's entrepreneurship intentions (Koe, 2016). Entrepreneurship training is the process of helping learners understand the entrepreneurship knowledge through appropriate methodologies (Souitaris, Zerbinati, & Al-Laham, 2007).

From the above arguments, we propose the following hypotheses:

H5a: Educational environment having positive impacts on intension to start-up based on e-commerce application of Dai Nam University students.

H5b: Educational environment having positive impacts on the perception of entrepreneurship feasibility based on e-commerce application of Dai Nam University students.

2.2.6. Capital

Capital is not the decisive factor in whether an individual can start a business, but it has great influence on the process of turning an entrepreneurial idea into entrepreneurial behavior (Fatoki, 2010; Perera, Jayarathna, & Gunarathna, 2011). Some other studies show that capital greatly affects entrepreneurship (Alex, 2014; Luong Ngoc Minh, 2019; Truong Duc Thao & Nguyen Trung Thuy Linh, 2019).

From the above arguments, we propose the following hypotheses:

H6a: Capital having positive impacts on intension to start-up based on e-commerce application of Dai Nam University students.

H6b: Capital having positive impacts on the perception of entrepreneurship feasibility based on e-commerce application of Dai Nam University students.

2.2.7. Perception of Entrepreneurship Feasibility

Perception of feasibility is understood as the one of behavioral control, an individual's entrepreneurial belief and confidence in the ability to carryout an activity successfully (Ajzen, 1991). Perception of feasibility has an impact on the individual's desire and determination level to perform the behavior (Krueger et al., 2000). For start-up activities, the perception of feasibility

can be considered the ability to successfully carry out the start-up activities, it is evaluated through individual's perception of the business' ability to survive and develop, how successful the business is, knowledge and experience in information access to make entrepreneurship feasible (Đoan Thi Thu Trang & Le Hieu Hoc, 2018).

From the above arguments, we propose the following hypothesis:

H7: Perception of entrepreneurship feasibility having positive impacts on intension to start-up based on e-commerce application of Dai Nam University students.

3. METHODOLOGY

3.1. Research Model

From the generalization of the above theoretical basis, we propose the following model for this study.
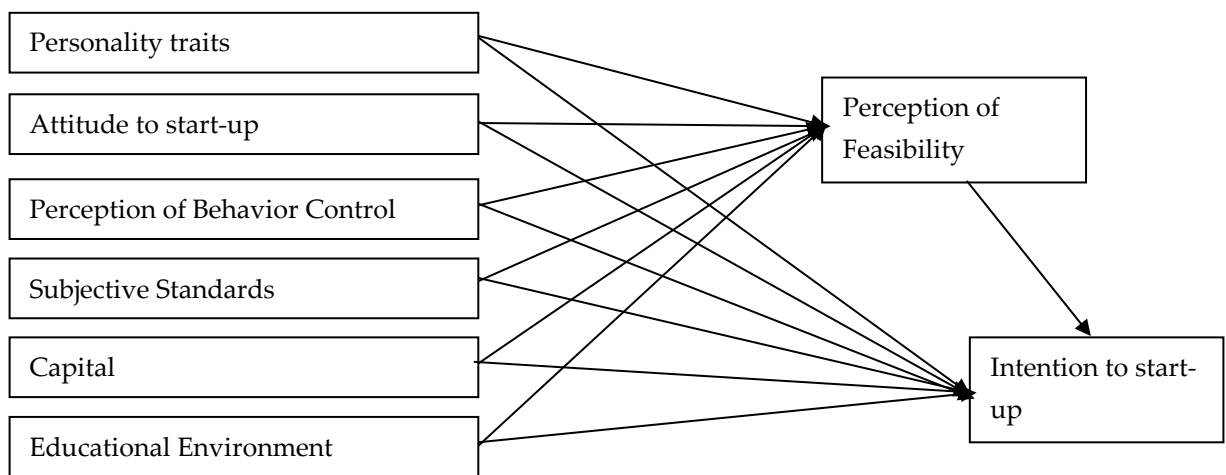
Figure 1. Research model of student's intention to start-up

Source: Suggested by the authors

3.2. Research Data

From the research overview, a questionnaire with 33 observations for 8 factors in the model. Next, the sample size was calculated according to the sampling formula of Hair et al (Hair, Tatham, & Black, 1998). 500 questionnaires were distributed and 476 were collected (the response rate was 95.2% (>90%), showing the fact that the respondents were open when taking part in the survery to ensure reliable research results (Neuman, 2014)), in which 458 votes were valid (>330).

In 458 valid votes, the scale of the model is as follow:

Table 1: Summary of Scales

Elements	Content	No of students	Percentage (%)
Gender	Male	239	52.2
	Female	219	47.8
Year of study	Year 1	84	18.3
	Year 2	155	33.8
	Year 3	176	38.4
	Year 4	43	9.4

Majors	E-Commerce	159	34.7
	Business Administration	219	47.8
	Engineering	80	17.5
Students with part-time jobs	Yes	352	76.9
	No	106	23.1
Students with family members doing busines	Yes	319	69.7
	No	139	30.3
Total		**458**	**100**

(**Source:** Results processed on SPSS)

Through the statistics on the summary of scales, it shows that the elements of gender, year of study and majors are not appropriate and ensure the representativeness.

EFA analysis results with the principle axis factoring method with Promax rotation and breakpoint when extracting factors with an eigenvalue equal to one used for factor analysis with 33 observations giving the first EFA with KMO = 0.847 satisfying the condition of 0.5<KMO<1 with the Sig. = 0.000. Observation variable TD5 did not explain the main factor "Entrepreneurship Attitude), so it was eliminated. Next, the second EFA was analyzed with 32 observation variables giving KMO = 0.849 with the Sig. = 0.000, we come to the conclusion that the factors are consistent with the survey data and the observation variables have a linear correlation with the representative factors. The results show that the extracting factor is 73.401% with an eigenvalues at the factor stop of 1.007. This shows that up to 73.401% of the changes in factors are explained by observation variables and 32 observation variables are grouped into 08 main factors consistent with the theoretical model. The results of the rotation matrix also show that the component scales converge to the main factors and satisfy factor loading coefficients greater than 0.5, consistent with the theoretical model. The results of testing the reliability of the research concepts and scales show that the Cronbach's Alpha coefficient of the factors all reached a value greater than 0.6, so the scales used in the study are appropriate.

These scales have 435 degrees of freedom (df = 435). The results of CFA test show that the model is compartible with the research date set: Chi-square = 1161.176 (p = 0.000); cmin/df = 2.669; CFI = 0.919; GFI = 0.869; TLI = 0.908; and RMSEA = 0.060. The normalized weights of the observed variables are greater than 0.5 and the abnormalized weights of the variables are statistically significant, so the convergence value of the scales can be confirmed. The correlation coefficients of the concepts are all less than one unit, so the concepts gain discriminant value. The measurement model is suitable for the research data set, there is no correlation between the measurement errors, so the unitarity is achieved.

4. RESULTS

To evaluate the current state of the relationship between factors and the intention to start-up based on e-commerce applications of Dai Nam University students, we conducted SEM and got the following results:

Table 2. Normalized Model Estimation (SEM) Results

No.	Relationship between concepts	Normalized estimation	Abnormalized estimation	Standard deviation	Value (t)	Value (p)
R² of Perception of Entrepreneurship Feasibility = 0.473						
H1a	KT <--- TC	0.184	0.168	0.045	3.763	0.000
H2a	KT <--- TD	0.208	0.194	0.048	3.997	0.000
H3a	KT <--- NT	0.188	0.238	0.072	3.283	0.001

H4a	KT <--- CCQ	0.048	0.041	0.040	1.018	0.309
H5a	KT <--- GD	0.486	0.414	0.059	6.966	0.000
H6a	KT <--- NV	-0.105	-0.089	0.053	-1.682	0.093
R² of Intention to start-up based on e-commerce applications = 0.544						
H1b	YD <--- TC	0.161	0.166	0.048	3.452	0.000
H2b	YD <--- TD	-0.010	-0.011	0.052	-0.203	0.839
H3b	YD <--- NT	0.083	0.119	0.078	1.532	0.126
H4b	YD <--- CCQ	0.030	0.029	0.043	0.682	0.495
H5b	YD <--- GD	0.129	0.124	0.067	1.842	0.065
H6b	YD <--- NV	0.032	0.031	0.057	0.543	0.587
H7	YD <--- KT	0.537	0.609	0.075	8.131	0.000

(**Source**: Results of figures procession on Amos24)

Through the model estimation results, it is clear that the impact of the factors affecting the Perception of entrepreneurship feasibility has the estimated results of model for the value $R^2 = 0.473$, which means that there is a 47.3% change of "Perception of entrepreneurship feasibility" of Dai Nam University students was explained by the factors: (1) Personality traits; (2) Attitude to start-up; (3) Perception of behavioral control; (4) Educational environment; (5) Capital. About factor of "Subjective standard" whose P_value = 0.309, there are not enough evidence for its role in explaining the dependable variable of "Perception of entrepreneurship feasibility of Dai Nam University students.

Similarly, the model estimation results of the dependence of intention to start-up basedon e-commerce applications of Dai Nam university students on direct and indirect factors give the value $R^2 = 0.544$, which means there is a 54.4% change of "Intention to start-up based on e-commerce applications of Dai Nam university" depends on the model factors, the other 45.6% depends on other external model factors and explained random error

From the model estimation results, it can be preliminarily concluded that the impact of factors on "Intention to start-up based on e-commerce application of Dai Nam university" is by indirect mechanism through the intermediate "Perception of entrepreneurship feasibility, which has a stronger impact than the direct mechanism.

5. DISCUSSION AND CONCLUSION

From the model estimation results, we make the following comments:

5.1. Discussion of the Results of Factors Affecting the Perception of Startup Feasibility

H1a: Personality characteristics have a positive impact on the perception of the start-up feasibility based on e-commerce applications of Dai Nam University students. The hypothesis is accepted at the 99% significance level (p = 0.000) and with a standardized Beta value of 0.184. This result supports the research of Nguyen Van Dinh and colleagues (2021) who also concluded that personality traits positively impact students' perception of startup feasibility with P = 0.000 < 0.01; standardized coefficient (β = 0.329). This means that the more students have the personality to dare to take risks to start a business, the more positive they will feel about the feasibility of starting a business.

H2a: Attitude towards start-up has a positive impact on the perception of feasibility of starting a business based on e-commerce applications of Dai Nam University students. This hypothesis is accepted at a significance level of over 99% when p_value = 0.000, and at a normalized Beta value of 0.208, the second highest level among the impact factors. This is understood to mean that if students show a positive attitude toward start-up on e-commerce application platforms, their

perception of the feasibility of starting a business will also be higher. However, the statistical results of this factor above give an average result of only 2.84 points, which suggests that the university needs to have a solution to enhance students' attitudes towards start-up higher in the years to come.

H3a: Perceived behavioral control has a positive impact on the perception of feasibility of starting a business based on e-commerce applications of Dai Nam University students. This hypothesis is also accepted at a significance level of over 99% because the p_value reaches 0.001 and the normalized Beta value reaches 0.188. This result supports the research of Nguyen Van Dinh and colleagues (2021) when concluding that the factor of perceived behavioral control and confidence in feasibility has P = 0.036 < 0.05; Standardization coefficient (β = 0.101). This result reflects that the more confident students are in their ability to control business and start-up activities, the more their confidence in their ability to succeed in starting a business increases.H4a: Subjective norms have a positive impact on the perception of feasibility of starting a business based on e-commerce applications of Dai Nam University students. Based on the estimated results, there is not enough basis to conclude this relationship. In other words, this study shows that Subjective Norms do not have an impact relationship on the students' perception of startup feasibility (p_value=0.309). This result supports the research of Nguyen Van Dinh and colleagues (2021) and the research of Doan Thi Thu Trang and Le Hieu Hoc (2018) which did not provide a relationship between the impact of this factor on Perception of start-up feasibility.

H5a: The educational environment has a positive impact on the perception of the feasibility of starting a business based on e-commerce applications of Dai Nam University students. This hypothesis is accepted at a significance level of over 99% (p_value = 0.000) and with the standardized Beta value reaching the highest level among the impact factors and equal to 0.486. However, what is worrying is that this factor is being rated quite low by students with an average factor value of only 3.07 points. This implies that university must focus their efforts on improving training programs to equip students with knowledge, skills and an environment that encourages students' start-up. This result supports the research of Nguyen Van Dinh and colleagues (2021) stating that the educational environment has a positive and strong impact on the perception of startup feasibility, with P = 0.011 < 0.05; standardized coefficient (β = 0.139).

H6a: Capital source has a positive impact on the perception of feasibility of starting a business based on e-commerce applications of Dai Nam University students. This hypothesis is rejected at a significance level of over 90% (p_value=0.093) and with a standardized Beta value of (-0.105), this is understood to mean that the easier it is for students to mobilize capital, the the lower their perception of startup feasibility will be. The results are not consistent with the research results of Truong Duc Thao and Nguyen Trung Thuy Linh (2019) when they said that capital has a positive impact on students' intention to a business start-up. This result is explained by some students that attracting capital too easily from family, friends, and relatives will not create pressure to force them to set business success goals. Besides, in the case of students with capital ranging from several hundred million to billions of dong, they often prioritize choosing the safe option of buying a house instead of investing in a business start-up, so sometimes having capital has a negative impact on perception of startup feasibility.

5.2. Discussion on the Results of Factors Affecting The Intention To Start A Business Based on E-Commerce Applications of Students at Dai Nam University

H1b: Personality traits have a positive impact on Dai Nam University students' intention to start-up of a business based on e-commerce applications. This hypothesis is accepted at a statistical significance level of over 99% (p_value=0.000) and with a standardized Beta value of 0.161. This result supports the research of Nguyen Van Dinh and colleagues (2021), of Truong Duc Thao and

Nguyen Trung Thuy Linh (2019), of Doan Thi Thu Trang and Le Hieu Hoc (2018) ..., and many other studies, when they all agree Personality traits positively impact students' entrepreneurial intention. This confirms that start-up first comes from the students themselves, their personality characteristics will determine their entrepreneurial intentions and behavior, while other external factors are only catalysts and environments encouraging or inhibiting students' intentions and behaviors.

H2b: Attitude towards start-up positively impacts the intention to start a business based on e-commerce applications of Dai Nam University students. There is not enough basis to conclude about this relationship, or in other words, the results of this study did not find an impact relationship between Attitude towards start-up and students' intention to start a business based on e-commerce applications of the Dai Nam University (p_value=0.839). This result is not consistent with the research results of Truong Duc Thao and Nguyen Trung Thuy Linh (2019), and of Doan Thi Thu Trang and Le Hieu Hoc (2018). This can be explained by the fact that the research subjects of this study associated with the intention of starting a business based on the e-commerce platform, and the survey subjects are mainly 2nd and 3rd year students, also accounting for the majority of students in the majors who have not studied subjects related to e-commerce, leading to students' attitudes towards starting a business based on e-commerce platforms being still skeptical and uncertain.

H3b: Perceived behavioral control has a positive impact on Dai Nam University students' intention to start a business based on e-commerce applications. This hypothesis is accepted at a statistical significance level of over 85% (p_value=0.126) and with a standardized Beta value of 0.083, reflecting a rather weak and fuzzy impact relationship. This result supports the research of Doan Thi Thu Trang and Le Hieu Hoc (2018) but to a lesser extent. This can be explained by the high proportion of students in the study sample who have not been trained in e-commerce and business start-up, and their knowledge on this issue mainly comes from pratical activities.

H4b: Subjective norms have a positive impact on Dai Nam University students' intention to start a business based on e-commerce applications. There is not enough basis to conclude about this relationship, or in other words, the results of this study did not find an impact relationship of Subjective Norms and the intention to start a business based on e-commerce applications of the Dai Nam University students (p_value=0.495). This result supports the research of Doan Thi Thu Trang and Le Hieu Hoc (2018), but is not consistent with the research results of Truong Duc Thao and Nguyen Trung Thuy Linh (2019).

H5b: Educational environment has a positive impact on the intention to start a business based on e-commerce applications of Dai Nam University students. This hypothesis is accepted at a statistical significance level of over 90% (p_value=0.065) and with a standardized Beta value of 0.129. This result supports the research of Truong Duc Thao and Nguyen Trung Thuy Linh (2019), and of Nguyen Van Dinh and colleagues (2021). This once again confirms the extremely important role of the university's educational environment in students' start-up ideas and behavior.

H6b: Capital source has a positive impact on Dai Nam University students' intention to start a business based on e-commerce applications. There is not enough basis to conclude about this relationship, or in other words, the results of this study did not find a relationship between the impact of Capital and the intention to start a business based on e-commerce applications of the Dai Nam University students (p_value=0.587). This result is not consistent with the research results of Nguyen Van Dinh and colleagues (2021), of Truong Duc Thao and Nguyen Trung Thuy Linh (2019), of Doan Thi Thu Trang and Le Hieu Hoc (2018) ..., and many other studies. This is explained by some students that the most important thing for a start-up project is the idea and

feeling about the feasibility of the start-up. If these two factors are at a high level, then the lack of capital, with or without capital do not determine their start-up behavior. At that time, they will do everything to implement their own ideas.

H7: Perception about the feasibility of starting a business has a positive impact on the intention to start a business based on e-commerce applications of Dai Nam University students. This hypothesis is accepted at a statistical significance level of over 99% (p_value=0.000) and with a very high normalized Beta value (0.537). This result supports the research of Truong Duc Thao and Nguyen Trung Thuy Linh (2019), of Doan Thi Thu Trang and Le Hieu Hoc (2018), of Luong Ngoc Minh (2019). This is considered as a significant finding. The highlight of the study is to confirm that the indirect impact mechanism will be stronger than the direct impact mechanism in the relationship of factors to the intention to start a business based on e-commerce applications of Dai Nam University students.

5.3. Conclusions

Through conducting research on this issue, we draw the following conclusions:

First, most factors have a positive impact on Vietnamese students' intention to start a business based on e-commerce platforms, and their impact through an indirect mechanism via the intermediate variable "Perception of feasibility" is much stronger than the direct one. Besides, the factor "Subjective Norms" does not affect the startup intention, which is similar to the research of Ambad and Damit (2016). This can be explained that, with startups on e-commerce platforms, the experience and trust of the surrounding people such as family, friends, and predecessors do not have much impact on students' startup intention. Indeed, doing business on e-commerce platforms has many factors which differ from the traditional one. It depends heavily on technology, the internet, and the buying behavior of online consumers is also different from the traditional ones. Therefore, it seems that ideas based on the ones around the students do not mean much to them.

Second, different from the results of many previous studies (Ambad & Damit, 2016; Sabah, 2016), this study shows that students with good conditions for capital, easy to mobilize capital or available, the intention to start-up of a business is not as strong as students with more difficulties. The universities in developing and underdeveloped countries should pay attention to to promote the students' start-up spirit. This is a vital point that promotes e-commerce startups as via e-commerce applications, many students can start their business without or with very little capital. They can be a middleman between producers and buyers via Facebook, TikTok…

Third, in addition to factors belonging to the students themselves that positively impact the intention to start a business, factors belonging to the university are also very important. This result is consistent with previous research by Suan et al (2011) or Zhang et al. (2014) (Suan et al, 2011; Zhang et al, 2014). For students, especially Asian ones in general and Vietnamese students in particular, are often of traditional type and their active level is still low (Mai et al, 2009). It is very difficult for them to independently make decision to start a business; therefore, teacher's and university's leadership, support and companionship roles are essential. This is why entrepreneurship training and creating a startup promotion environment, regardless of countries, need immediate attention.

Table 3. List of Symbols

Symbols	Meaning
TC	**Student personality traits**
TD	**Attitude towards start-up behavior**

NT	**Perceived behavioral control**
CCQ	**Subjective standards**
GD	**Educational environment**
NV	**Capital source**
KT	**Perception of startup feasibility**
YD	**Intention to business start-up**

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Factors Influencing Employee Performance: Job Engagement as a Mediating Variable

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Abstract

The purpose of this study is to examine the impact of organizational culture on employee performance, considering the mediating role of employee engagement and the intervening effect of esprit de corps. The methodology involves a descriptive survey conducted among civil servants at the North Kalimantan Ministry of Religious Affairs. The research model integrates organizational culture as the independent variable, employee performance as the dependent variable, with esprit de corps as the intervening variable and employee engagement as the mediating variable. The population includes civil servants in North Kalimantan, with a sample size determined for the preliminary survey. Data was collected using a structured questionnaire focusing on indicators of organizational culture, esprit de corps, employee engagement, and employee performance. The most striking results indicate a significant gap between the current and ideal levels of employee performance, with task performance, contextual performance, adaptive performance, and counterproductive behavior not meeting expectations. Organizational culture, particularly leadership competence, has a notable influence on employee engagement and performance. The findings suggest that enhancing esprit de corps and employee engagement can improve overall performance.

Keyword: Adaptive Performance; Agile Leadership; Civil Servants; Esprit de Corps; Organizational Culture

1. INTRODUCTION

Human Resource Management (HRM) is a crucial aspect for the success and sustainability of any organization. In an era of rapid change, the role of HRM becomes increasingly vital in maintaining competitive advantage and achieving company objectives. HRM involves planning, recruitment, development, management, and supervision of the workforce, aiming to ensure that the organization has a high-quality, motivated, and productive team (Dessler, 2020). The effective management of human capital significantly impacts company performance and growth, making HRM an indispensable function within organizations. Within HRM, employee performance is a critical outcome, encompassing job performance, work performance, and individual work performance (Campbell, 2020). High-performing employees contribute to organizational success through their knowledge, skills, and abilities. Thus, enhancing employee performance remains a primary goal of HRM practices.

Organizational culture, defined as the shared values, beliefs, and norms within an organization, plays a significant role in shaping employee behavior and performance (Schein, 2017). A strong organizational culture fosters a conducive work environment that can enhance employee engagement, motivation, and overall performance (Gyamfi et al., 2019). Studies have shown that a positive organizational culture leads to higher employee satisfaction and productivity (Schneider et al., 2013). Employee engagement, the emotional and cognitive commitment of employees to their work, has been extensively studied for its impact on performance. Engaged employees are more likely to exhibit higher levels of job performance, reduced absenteeism, and lower turnover rates (Saks, 2019). Moreover, employee engagement mediates the relationship between organizational culture and employee performance, suggesting that a positive culture enhances engagement, which in turn improves performance (Bakker & Demerouti, 2008).

Esprit de corps, the sense of pride, loyalty, and unity among members of a group, serves as an intervening variable that can influence the relationship between organizational culture and employee performance (Dunkelman, 2004). It fosters a collaborative and supportive work environment, which can enhance employee engagement and performance (Frawley, 2006; Paruzie et al., 2020). Research indicates that esprit de corps is crucial for maintaining morale and motivation, especially in high-stress environments (Affandi et al., 2018; Chukwu, 2019; Osanebi & Chukwu, 2020; Rouissi, 2023).

Despite extensive research on HRM, there is a need to further explore the interplay between organizational culture, employee engagement, and esprit de corps in influencing employee performance. Understanding these relationships can provide valuable insights for organizations aiming to enhance performance through strategic HRM practices. The purpose of this research is to examine the impact of organizational culture on employee performance, considering the mediating role of employee engagement and the intervening effect of esprit de corps. This study addresses the research problem of identifying how organizational culture influences performance through these mediating and intervening variables. The importance of this research lies in its potential to inform HRM strategies that foster a supportive organizational culture, enhance employee engagement, and build esprit de corps, ultimately leading to improved employee performance.

Table 1. National Labor Force Survey

Key Indikators	2019		2020		2021	
	Feb	**Aug**	**Feb**	**Aug**	**Feb**	**Aug**
Total population (mill.)	247,1	249,4	251,0	252,7	254,4	256,0
Population aged >15 (mill.)	178,1	180,0	181,2	183,0	184,6	186,1
Economic activity (mill.)	123,2	120,2	125,3	121,9	128,3	122,4
Working population (mill.)	115,9	112,8	118,2	114,6	120,8	114,8
Unemployment (mill.)	7,2	7,4	7,2	7,2	7,5	7,6
Economically inactive (mill.)	56,0	59,8	55,9	61,1	56,3	63,7
Employment to population (%)	65,1	62,7	65,2	62,6	65,5	61,7
Labor force participation rate (%)	69,2	66,8	69,2	66,6	69,5	65,8
Unemployment rate (%)	5,8	6,2	5,7	5,9	5,8	6,2

Source: Indonesian Central Bureau of Statistics (2022)

The accompanying table shows that there was low-quality labor and sluggish job development between 2019 and 2021. In the labor market, different labor groups, particularly men, women, and rural residents exhibited differing outcomes. Although there is now a larger pool of educated labor due to increased investment in education, their productivity has not increased significantly as a result of these efforts. Numerous roles in businesses and organizations are still filled with low-skilled workers, and the lack of skilled workers continues to be a problem.

Good and transparent governance requires an organizational culture that upholds specific ideals. According to the Governor Regulation of North Kalimantan Province in Indonesia Number 30, 2023, these values are: (1) service-oriented; (2) accountable; (3) competent; (4) harmonious; (5) loyal; (6) adaptive; and (7) collaborative. All civil servants should completely comprehend and embrace these essential values, and they should apply them to their everyday work and personal life. Employees of civil servants are directly involved in public service, so it is imperative that they emphasize the importance of being service-oriented in their work. This implies that each civil servants must be dedicated to offering top-notch service in order to satisfy the general population (Lalong & Sidi, 2023).

Being service-oriented for civil servants entails three things: (1) recognizing and meeting community needs; (2) being amiable, dependable, prompt, and capable of resolving issues; and (3) always looking to improve. Civil servants are required to perform their jobs with the utmost integrity and to exhibit discipline, accountability, honesty, and accuracy. Moreover, civil servants are supposed to be able to work together to complete tasks and to give other parties the chance to contribute. The competency of servant leadership, which leads to position accountability and an awareness of position accountability, is one of the accountabilities that every leader must have in addition to nation accountability and public accountability, in addition to nation responsibility

and public accountability, it is the capacity of servant leadership that gives rise to position accountability and the awareness of it that each leader needs to have (Karimi et al., 2023). The following table shows the data that the author processed from the assessment criteria evaluation for 300 public servants in the Ministry of Religious Affairs and Religious Affairs Offices in North Kalimantan in 2019, 2020, and 2021.

Table 2. Assessment of Work Conduct of Civil Servants in North Kalimantan's

The assessed elements	2021			2022			2023		
	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
1. Service Orientation	77	93	85.8	46	83	52.4	77	109	85.9
2. Integrity	76	91	82.8	8	94	82.8	76	109	85.7
3. Commitment	76	92	82.8	76	94	83.0	76	109	86.1
4. Discipline	76	91	83.1	76	94	83.4	76	93	81.7
5. Collaboration	75	90	82.6	76	98	82.8	72	109	85.4
6. Leadership	75	90	82.6	76	93	83.0	54	98	83.0
7. Job Performance	77	92	85.0	58	83	65.0	30	44	34.0

Source: Research Data (2023)

From the table above, it can be observed that there is fluctuation in each assessed element from year to year. Upon closer inspection of the average scores of each element obtained from 2020 to 2021, all assessed elements experienced a decline.

Many researchers are interested in organizational change involving organizational culture. Organizational culture is often seen as a critical issue that needs to be addressed seriously for change to occur. Many change management authors argue that the main reason why organizational change efforts often fail to materialize as planned is the frequent neglect of organizational culture aspects (Alvesson & Sveningsson, 2016).

The term Esprit de Corps was first introduced by General and Emperor of France Napoleon Bonaparte, where during warfare, fellow soldiers were expected to assist, protect, nurture, and uphold the honor of their fellow army members (Dunkelman, 2004; Frawley, 2006). The spirit that fosters enthusiasm, dedication, and strong respect for the group's honor/group pride has also garnered significant attention from subsequent researchers.

The development of Human Resource Management (HRM) theories has long focused on how human resource management can enhance performance outcomes. Over several decades, interest in research on the relationship between Employee Engagement and performance suggests that employee engagement can impact individual and organizational performance (Truss et al., 2013). According to the head of the Office of Religious Affairs in North Kalimantan, employee engagement is also seen as crucial for improving employee performance.

In today's modern era, the role and quality of service provided by civil servants are crucial for

achieving effective and efficient development goals. One factor that can influence the performance of civil servants is the transformational leadership applied by organizational leaders. In the context of government agencies, effective leadership is expected to enhance work motivation and productivity of civil servants, as well as improve public satisfaction with public services (Sakir & Amaliah, 2023). For most people, the importance of leadership is self-evident, regardless of the circumstances. In organizations, effective leadership results in higher-quality and more efficient goods and services; it fosters cohesion, personal development, and higher satisfaction levels among those performing tasks; and leadership also provides direction and a comprehensive vision, alignment with the environment, mechanisms for innovation and healthy creativity, and resources to strengthen organizational culture (Wart, 2003). Agile leadership is utilized by researchers in the field of leadership to describe nimble leadership. Leadership experts sometimes use terms such as leadership agility and adaptive leadership capability to refer to agile leadership (Sunatar, 2023). Agile Leadership can be utilized as one of the alternatives to enhance employee engagement, as evidenced by researchers in Singapore (Chua & Ayoko, 2021). Agile Leadership has been able to improve performance (Önalan et al., 2022). Meanwhile, researchers from Italy have recently also proven that leadership can enhance performance (Pizzolitto et al., 2023).

2. METHODOLOGY

The research model for this study integrates organizational culture as the independent variable, employee performance as the dependent variable, with esprit de corps as the intervening variable and employee engagement as the mediating variable. This model is designed to explore the relationships between these variables and their combined impact on employee performance among civil servants at the North Kalimantan Ministry of Religious Affairs. This study is a component of a larger research project in which the author aims to describe the responses of participants to questions he or she poses. Respondents for this pilot study are civil servants working at the North Kalimantan Ministry of Religious Affairs service offices. In accordance with the findings of earlier study, the questions are constructed in accordance with the indicators that the head of the local ministry office has suggested. This study employs quantitative research methods, specifically a descriptive survey design. A structured questionnaire was developed to gather data on organizational culture, esprit de corps, employee engagement, and employee performance. The survey targets civil servants within the North Kalimantan Ministry of Religious Affairs. The following hypotheses are formulated for this study:

H1: Organizational culture positively affects employee performance.

H2: Employee engagement mediates the relationship between organizational culture and employee performance.

H3: Esprit de corps intervenes in the relationship between organizational culture and employee performance.

A purposive sampling method was employed to select the sample from the population of civil servants at the North Kalimantan Ministry of Religious Affairs. The sample size was determined to ensure representativeness and statistical validity. The preliminary survey included a pilot test to refine the questionnaire and ensure reliability and validity of the measures. Data was collected using a structured questionnaire, which was distributed among the selected sample. The data collection process ensured anonymity and confidentiality to encourage honest and accurate responses.

3. RESULTS

The preliminary survey on Employee Performance (EP) at the Office of Religious Affairs in North

Kalimantan involved 10 respondents and included 4 questions regarding employee performance (EP-01 to EP-04), as shown in the following figure. It is evident that employees' responses to statements regarding employee performance reveal a gap between the ideal conditions where employees should demonstrate high performance in this set of statements. The following figure illustrates the level of employee performance according to the preliminary survey results.
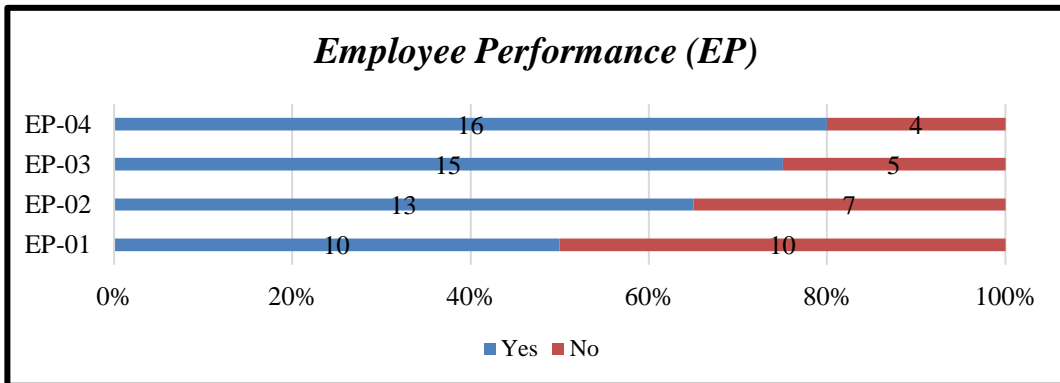
Figure 1. Preliminary Results of the Employee Performance Survey

Source: Research Data (2023)

The facts revealed in the preliminary survey indicate that all indicators of performance, namely: (1) Task Performance, (2) Contextual Performance, (3) Adaptive Performance, and (4) Counterproductive Behavior, do not meet expectations. According to the head of the Religious Affairs Office in North Kalimantan, solutions must be immediately sought to improve employee performance.

Several questions related to Organizational Culture (OCL) have been posed in the pre-survey, with questions coded OCL-01 to OCL-04, as follows: OCL-01: The organizational culture of employees is shaped by leadership competence. OCL-02: The institution places employees and human resources according to their education and skills. OCL-03: The institution's culture towards employees is created by the honesty they demonstrate in carrying out their duties and responsibilities. OCL-04: Focus on employees and others through fair and acceptable policies by employees. OCL-05: Honesty and openness are demonstrated by employees in the form of organizational commitment. OCL-06: Employees perceive the institution's reliability through leadership commitment. OCL-07: The institution maintains good relations with the community. The preliminary survey results are displayed in the following figure.
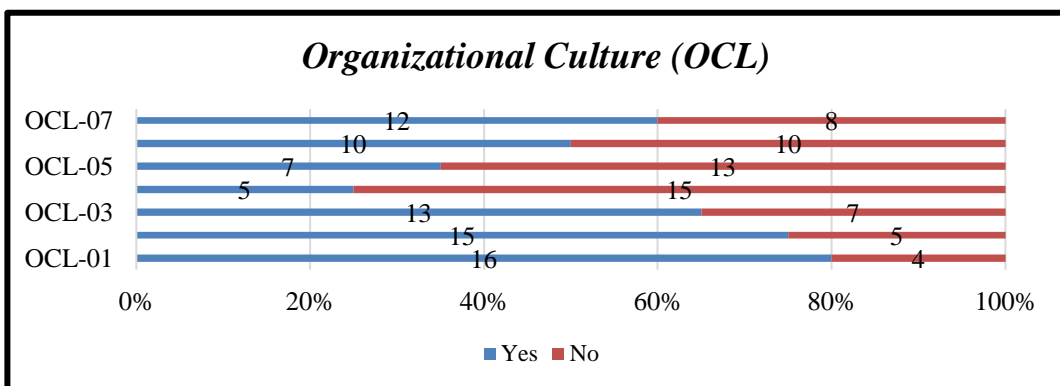
Figure 2. Preliminary Results of the Organizational Culture Survey

Source: Research Data (2023)

The indicator that has already reached a high level is achieved in the statement "The organizational culture of employees is shaped by leadership competence" (80%). According to the head of the Office of Religious Affairs in North Kalimantan, organizational culture is likely a determining factor in employee engagement and performance, as seen in previous studies.

The preliminary survey conducted by the author utilized several statements related to Esprit de Corps (with question codes EDC-01 to EDC-04) with the following details: EDC-01: Every employee in the units and subunits within the institution faces strict sanctions if they fail to fulfill their duties and responsibilities. EDC-02: There is division of labor among employees in each unit and subunit within the institution. EDC-03: In each unit and subunit within the institution, there are a number of employees with adequate capabilities. EDC-04: In each unit and subunit within the institution, there are a number of employees with adequate skills. These questions reflect four indicators: (1) Conformative, (2) Universal, (3) Autonomist, and (4) Creative. The respondents' answers are displayed in the following figure.
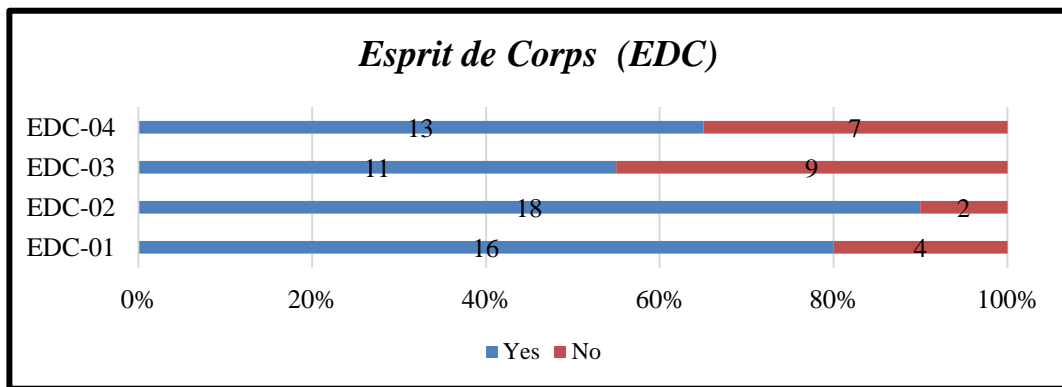
Figure 3. Preliminary Results of the Esprit De Corps Survey

Source: Research Data (2023)

The highest result is found in the first indicator: Most employees in the units and subunits feel the presence of strict sanctions if they fail to fulfill their duties and responsibilities. Meanwhile, the other three indicators indicate a level of Esprit de Corps that is not as high as the first indicator. Research conducted on members of the Indonesian Navy (Affandi et al., 2018) shows that Esprit de Corps can increase engagement among navy personnel. Previous researchers (Siddiqi, 2013; Zhuang et al., 2023) state that there is a close relationship between Esprit de Corps and employee engagement.

The preliminary survey results regarding employee engagement at the Office of Religious Affairs in North Kalimantan Province use three statements: ENG-01: "I feel I have high energy levels in carrying out my respective duties and responsibilities." ENG-02: "I enjoy facing challenges in the work environment." ENG-03: "I am able to concentrate on tasks." These are shown in the following figure.
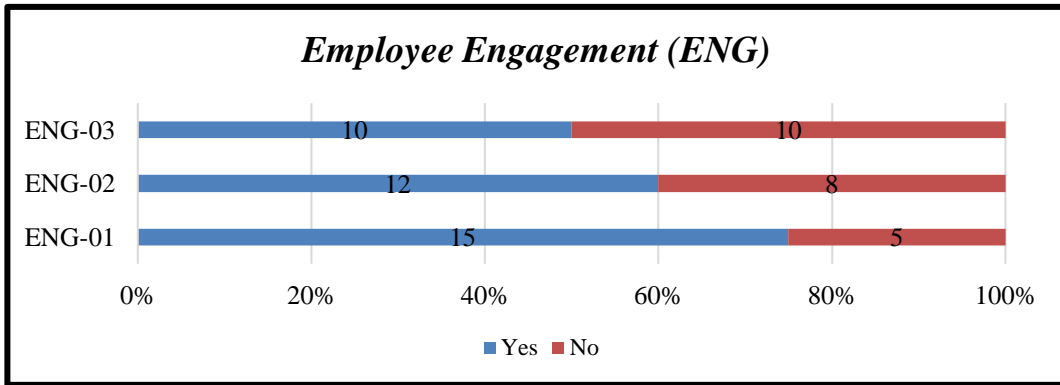
Figure 4. Preliminary Result of Employee Engagement Survey

Source: Research Data (2023)

From the figure above, it is apparent that the indicators of Employee Engagement, namely: (1) Enthusiasm, (2) Dedication, and (3) Absorption, still do not meet the organization's expectations. According to the head of the Office of Religious Affairs in North Kalimantan, this gap needs to be closed to improve employee performance. The organization requires solutions to enhance both performance and employee engagement.

Agile Leadership can be measured by 5 (five) dimensions, namely: (1) Creativity, (2) Reactivity, (3) Adaptability, (4) Willingness to learn, and (5) Stress management (Sunatar, 2023). Regarding agile leadership, the preliminary survey results with questions posed by the researchers are as follows: AGL-01: "I propose innovative solutions." AGL-02: "I can analyze quickly in taking action." AGL-03: "I learn new ways to solve problems." AGL-04: "I regularly improve competencies." AGL-05: "I make decisions through discussion." These preliminary survey results are displayed in the following figure.
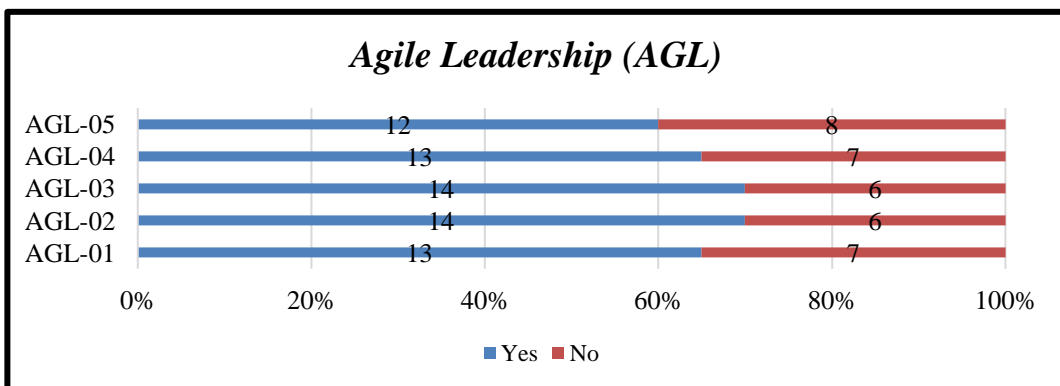
Figure 5. Preliminary Result of Agile Leadership Survey

Source: Research Data (2023)

The preliminary survey results depicted in the above figure indicate that the five indicators of agile leadership reflect a high level of leadership. Most employees are willing to work hard for the interests and progress of the institution, and similarly, for the other indicators, most employees are willing to remain as employees. However, from these preliminary survey results, there is still a gap from what is expected, namely, there are employees who have a level of leadership that can still be improved towards the ideal condition.

4. DISCUSSION AND CONCLUSION

Based on the comprehensive review of the preliminary survey results and the relevant literature, several key insights and discussions emerge regarding human resource management (HRM), labor market performance, organizational culture, employee engagement, and agile leadership. HRM plays a pivotal role in organizations by managing human capital to ensure high-quality, motivated, and productive teams (Farahmand, 2020; Liu et al., 2023; Madugba et al., 2022; Sulistyanto, Djamil, Sutawidjaya, et al., 2021; Sulistyanto, Djamil, Sutawijaya, et al., 2021).

The survey results reveal a gap between expected and actual employee performance, indicating a need for immediate solutions to enhance performance. This underscores the critical importance of effective HRM practices in driving individual and organizational success. The labor market performance data highlights challenges such as low-quality labor and sluggish job development, which can hinder organizational growth. Addressing these challenges requires a comprehensive understanding of factors influencing labor market dynamics, including globalization, technological advancements, and demographic transitions. Organizational culture, as reflected in values such as service orientation and accountability, significantly influences employee engagement and performance (Besley & Persson, 2022; Erturk, 2019; Sulistyanto et al., 2024).

While the survey indicates a high level of leadership competence shaping organizational culture, there remains a gap in achieving optimal levels of employee engagement. This emphasizes the need for fostering a culture of collaboration, innovation, and continuous improvement. Agile leadership, characterized by creativity, adaptability, and a willingness to learn, is vital for driving organizational effectiveness and responding to dynamic market environments. The survey results demonstrate a high level of agile leadership among employees, yet there is room for improvement to align leadership practices with organizational objectives more effectively.

In conclusion, the preliminary survey results offer crucial insights into the current state of HRM practices, labor market dynamics, and organizational culture within North Kalimantan. These findings highlight significant gaps that, if addressed, can significantly enhance organizational performance. By capitalizing on existing strengths, organizations have the potential to foster a high-performance culture that supports sustained growth and competitiveness. The survey underscores the necessity of implementing strategic HRM initiatives that are tailored to the unique context of North Kalimantan, fostering a supportive and inclusive organizational culture, and developing agile leadership capabilities to enhance employee engagement and overall performance. Additionally, the results suggest that a focus on innovative HRM strategies, such as leveraging advanced technologies for workforce management, could optimize operations and address the evolving challenges in the labor market. Future research should continue to explore these areas, providing deeper insights into effective HRM practices and their impact on organizational success in a dynamic economic environment.

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An Analysis of Operating Strategies to Promote Performance in the CPA Industry in Taiwan

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Abstract

This paper investigates the impact of four factors, including business location and business style, market regional distribution, human configuration and business specialization or diversification, on the operating performance of an accounting firm. The data is obtained from the "2011 accounting firm service industry survey report" compiled by the Financial Supervisory Commission (FSC), which provides 571 valid firms as a sample. This paper conducts a two-stage empirical test using multiple-regression analysis combined with a univariate statistical test. The dependent variable, to measure operating performance, is total business revenue. The independent variables include the number of business locations, resident CPA service, regular resident CPA service, resident professional service, city concentration, region concentration, human configuration concentration and business specialization. The control variables include the number of employees, period since establishment and partnership or sole proprietorship. According to the findings of this paper, more business locations and higher human configuration concentration result in better operating performance; and branch firms adopting two business styles, such as resident CPA service and resident professional service and higher region concentration experience poorer operating performance. The findings of this paper provide a reference for practical decision-making in terms of operation orientation, internal manpower distribution, and business strategies and form the basis of future improvements and the formulation of operating strategy.

Keywords: accounting firm; operating performance; operating strategy; service industry

1. INTRODUCTION

In many industries, service quality and the convenience of the location of the business are major concerns for customers when it comes to their perceptions. According to Etzel et al. (2001), service quality is measured from the customer's perspective and refers to the comparison between the level of service expected by the customer and the perceived levels of service. The service industry sells intangible products that cannot be stored and customers are highly involved in service processes, making perceived service quality a key success factor for the sustainable business operations of the service industry (Barcia and Striuli 1996). The accounting firm aims at providing the "services" of accounting and auditing. Taiwan's "2011 accounting firm service industry survey report" suggests that in 2011 there were 1,012 accounting firms, including 769 sole proprietorship firms (accounting for 76%) and 243 partnership firms (accounting for 24%) in Taiwan. Compared to other industries with IPOs, the number of accounting firms is significantly higher. Meanwhile, the number of firms in the accounting industry has been increasing year by year, indicating high levels of competition and the difficulty of survival. Maintaining a stable

business space in this highly competitive environment is therefore a major concern facing accounting firm management, who need to consider highlighting certain business features and service advantages.

Parasuraman et al. (1988) argue that perceived service quality is similar to an attitude that reflects customers' overall assessment of the accounting firm. Some accounting firms establish branch firms in order to provide more convenient service channels to customers. From the perspective of marketing, this also represents the establishment of different business locations. Business locations have their own operating models and styles. In the accounting industry, the establishment of branch firms is also the establishment of business locations. From the perspectives of business location and business style, this paper discusses the impact of the number of business locations, and whether the business location has a resident certified public accountant (CPA) or professional on firm operating performance. This is the first research purpose of this paper.

Taiwan's accounting firms mainly serve national listed or OTC companies, most of which are headquartered in bustling cities; including New Taipei City, Taipei City, Taichung City, Tainan City and Kaohsiung City. The important regions include the northern region, the central region, the southern region, and the eastern region. The question whether accounting firms should focus on a specific city or region for marketing or should scatter to various cities and regions to better facilitate operating performance. Regardless of concentration or distribution, there are advantages and disadvantages. From the perspective of market regional distribution, this paper explores how accounting firm managers balance and make optimal market distribution decisions to enhance operating performance. This is the second research purpose of this paper.

Accounting firms exist in a "labor" and "knowledge" intensive service industry, where "manpower" is the most important and vital input, and can determine the direction and performance of operations. Therefore, the configuration of human resources is a key point to consider. The accounting firm's four business fields each require sufficient professionals and appropriate distribution of manpower in order to smoothly and efficiently provide customers with excellent service quality. These four fields include auditing, taxation, management consultation and accounting. This paper explores how to recruit talent and configure professionals according to the four business fields, whether to concentrate them in a specific field or distribute them evenly across different fields, and the kind of manpower configuration that improves operating performance. From the perspective of human configuration, this paper explores how accounting firm managers should optimally configure manpower in order to facilitate operating performance. This is the third research purpose of this paper.

The services provided by accounting firm can be divided into four categories: financial audit and attesting, taxation, management consultation, business registration and other business to implement. The first two services are the most common in the market and the accounting industry is highly competitive. This paper explores how gaining a competition advantage in the market and maintaining long-term, stable relationships with customers depend on prudent planning on the behalf of accounting firm managers, as well as the health and size of the business, and appropriately planned marketing to highlight unique features of the form to clients. From the perspective of business specialization or diversification, this paper explores the business features and expertise or diversification strategies that should be taken by accounting firm managers to optimize operating performance, maintain customer relationships and provide good service quality. This is the fourth research purpose of this paper.

The main aims of this paper can be summarized into three points: (1) to identify important factors that affect operating performance; (2) to investigate the impact of business location and business

style, market regional distribution, human configuration and business specialization or diversification on operating performance; and (3) to make recommendations on key management practices and implications for accounting firm managers as a reference for future decision-making.

2. LITERATURE REVIEW

This paper develops the research hypotheses along four dimensions; including business location and business style, market regional distribution, human configuration and business specialization or diversification.

2.1. Channel and Performance

Gaski (1984) defines channel cooperation performance as the degree of contribution of dealers to the achievement of a supplier's goals. Gaski and Nevin (1985) point out that channel benefits refer to the degree of contribution made by the relationship between the supplier and the dealer to the achievement of the goals set by the suppliers. Mohr and Nevin (1990) identify channel communication strategies; including communication strategy, communication direction, communication content and communication media. Rosenbloom and Anderson (1985) identify channel performance assessment factors; including the number of sales, inventory levels, sales capabilities, channel members' attitudes toward manufacturers and the sale of products. Lusch and Brown (1996) argue that channel performance could be measured by sales growth, profit growth, overall profitability, liquidity, employee productivity, cash flow and other indicators. Zettelmeyer (2000) points out that the manufacturer can provide different levels of product information through different channels, and segment customers, thus increasing market competition forces. He et al. (2013) suggest that the adjustment of export channel options according to the market positioning capabilities at the enterprise level and the distance between mechanisms can generate better export performance. Xue et al. (2014) indicate that the supply chain partnership indicates the distribution of power between different levels of the agents, which implies an influence on pricing and channel decision-making, and ultimately affects end-customers.

Some accounting firms establish branch firms to provide customers with required services. Branch firms are similar to the concept of alternate business locations. With reference to research of previous scholars, business location can also be regarded as a channel concept. When an accounting firm has established more business locations, it can help headquarters to share some of the business load and thereby increase its market competitiveness and reputation as well as rapidly increase the market penetration of the firm. Therefore, it can help headquarters to establish communication with clients, speed up the flow of relevant information, rapidly respond to customer demands, and thus positively contribute to operating performance. Therefore, more business locations are better able to facilitate the operations of accounting firm and thus create better operating performance, and thus proposes hypothesis H1-1.

In addition, the location of the accounting firm may provide a resident CPA service, a regular resident CPA service, and a resident professional service. Although the establishment of more locations is able to enhance the market competitiveness of an accounting firm, the resident or regular service of CPAs or other professionals at different location may impact on the configuration of manpower at the firm headquarters and may divert the focus of CPAs from firm headquarters' business. Resident professionals in various locations thus reduce the manpower based at firm headquarters. However, what this means is that in high season, due to a lack of manpower, each unit will be overloaded, which may affect service quality and result in poorer operating performance. Therefore, this paper proposes hypotheses H1-2, H1-3 and H1-4 as

follows:

H1-1: More business locations can result in greater total business revenues.

H1-2: The total business revenue of a branch firm with a resident CPA service is lower than that with non-resident CPA service.

H1-3: The total business revenue of a branch firm with a regular resident CPA service is lower than that with non-regular resident CPA service.

H1-4: The total business revenue of a branch firm with a resident professional service is lower than that with non-resident professional service.

2.2. City/Region and Commercialization

Christaller (1993) proposes the Central Place Theory with several hypotheses about the region that need to be verified: (1) there should be a boundless and consistent large plane; (2) the plane should be evenly populated; (3) customers will acquire products and services in the nearest, most central place; (4) these products and services are supplied by economic persons in pursuit of maximum profit; (5) all customers have the same revenue and the same demand for products and services; (6) transportation in every direction is equally convenient and transportation fees increase (or decrease) proportionally to distance. Berry and Garrison (1958) argue that a spatial structure is incomplete in terms of form, and thus propose the "the metropolitan area of commercial space structure model" in order to divide the commercial space into the center, the belt and the special function business areas, each of which is further divided into further sub-categories. The business centers of the center business area have a significant hierarchical relationship. Research on the Central Place Theory by Craig et al. (1984) argues that the theory provides powerful explanations for the spatial distribution of retail facilities, market centers and market areas. Shilton and Webb (1995) find that the enterprise headquarters in New York are not located in the sub-center like the cluster of industries of specialized office employment. When the sub-center becomes increasingly urbanized, the downtown office employment industries become increasingly specialized. Chan and Lin (2013) point out that from the perspective of industrial and time dynamics, most newly installed firms choose areas of higher geographic concentration for the location of their factories.

In regard to the financial industry, some scholars discuss the impact of region and urbanization degree on loan default probability. Archer et al. (2002) suggest that the loan default probability of collaterals located in areas of lower urbanization is higher. Lin et al. (2011) conduct a case study of a financial institution by dividing the real estate in Taiwan by land planning and urban renewal projects located (or not located) in the metropolitan area into five regions: A, B, C, D and E. Region A is the best region followed by B, C, D and E. Since areas with urban renewal development are comparatively better in terms of living conditions, real estate transactions and price stability, the default probability of borrowers with collaterals in better areas is comparatively lower.

In general, the urban area is more densely populated than the suburbs and has a more active employment market. More large enterprises are located in downtown areas than in non-downtown areas. Therefore, the busy area or metropolitan area generally has more business opportunities and employment opportunities. If accounting firms can create business opportunities in downtown or other regions to establish a market structure and client base, then as accounting firms increase their client base, this increases business revenues. Therefore, on the one hand, operating performance will improve if an accounting firm establishes business markets in different cities or regions; and that, on the other, if an accounting firm concentrates its business in a specific region, then contributions to the growth of operating performance will be limited. Therefore, this paper proposes the following hypotheses H2-1 and H2-2 as follows:

H2-1: With a higher degree of city concentration, total business revenue decreases.

H2-2: With a higher degree of region concentration, total business revenue decreases.

2.3. Human Resources

Lucas (1988) argues that human capital can promote technical change and productivity; Crawford (1991) points out that the intellectual capital's core feature is human capital. Stewart (1997) suggests that intellectual capital is an intangible asset that can create a competitive advantage for an organization and is characterized by production elements. Edvinsson and Malone (1997) mention that sales people are on the front-line, create value for an organization, and are irreplaceable. That is, sales-people are the important form of human capital in the insurance industry. Wah (1999) proposes that the financial service industry recognize the unique value of customer relationships and customer knowledge and that most of these values depend on front-line employees. Lee (2013) suggests that human capital positively contributes to firm performance, and according to Liu et al. (2014), strategic human capital study emphasizes the importance of human capital as a resource to maintain a competitive advantage.

To sum up, human capital is the major and most important input factor in all enterprises. The accounting firm is a "knowledge" service industry; the professionals in a firm provide necessary consultations and related services as the main products of an accounting firm. The professionals in an accounting firm can be divided into experts in four areas; including auditing, taxation, management consultation and accounting. The knowledge required by each of the four areas is the benchmark of branch firm human capital categorization. From the viewpoint of the manager, employment entails costs and additional training and education mechanisms. It is an important human configuration decision, therefore, to determine how much manpower should be allocated to each professional field and how to concentrate or distribute human resources in a specific area.

From the perspective of the services provided by an accounting firm, these can be divided into four categories; including the public offering financial auditing and attesting, taxation, management consultation and business registration and other business to implement. Service customers are diverse and may have diverse demands. In order to satisfy all the possible needs of customers, the firm must allocate manpower to each of the four special areas; including auditing, taxation, management consultation and accounting. This is helpful in terms of the diverse development of the accounting firm in the market and helps the firm to respond to trends in relation to diversified business strategy. Therefore, when the accounting firm distributes manpower across the various special fields, firm performance is better; and when the accounting firm concentrates manpower in a specific area, this is not good for operating performance because it results in a limited service range. Hence, this paper proposes hypothesis H3 as follows:

H3: A higher degree of human configuration concentration results in lower total business revenue.

2.4. Literature Relating to Diversification

Eukeria and Favourate (2014) argue that diversification is a strategic choice for many managers to improve firm performance. Demsetz and Strahan (1997) point out that the degree of diversification of banking shareholder companies is proportionally related to asset size. In other words, if size is greater, then the degree of diversification is higher. Stiroh (2004) suggests that American community banks undertaking different types of loans can enhance profit and reduce bankruptcy risks. Moreover, the diversification of loan portfolios can be helpful to community banks. Stiroh (2005) finds that the diversification of revenues' impact on risk decreases with increasing size and then increased, suggesting that the effect of risk distribution by diversification is in a non-linear relationship with size. Using Taiwanese firms as research subjects, Chen and Lin (2007) divide the services of accounting firms into auditing, accounting, taxation,

management consultation and business registration services, indicating that firm business diversification can enhance technical efficiency. Lee (2012) divides firm business revenue items into financial audit and attesting, taxation business, management consultation, business registration and other business to measure the degree of diversification, finding that more diverse business items can enhance productivity. Lee (2013) explores the impact of business diversification on firm performance, and uses the Herfindahl-Hirschman Index (HHI)[1] in order to measure the impact of the degree of business diversification on an accounting firm while using it as a control variable in the empirical model. The study finds that if a firm provides more diverse business services, then it can satisfy customer demand on purchase of service and reduce the additional costs of finding new customers. In addition, business diversification of the accounting firm can absorb more customers without being limited by providing traditional audit businesses. The audit or financial audit and attesting businesses are in a highly competitive and saturated state. The accounting firm is faced with a bottleneck in seeking business opportunities in this market. Only the diversification business strategy can attract different types of customers and enhance a firm's competitive advantage. Therefore, a diversified business strategy will result in better firm performance; and that if a firm is specialized in specific services, the improvement of operating performance will be more limited. Hence, this paper proposes hypothesis H4 as follows:

H4: A higher degree of business specialization can result in lower total business revenue.

3. METHODOLOGY

3.1 Data Source and Sample Selection

The "2011 accounting firm service industry survey report" database compiled by the Financial Supervisory Commission (FSC) is the data source of this paper. The sample consists of 1,012 accounting firms. In order to ensure the completeness and integrity of the sample, 441 samples with irrational data or illogical data are eliminated. Therefore, the remaining 571 valid samples are the subjects of this empirical study.

3.2 Variable Definition

In this paper, total business revenue (PFOR) is used as the proxy variable for operating performance, and the independent variables, derived from the four dimensions, include business location and business style, market regional distribution, human configuration and business specialization or diversification. The variables in the last three dimensions are computed using HHI. The value of HHI is in between 0~1. When it is closer to 0, this means that the market structure (or concentration degree) is more distributed; when it is closer to 1, this means that the market structure (or concentration degree) is more concentrated. In addition, according to Lee (2013) the regression model of operating performance uses firm size and period since establishment as control variables. Lee (2014) investigates whether the operating efficiency affects total business revenues and total revenues by incorporating the total number of employees as a control variable in the regression model. With reference to Lee (2013) and Lee (2014), the number of employees and period since establishment are included in the empirical model of this paper. Due to the classification of accounting firms by business style, including partnership and sole proprietorship, the above three control variables are included in the regression model to obtain a more objective model design, so that the measurement of the correlation between the

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[1] Concentration degree measures the distribution of manufacturers by size. Hirschman (1964) explains that the relative concentration degree's HHI (Herfindahl-Hirschman Index) is the square sum of manufacturer market share: HHI$=\sum_{i=1}^{n} s_i^2$, $1/n \leqq HHI \leqq 1$, s_i=the market share of No. i manufacturer, n=the number of manufacturers in the market, when the HHI value is closer to 1/n, this means that n manufacturers are closely perfect competition.

independent variables and the dependent variable is more prudent.

Definitions of the dependent variable, independent variables and control variables are listed as shown in Table 1.

Table 1. Summary of Variable Definitions

Variable type	Dimension	Variable description	Variable definition
Dependent variable	Performance	Total business revenue (PFOR)	Measured by the logarithm of the public offering auditing and attesting revenue + financing audit and attesting revenue + other financial audit and attesting revenue + income tax audit, attesting and reporting revenue + taxation planning revenue + taxation administrative remedy revenue + other taxation business revenue + management consultation revenue + business registration revenue + other business revenues. (Original unit: NTD)
Independent variables	Business location and business style	The number of business locations (BRA)	The number of branch firms. (Original unit: number of firms)
		Resident CPA service (CPAL)	This is a proxy variable, it is set as 1 when the branch firm business type has a resident CPA service; and is set as 0 otherwise.
		Regular resident CPA service (CPAF)	This is a proxy variable, it is set as 1 when the branch firm business type has a regular resident CPA service; and is set as 0 otherwise.
		Resident professional service (PROL)	This is a proxy variable, it is set as 1 when the branch firm business type has a resident professional service; and is set as 0 otherwise.
	Market regional distribution	City concentration (CITY)	(New Taipei City's total annual business revenue ÷ five cities' total annual business revenues)^2 + (Taipei City's total annual business revenue ÷ five cities' total annual business revenues)^2 + (Taichung City's total annual business revenue ÷ five cities' total annual business revenues)^2 + (Tainan City's total annual business revenue ÷ five cities' total annual business revenues)^2 + (Kaohsiung City's total annual business revenue ÷ five cities' total annual business revenues)^2
		Region concentration (REGI)	(The northern region's total annual business revenue ÷ five regions' total annual business revenues)^2 + (the central region's total annual business revenue ÷ five regions' total annual business revenues)^2 + (the southern region's total annual business revenue ÷ five regions' total annual business revenues)^2 + (the eastern region's total annual business revenue ÷ five regions' total annual business revenues)^2 + (other region's total annual business revenue ÷ five regions' total annual business revenue)^2
	Human configuration	Human configuration concentration (HUM)	(The number of employees providing audit service ÷ the number of employees providing four categories of services)^2 + (the number of employees providing

			taxation service ÷ the number of employees providing four categories of services)^2 + (the number of employees providing management consultation service ÷ the number of employees providing four categories of services)^2 + (the number of employees providing accounting service ÷ the number of employees providing four categories of services)^2
	Business specialization or diversification	Business specialization (BUSS)	(Public offering financial auditing and attesting revenue ÷ total business revenues)^2 + (taxation business revenue ÷ total business revenues)^2 + (management consultation revenue ÷ total business revenues)^2 + (business registration and other business revenue ÷ total business revenues)^2
Control variables		Number of employees (EMP)	Measured by the logarithm of the total number of employees. (Original unit: persons)
		Period since establishment (PERD)	The year of data survey—the year when the firm was established + 1 (Original unit: years)
		Partnership or sole proprietorship (TYPE)	This is a proxy variable, it is set as 1 when the firm is a partnership; if the firm is a sole proprietorship, it is set as 0.

3.3 Multiple Regression Model

According to the research hypotheses developed in the second section, this paper develops the multiple-regression model as illustrated by the following equation (1) as a reference for the accounting firm in terms of business management and service strategy development:

$$PFOR = \beta_0 + \beta_1 BRA + \beta_2 CPAL + \beta_3 CPAF + \beta_4 PROL + \beta_5 CITY + \beta_6 REGI + \beta_7 HUM + \beta_8 BUSS +$$

$$\beta_9 EMP + \beta_{10} PERD + \beta_{11} TYPE + e_i \tag{1}$$

In regression equation (1), PFOR is the total business revenue, BRA is the number of business locations, CPAL is the resident CPA service, CPAF is the regular resident CPA service, PROL is the resident professional service, CITY is the city concentration, REGI is the region concentration, HUM is the human configuration concentration, BUSS is the business specialization, EMP is the number of employees, PERD is the period since establishment, TYPE is the partnership or sole proprietorship, β_0 is the intercept, β_1, β_2, β_3, β_4, β_5, β_6, β_7, β_8, β_9, β_{10} and β_{11} are the parameters of regression model, and e_i is an error item.

4. RESULTS

4.1 Descriptive Statistics

Table 2 shows the descriptive statistics. The mean value of total business revenue (PFOR) is 42,345,216 NTD, which is far greater than the median value at 5,811,000 NTD. The maximum value is 7,006,723,917 NTD, and the minimum value is 35,000 NTD, indicating that the business revenues of accounting firm industry vary considerably with a "Matthew Effect".

Regarding the independent variables, in the dimensions of business location and business style, the mean value of the number of business locations (BRA) is 0.194 branch firms, and the median value is 0.000 firms, indicating that at least half of all accounting firms have no branch firms. The

maximum value is 9.000 firms. In other words, some accounting firms have 9 branch firms with widely distributed business locations to provide services to customers. The mean values of the resident CPA service (CPAL), regular resident CPA service (CPAF) and resident professional service (PROL) are 0.145, 0.037 and 0.049 respectively. It can thus be learned that most branch firms provide resident CPA services, namely CPA invests more time in branch firm's management and dominate decisions in the operational dimension.

In the dimension of market regional distribution, the mean values of city concentration (CITY) and region concentration (REGI) are 0.732 and 0.877; and the median values are 0.711 and 1.000. The mean value and the median value are greater than 0.20(1/n=1/5), suggesting that the accounting firms implement business in one or more specific cities or regions. With reference to Table 3, most of the business implementation revenues come from Taipei City (19,972,998 NTD) and the northern region (6,229,770 NTD), and the distribution is not even across various cities or regions.

In the dimension of human configuration, the mean value of the human configuration concentration (HUM) is 0.603; and the median value is 0.531, both of which are greater than 0.25(1/n=1/4). This suggests that the managers distribute employees in one or more specific services; including financial auditing, taxation, management consultation and accounting services.

In the dimension of business specialization or diversification, the mean value of business specialization (BUSS) is 0.533, and the median value is 0.502, both of which are greater than 0.25(1/n=1/4), suggesting that business revenues mainly come from one or more services out of public offering financial auditing and attesting, taxation, management consultation and business registration and other business to implement. This indicates that accounting firms should focus on specific business rather than all business.

Regarding the control variables, the mean value of the number of employees (EMP) is 29.799 persons, and the minimum value is 1.000 people, indicating that firms with sole proprietorship may have only one employee. The maximum value is 3,224 persons in a partnership firm. The mean value of the period since establishment (PERD) is 15.914 years, indicating that the average period since establishment is about 16 years and the median value is 15.000 years. In other words, at least half of all accounting firms are established in the past 15 years. The mean value of the partnership or sole proprietorship (TYPE) is 0.345, indicating that 34.5% accounting firms involve partnerships.

Table 2. Descriptive Statistics of Variables

Dimension	Variable description	Mean	Median	Minimum	Maximum	Std. Dev.
Dependent variable	Total business revenue (PFOR)	42,345,216	5,811,000	35,000	7,006,723,917	379,455,590
Business location and business style	The number of business locations (BRA)	0.194	0.000	0.000	9.000	0.672
	Resident CPA service (CPAL)	0.145	0.000	0.000	1.000	0.353
	Regular resident CPA service (CPAF)	0.037	0.000	0.000	1.000	0.188
	Resident professional service (PROL)	0.049	0.000	0.000	1.000	0.216

Market regional distribution	City concentration (CITY)	0.732	0.711	0.231	1.000	0.212
	Region concentration (REGI)	0.877	1.000	0.289	1.000	0.196
Human configuration	Human configuration concentration (HUM)	0.603	0.531	0.250	1.000	0.230
Business specialization or diversification	Business specialization (BUSS)	0.533	0.502	0.278	1.000	0.166
Control variables	Number of employees (EMP)	29.799	8.000	1.000	3,224	189.020
	Period since establishment (PERD)	15.914	15.000	1.000	58.000	9.769
	Partnership or sole proprietorship (TYPE)	0.345	0.000	0.000	1.000	0.476

Notes: 1. Variables are defined in Table 1. 2. The number of samples is 571.

Table 3. Descriptive Statistics of Total Annual Business Revenue

City/Region	Mean	Median	Minimum	Maximum	Std. Dev.
New Taipei City	5,188,981	558,865	0	982,662,000	47,276,356
Taipei City	19,972,998	1,580,000	0	3,045,493,044	193,525,321
Taichung City	2,600,388	0	0	277,117,119	17,668,906
Tainan City	1,200,801	0	0	245,052,030	12,831,662
Kaohsiung City	2,117,233	0	0	374,855,556	17,868,873
The northern region	6,229,770	195,000	0	1,310,258,267	62,225,584
The central region	1,277,868	0	0	217,425,386	10,096,459
The southern region	598,974	0	0	39,455,010	2,721,006
The eastern region	106,702	0	0	10,873,356	769,561

Notes: 1. The number of samples is 571. 2. The unit of the total annual business revenue is NTD.

4.2 Correlation Coefficient Analysis

Table 4 is a correlation coefficient matrix. The left lower corner represents the Pearson correlation coefficient; the right upper corner represents the Spearman correlation coefficient. The Pearson correlation coefficient suggests that the independent variables of the number of business locations (BRA), resident CPA service (CPAL) and resident professional service (PROL) are significantly and positively correlated with total business revenue (PFOR); city concentration (CITY), region concentration (REGI), human configuration concentration (HUM) and business specialization (BUSS) are significantly and negatively correlated with total business revenue (PFOR). Regarding the control variables, numbers of employees (EMP), period since establishment (PERD), and partnership or sole proprietorship (TYPE) are significantly and positively correlated with total business revenue (PFOR). In addition, except for regular resident CPA service (CPAF), the impact of the independent and control variables on the dependent variable reaches the 1% statistical significance level.

According to the Spearman correlation coefficient, the independent variables including the number of business locations (BRA), resident CPA service (CPAL), regular resident CPA service (CPAF) and resident professional service (PROL) are significantly and positively correlated with total business revenue (PFOR); city concentration (CITY), region concentration (REGI), human configuration concentration (HUM) and business specialization (BUSS) are significantly and negatively correlated with total business revenue (PFOR). The control variables including the number of employees (EMP), period since establishment (PERD) and partnership or sole proprietorship (TYPE) are significantly and positively correlated with total business revenue (PFOR). In addition, except for the regular resident CPA service (CPAF), which reaches the 10% statistical significance level, the impact of the rest of the independent and control variables on the dependent variable reach the 1% statistical significance level.

By further comparing the correlation coefficient results, the insignificant positive correlation of the regular resident CPA service (CPAF) in Pearson changes into the significant positive correlation in Spearman, the correlation direction and significance level of the rest of the independent and control variables against the dependent variable are almost the same.

Table 4. Correlation Coefficients of Variables

Variables	PFOR	BRA	CPAL	CPAF	PROL	CITY	REGI	HUM	BUSS	EMP	PERD	TYPE
PFOR	1.000	0.401***	0.287***	0.073*	0.134***	-0.311***	-0.356***	-0.217***	-0.318***	0.887***	0.409***	0.582***
		(0.000)	(0.000)	(0.082)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
BRA	0.479***	1.000	0.600***	0.345***	0.401***	-0.272***	-0.250***	-0.049	-0.152***	0.416***	0.156***	0.348***
	(0.000)		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.246)	(0.000)	(0.000)	(0.000)	(0.000)
CPAL	0.327***	0.524***	1.000	0.078*	0.228***	-0.205***	-0.201***	-0.085**	-0.152***	0.313***	0.069*	0.328***
	(0.000)	(0.000)		(0.063)	(0.000)	(0.000)	(0.000)	(0.042)	(0.000)	(0.000)	(0.099)	(0.000)
CPAF	0.064	0.318***	0.078*	1.000	0.343***	-0.022	-0.038	0.027	0.041	0.098**	0.006	0.073*
	(0.126)	(0.000)	(0.063)		(0.000)	(0.599)	(0.360)	(0.518)	(0.324)	(0.020)	(0.885)	(0.079)
PROL	0.157***	0.285***	0.228***	0.343***	1.000	-0.053	-0.102**	-0.015	-0.077*	0.179***	0.025	0.176***
	(0.000)	(0.000)	(0.000)	(0.000)		(0.209)	(0.015)	(0.727)	(0.066)	(0.000)	(0.551)	(0.000)
CITY	-0.324***	-0.272***	-0.200***	-0.017	-0.041	1.000	0.180***	0.132***	0.135***	-0.335***	-0.133***	-0.237***
	(0.000)	(0.000)	(0.000)	(0.679)	(0.325)		(0.000)	(0.002)	(0.001)	(0.000)	(0.001)	(0.000)
REGI	-0.361***	-0.253***	-0.224***	-0.054	-0.099**	0.183***	1.000	0.069	0.168***	-0.332***	-0.162***	-0.221***
	(0.000)	(0.000)	(0.000)	(0.200)	(0.018)	(0.000)		(0.102)	(0.000)	(0.000)	(0.000)	(0.000)
HUM	-0.222***	-0.070*	-0.098**	0.000	-0.030	0.140***	0.073*	1.000	0.212***	-0.233***	-0.088**	-0.141***
	(0.000)	(0.097)	(0.019)	(0.992)	(0.475)	(0.001)	(0.080)		(0.000)	(0.000)	(0.036)	(0.001)
BUSS	-0.340***	-0.123***	-0.142***	0.028	-0.081*	0.123***	0.171***	0.245***	1.000	-0.262***	-0.103**	-0.238***
	(0.000)	(0.003)	(0.001)	(0.507)	(0.054)	(0.003)	(0.000)	(0.000)		(0.000)	(0.014)	(0.000)
EMP	0.905***	0.517***	0.374***	0.090**	0.202***	-0.332***	-0.354***	-0.253***	-0.274***	1.000	0.407***	0.581***
	(0.000)	(0.000)	(0.000)	(0.031)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)		(0.000)	(0.000)
PERD	0.393***	0.206***	0.084**	0.015	0.042	-0.132***	-0.162***	-0.078*	-0.089*	0.399***	1.000	0.181***
	(0.000)	(0.000)	(0.045)	(0.719)	(0.318)	(0.002)	(0.000)	(0.063)	(0.033)	(0.000)		(0.000)
TYPE	0.533***	0.295***	0.328***	0.073*	0.176***	-0.230***	-0.220***	-0.149***	-0.231***	0.545***	0.177***	1.000
	(0.000)	(0.000)	(0.000)	(0.079)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	

Notes: 1. Variables are defined in Table 1. 2. The bottom left is the Pearson correlation coefficient, while the upper right is the Spearman correlation coefficient. 3. The figures in ( ) denote the p value. 4. *p<0.1, **p<0.05, ***p<0.01. 5. The number of samples is 571.

4.3 Analysis of Empirical Regression Results

According to suggestions made by Neter et al. (1990), if the Variance Inflation Factor (VIF) is below 10, then the independent and control variables have no serious collinearity. As shown in Table 5, the VIF values of the various independent and control variables are all below 10, suggesting that there is no serious collinearity in between the independent and control variables. The model's explanatory power Adjusted R^2 is 0.832, and the F-statistic is 258.301, reaching a 1% statistical significance level. Furthermore, the regression results shown in Table 5, in respect of the independent variables, except for H1-3, H2-1 and H3, the rest of the independent variables have a significant impact on the dependent variable as expected. Therefore, H1-1, H1-2, H1-4, H2-2 and H4 are all supported.

Regarding the independent variables, in the dimension of business location and business style, the number of business locations (BRA) has a significant and positive impact on total business revenue (PFOR) (the coefficient value is 0.034, $p<0.1$), suggesting that more business locations are able to generate more total business revenues. A resident CPA service (CPAL) has a significant and negative impact on total business revenue (PFOR) (the coefficient value is -0.063, $p<0.05$), suggesting that total business revenues of a firm with branch firms who have resident CPAs are fewer. A regular resident CPA service (CPAF) has an insignificant and negative impact on total business revenue (PFOR) (the coefficient value is -0.042, $p>0.1$), suggesting that total business revenues have no significant differences regardless of whether or not CPAs provide regular services to branch firms. The resident professional service (PROL) has a significant and negative impact on total business revenue (PFOR) (the coefficient value is -0.080, $p<0.1$), suggesting that the total business revenue is lower in the case of firms with professionals in branch firms.

In the dimension of market regional distribution, city concentration (CITY) has an insignificant and negative impact on total business revenue (PFOR) (the coefficient value is -0.046, $p>0.1$), suggesting that business concentration or distribution in a specific city or different cities has no significant impact on the firm's total business revenues. Region concentration (REGI) has a significant and negative impact on total business revenue (PFOR) (the coefficient value is -0.109, $p<0.05$), suggesting that the concentration of one's business in a specific region can result in lower total business revenues. In other words, if the business is more evenly distributed across the northern region, central region, southern region, eastern region, and other regions, then firm's total business revenues increase.

In the dimension of human configuration, human configuration concentration (HUM) has a significant and positive impact on total business revenue (PFOR) (the coefficient value is 0.064, $p<0.1$), suggesting that human resources concentration in a specific service category is able to generate more firm's total business revenues. In other words, if human resources are evenly distributed across the four services (namely auditing, taxation, management consultation, and accounting) then the firm's total business revenue is relatively limited.

In the business specialization or diversification dimension, the presence of a business specialization (BUSS) has a significant and negative impact on total business revenue (PFOR) (the coefficient value is -0.354, $p<0.01$), suggesting that the concentration of business revenues in a specific business category, makes the firm's total business revenues lower. In other words, if the business revenues are distributed across the four services (namely, public offering financial auditing and attesting, taxation, management consultation and business registration and other business to implement) then firm's total business revenues will increase.

Regarding the control variables, number of employees (EMP) has a significant and positive impact on total business revenue (PFOR) (the coefficient value is 1.031, $p<0.01$), suggesting that more employees are able to generate more total business revenues. Period since establishment

(PERD) also has a significant and positive impact on total business revenue (PFOR) (the coefficient value is 0.002, p<0.05), suggesting that a longer period of time since the establishment of the firm generates more total business revenues. Partnership or sole proprietorship (TYPE) also has a significant and positive impact on total business revenue (PFOR) (the coefficient value is 0.068, p<0.01), suggesting that the total business revenue of firms with a partnership style are greater. The results for these three control variables are therefore as expected.

Table 5. Regression Results of Operating Performance

$PFOR = \beta_0 + \beta_1 BRA + \beta_2 CPAL + \beta_3 CPAF + \beta_4 PROL + \beta_5 CITY + \beta_6 REGI + \beta_7 HUM + \beta_8 BUSS + \beta_9 EMP + \beta_{10} PERD + \beta_{11} TYPE + e_i$ (1)

Dimension	Variable description	Predicted sign	Coefficient	Std. Error	t value	p value (one-tailed)	VIF	Hypothesis
	Intercept		6.033	0.085	70.669	<0.000***		
Business location and business style	BRA	+	0.034	0.021	1.618	0.053*	1.912	H1-1 accepted
	CPAL	-	-0.063	0.035	-1.778	0.038**	1.502	H1-2 accepted
	CPAF	-	-0.042	0.060	-0.692	0.244	1.250	H1-3 rejected
	PROL	-	-0.080	0.052	-1.548	0.061*	1.218	H1-4 accepted
Market regional distribution	CITY	-	-0.046	0.052	-0.886	0.188	1.164	H2-1 rejected
	REGI	-	-0.109	0.056	-1.941	0.026**	1.173	H2-2 accepted
Human configuration	HUM	-	0.064	0.047	1.357	0.088*	1.121	H3 rejected
Business specialization or diversification	BUSS	-	-0.354	0.065	-5.411	<0.000***	1.147	H4 accepted
Control variables	EMP	+	1.031	0.032	31.919	<0.000***	2.260	
	PERD	+	0.002	0.001	1.945	0.026**	1.204	
	TYPE	+	0.068	0.026	2.602	0.005***	1.491	

$R^2 = 0.836$ Adjusted $R^2 = 0.832$

F-statistic=258.301***   P value<0.000

*Notes***:** 1. Variables are defined in Table 1. 2. The variables' variance inflation factors (VIFs) are all less than 10, implying that no serious multi-collinearity exists among variables. 3. *$p<0.1$, **$p<0.05$, ***$p<0.01$, and the statistical significance level is determined using one-tailed p-values. 4. The number of samples is 571. 5. "Accepted" means that the hypotheses are accepted, "Rejected" means that the hypotheses are rejected.

4.4 Cross Analysis

The samples are divided into two groups by the four variables in the business location and business style dimension in order to compare whether the two groups have any significant differences in the dimensions of market regional distribution, human configuration and business specialization or diversification. Tables 6 to 9 illustrate the groupings by the number of business locations (BRA), resident CPA service (CPAL), regular resident CPA service (CPAF) and resident professional service (PROL). As the results in Table 6 suggest, 72 firms established business locations and 499 firms not established business locations. In terms of the four variables of city concentration (CITY), region concentration (REGI), human configuration concentration (HUM) and business specialization (BUSS), the mean values of the two groups of samples suggest that city concentration (CITY), region concentration (REGI), human configuration concentration (HUM) and business specialization (BUSS) are all significantly lower in the case of firms with branch firms or various business locations. A low concentration degree means a higher distribution degree. Due to more business locations, the probability of relative distribution of business revenue in different cities and regions is relatively higher. Similarly, the probability of demand on human resources for different professional services is higher. The firm will invest more in the management of different business markets, and therefore the four variables of firms with branch firms are more scattered.

By following the processing in Table 6, the samples are divided into two groups by the resident CPA service of branch firms. According to the mean value of the samples, in terms of the four variables of city concentration (CITY), region concentration (REGI), human configuration concentration (HUM) and business specialization (BUSS), the results show that city concentration (CITY), region concentration (REGI), human configuration concentration (HUM) and business specialization (BUSS) of firms with branch firms providing resident CPA services are significantly lower. This indicates that the concentration of the four variables will be lower and the distribution degree will be higher when firms provide branch firm resident CPA services. A possible reason for this is that the firm is capable of allocating human resources to provide resident CPA services, which means that a firm that is rich in human and other resources can distribute human and other resources across various locations. Therefore, relatively speaking, the distribution degree of human resources is relatively higher. In addition, if the city and region concentration degrees are lower, then the firm is able to acquire revenues from different channels and thereby diversify business revenue.

By following the sample processing methods shown in Tables 6 and 7, the results in Table 8 suggest that whether or not accounting firms provide regular resident CPA services in their branch firms has no significant difference on city concentration (CITY), region concentration (REGI), human configuration concentration (HUM) and business specialization (BUSS), which indicates that whether or not has regular resident CPA services, it has no significant difference on business revenue in terms of city, region, business and human resource configuration.

The results shown in Table 9 suggest that the two groups of samples have significant differences in terms of region concentration (REGI) and business specialization (BUSS) for resident professional services, suggesting that the region concentration and business specialization of branch firms with resident professional services are relatively lower. In other words, business revenues come from relatively more distributed regions and human resources are more evenly distributed across the different professional services.

Table 6. Results of Independent Sample T Test for The Number of Business Locations

Independent variables	Number of business locations (BRA)	Mean	Std. error mean	t value	p value (one-tailed)
City concentration (CITY)	>=1 (n=72)	0.584	0.206	-6.595***	<0.000
	<1 (n=499)	0.754	0.204		
Region concentration (REGI)	>=1 (n=72)	0.751	0.230	-5.085***	<0.000
	<1 (n=499)	0.895	0.184		
Human configuration concentration (HUM)	>=1 (n=72)	0.552	0.170	-2.566***	0.006
	<1 (n=499)	0.610	0.237		
Business specialization (BUSS)	>=1 (n=72)	0.464	0.101	-5.514***	<0.000
	<1 (n=499)	0.543	0.172		

Notes: 1. Variables are defined in Table 1. 2. *p<0.1, **p<0.05, ***p<0.01. 3. The number of samples is 571. 4. n represents the number of samples.

Table 7. Results of Independent Sample T Test for the Resident CPA Service

Independent variables	Resident CPA service (CPAL)	Mean	Std. error mean	t value	p value (one-tailed)
City concentration (CITY)	1 (n=83)	0.629	0.223	-4.882***	<0.000
	0 (n=488)	0.750	0.205		
Region concentration (REGI)	1 (n=83)	0.771	0.232	-4.643***	<0.000
	0 (n=488)	0.895	0.184		
Human configuration concentration (HUM)	1 (n=83)	0.548	0.193	-2.694***	0.004
	0 (n=488)	0.612	0.235		
Business specialization (BUSS)	1 (n=83)	0.475	0.134	-4.031***	<0.000
	0 (n=488)	0.543	0.169		

Notes: 1. Variables are defined in Table 1. 2. *p<0.1, **p<0.05, ***p<0.01. 3. The number of samples is 571. 4. n represents the number of samples.

Table 8. Results of Independent Sample T Test for The Regular Resident CPA Service

Independent variables	Regular resident CPA service (CPAF)	Mean	Std. error mean	t value	p value (one-tailed)
City concentration (CITY)	1 (n=21)	0.713	0.262	-0.338	0.369
	0 (n=550)	0.733	0.210		
Region concentration (REGI)	1 (n=21)	0.823	0.241	-1.050	0.153
	0 (n=550)	0.879	0.194		

Human configuration concentration (HUM)	1 (n=21)	0.603	0.203	0.010	0.496
	0 (n=550)	0.603	0.231		
Business specialization (BUSS)	1 (n=21)	0.556	0.152	0.665	0.253
	0 (n=550)	0.532	0.167		

Notes: 1. Variables are defined in Table 1. 2. **p*<0.1, ***p*<0.05, ****p*<0.01. 3. The number of samples is 571. 4. n represents the number of samples.

Table 9. Results of Independent Sample T Test for The Resident Professional Service

Independent variables	Resident professional service (PROL)	Mean	Std. error mean	t value	p value (one-tailed)
City concentration (CITY)	1 (n=28)	0.694	0.222	-0.984	0.163
	0 (n=543)	0.734	0.212		
Region concentration (REGI)	1 (n=28)	0.792	0.232	-2.010**	0.027
	0 (n=543)	0.881	0.193		
Human configuration concentration (HUM)	1 (n=28)	0.572	0.195	-0.834	0.205
	0 (n=543)	0.604	0.232		
Business specialization (BUSS)	1 (n=28)	0.474	0.129	-1.933**	0.027
	0 (n=543)	0.536	0.168		

Notes: 1. Variables are defined in Table 1. 2. **p*<0.1, ***p*<0.05, ****p*<0.01. 3. The number of samples is 571. 4. n represents the number of samples.

Tables 10 to 12 represent the comparative analysis of the three control variables in the two groups of samples in terms of the aforementioned four concentration variables. Regarding the number of employees (EMP) and period since establishment (PERD), the samples are divided by the mean values. For partnership or sole proprietorship (TYPE), the samples are divided by business style, suggesting that city concentration (CITY), region concentration (REGI), human configuration concentration (HUM) and business specialization (BUSS) are significantly lower if the number of employees is greater, the period since establishment is longer and the firm involves a partnership. In other words, if firm size is larger, the period since establishment is longer and the firm involves a partnership, then the business revenues are more likely to be distributed in different cities and regions, while the business revenues are more diversified and human resources are more evenly distributed across different professional service categories.

Table 10. Results of Independent Sample T Test for The Number of Employees

Independent variables	Number of employees (EMP)	Mean	Std. error mean	t value	p value (one-tailed)
City concentration (CITY)	>= 30 (n=63)	0.531	0.178	-9.376***	<0.000
	< 30 (n=508)	0.757	0.203		
Region concentration (REGI)	>= 30 (n=63)	0.694	0.228	-6.913***	<0.000
	< 30 (n=508)	0.900	0.180		
Human configuration concentration (HUM)	>= 30 (n=63)	0.544	0.169	-2.808***	0.003
	< 30 (n=508)	0.610	0.235		

Business specialization (BUSS)	>= 30 (n=63)	0.447	0.094	-6.888***	<0.000
	< 30 (n=508)	0.543	0.170		

Notes: 1. Variables are defined in Table 1. 2. *p*<0.1, **p*<0.05, ***p*<0.01. 3. The number of samples is 571. 4. n represents the number of samples.

Table 11. Results of Independent Sample T Test for The Period Since Establishment

Independent variables	Period since establishment (PERD)	Mean	Std. error mean	t value	p value (one-tailed)
City concentration (CITY)	>= 16 (n=285)	0.712	0.218	-2.287**	0.011
	< 16 (n=286)	0.752	0.204		
Region concentration (REGI)	>= 16 (n=285)	0.852	0.210	-3.047***	0.001
	< 16 (n=286)	0.902	0.179		
Human configuration concentration (HUM)	>= 16 (n=285)	0.584	0.223	-1.995**	0.023
	< 16 (n=286)	0.622	0.236		
Business specialization (BUSS)	>= 16 (n=285)	0.520	0.162	-1.863**	0.031
	< 16 (n=286)	0.546	0.170		

Notes: 1. Variables are defined in Table 1. 2. *p*<0.1, **p*<0.05, ***p*<0.01. 3. The number of samples is 571. 4. n represents the number of samples.

Table 12. Results of Independent Sample T Test for The Partnership or Sole Proprietorship

Independent variables	Partnership or sole proprietorship (TYPE)	Mean	Std. error mean	t value	p value (one-tailed)
City concentration (CITY)	1 (n=197)	0.665	0.212	-5.647***	<0.000
	0 (n=374)	0.768	0.203		
Region concentration (REGI)	1 (n=197)	0.818	0.223	-4.979***	<0.000
	0 (n=374)	0.908	0.172		
Human configuration concentration (HUM)	1 (n=197)	0.556	0.207	-3.737***	<0.000
	0 (n=374)	0.628	0.238		
Business specialization (BUSS)	1 (n=197)	0.480	0.143	-5.990***	<0.000
	0 (n=374)	0.561	0.171		

Notes: 1. Variables are defined in Table 1. 2. *p*<0.1, **p*<0.05, ***p*<0.01. 3. The number of samples is 571. 4. n represents the number of samples.

4.5 Comparative Analysis of Partnership and Sole Proprietorship Operating Performance

Furthermore, the accounting firm samples are divided into firms by partnership and sole proprietorship and a multiple-regression model is developed as shown by the following equation (2) in order to compare and understand whether the correlation between the independent and dependent variables varied in samples of different types.

$$PFOR=\beta_0+\beta_1 BRA+\beta_2 CPAL+\beta_3 CPAF+\beta_4 PROL+\beta_5 CITY+\beta_6 REGI+\beta_7 HUM+\beta_8 BUSS+$$

$$\beta_9 EMP+\beta_{10} PERD+u_i \tag{2}$$

In the regression equation (2), PFOR is the total business revenue, BRA is the number of business locations, CPAL is the resident CPA service, CPAF is the regular resident CPA service, PROL is the resident professional service, CITY is the city concentration, REGI is the region concentration, HUM is the human configuration concentration, BUSS is the business specialization, EMP is the number of employees, PERD is the period since establishment, β_0 is the intercept, β_1, β_2, β_3, β_4, β_5, β_6, β_7, β_8, β_9 and β_{10} are the parameters of regression model, and u_i is an error item.

With reference to the suggestions shown in Section 3 and made by Neter et al. (1990), Tables 13 and 14 suggest that the VIF values of the independent and control variables are all lower than 10, indicating that there is no serious collinearity problem in between the independent and control variables. Table 13 shows the model's explanatory power with an Adjusted R^2 value of 0.865, and an F-statistic of 126.592, which reach a 1% statistical significance level; Table 14 shows the model's explanatory power with an Adjusted R^2 value of 0.696, and an F-statistic of 86.265, which reach a 1% statistical significance level. The regression results shown in Table 13 suggest that only H4 is accepted. However, the regression results shown in Table 14 suggest that H1-1, H1-2, H1-4, H2-2 and H4 are also accepted.

The regression results shown in Table 13 indicate that business specialization (BUSS) has a significant and negative impact on total business revenue (PFOR) (the coefficient value is -0.306, p<0.01) in the case of partnership firms. In other words, business revenues are more concentrated in a specific business, thus, the total business revenues is lower. This suggests that business revenues should be scattered across the four business areas (that is, the public offering financial auditing and attesting, taxation, management consultation and business registration and other business to implement) in order to increase the firm's total business revenue. Table 14 shows the regression results for sole proprietorship firms, and suggests that the regression results for the independent variable are the same as the total sample in Table 5. That is, more business locations are able to generate more total business revenues. Firms with resident CPAs in branch firms acquire lower total business revenues. Firms with resident professionals in branch firms have lower total business revenues. If the market is more concentrated in a specific region, then the total business revenue is lower. In other words, if the market is more evenly distributed across different regions (the northern region, central region, southern region, eastern region, and other regions) then the firm's total business revenue will increase. If human resources are more concentrated in a specific service category, then the firm's total business revenue is greater. In other words, if human resources are more evenly distributed across the four service categories of the accounting firm (auditing, taxation, management consultation, and accounting) then the firm's total business revenues is relatively limited. If business revenues are more concentrated in a specific business, then the firm's total business revenues is lower. In other words, if business revenues are more scattered across the four business services (public offering financial auditing and attesting, taxation, management consultation and business registration and other business to implement) then the total business revenues is greater.

Regarding the control variables, except for period since establishment (PERD) in the case of sole proprietorship firms (as shown in Table 14) having an insignificant and positive impact on total business revenue (PFOR) (the coefficient value is 0.002, p>0.1), the control variables (as shown in Tables 13 and 14) have a significant and positive impact on total business revenue (PFOR), suggesting that more employees, and longer periods since establishment are able to generate total business revenues.

According to Tables 13 and 14, the relationship between the independent and dependent variables is more stable and significant in the case of sole proprietorship firms. Therefore, the research findings are able to provide managers of sole proprietorship firms with more robust reference indicators.

Table 13. Regression Results of Operating Performance for Partnership Accounting Firms

PFOR=β_0+β_1BRA+β_2CPAL+β_3CPAF+β_4PROL+β_5CITY+β_6REGI+β_7HUM+β_8BUSS+β_9EMP+β_{10}PERD+u_i (2)

Dimension	Variable description	Predicted sign	Coefficient	Std. Error	t value	p value (one-tailed)	VIF	Hypothesis
	Intercept		5.977	0.124	48.092	<0.000***		
Business location and business style	BRA	+	0.002	0.021	0.091	0.464	2.116	H1-1 rejected
	CPAL	-	-0.038	0.040	-0.946	0.173	1.535	H1-2 rejected
	CPAF	-	-0.033	0.073	-0.459	0.323	1.274	H1-3 rejected
	PROL	-	-0.017	0.053	-0.327	0.372	1.156	H1-4 rejected
Market regional distribution	CITY	-	-0.010	0.079	-0.120	0.452	1.283	H2-1 rejected
	REGI	-	-0.073	0.074	-0.982	0.164	1.242	H2-2 rejected
Human configuration	HUM	-	-0.045	0.074	-0.604	0.273	1.068	H3 rejected
Business specialization or diversification	BUSS	-	-0.306	0.108	-2.845	0.002***	1.081	H4 accepted
Control variables	EMP	+	1.104	0.043	25.459	<0.000***	1.786	
	PERD	+	0.003	0.002	1.847	0.033**	1.172	

R^2=0.872   Adjusted R^2=0.865

F-statistic=126.592***   P value<0.000

Notes: 1. Variables are defined in Table 1. 2. The variables' variance inflation factors (VIFs) are all less than 10, implying that no serious multi-collinearity exists among variables. 3. *$p<0.1$, **$p<0.05$, ***$p<0.01$, and the statistical significance level is determined using one-tailed p-values. 4. The number of samples is 571. 5. "Accepted" means that the hypotheses are accepted, "Rejected" means that the hypotheses are rejected.

Table 14. Regression Results of Operating Performance for Sole Proprietorship Accounting Firms

PFOR=β_0+β_1BRA+β_2CPAL+β_3CPAF+β_4PROL+β_5CITY+β_6REGI+β_7HUM+β_8BUSS+β_9EMP+β_{10}PERD+u_i (2)

Dimension	Variable description	Predicted sign	Coefficient	Std. Error	t value	p value (one-tailed)	VIF	Hypothesis

	Intercept		6.096	0.116	52.598	<0.000***		
Business location and business style	BRA	+	0.186	0.068	2.725	0.003***	1.705	H1-1 accepted
	CPAL	-	-0.147	0.060	-2.433	0.008***	1.197	H1-2 accepted
	CPAF	-	-0.044	0.096	-0.459	0.323	1.349	H1-3 rejected
	PROL	-	-0.293	0.108	-2.711	0.004***	1.390	H1-4 accepted
Market regional distribution	CITY	-	-0.036	0.067	-0.531	0.298	1.053	H2-1 rejected
	REGI	-	-0.142	0.080	-1.782	0.038**	1.075	H2-2 accepted
Human configuration	HUM	-	0.100	0.061	1.630	0.052*	1.197	H3 rejected
Business specialization or diversification	BUSS	-	-0.388	0.082	-4.708	<0.000***	1.124	H4 accepted
Control variables	EMP	+	0.989	0.046	21.432	<0.000***	1.577	
	PERD	+	0.002	0.002	0.975	0.165	1.182	

R²=0.704   Adjusted R²=0.696

F-statistic=86.265***   P value<0.000

Notes: 1. Variables are defined in Table 1. 2. The variables' variance inflation factors (VIFs) are all less than 10, implying that no serious multi-collinearity exists among variables. 3. *p<0.1, **p<0.05, ***p<0.01, and the statistical significance level is determined using one-tailed p-values. 4. The number of samples is 571. 5. "Accepted" means that the hypotheses are accepted, "Rejected" means that the hypotheses are rejected.

5. DISCUSSION AND CONCLUSION

Taking into consideration the impact of business location and business style, market regional distribution, human configuration and business specialization or diversification on firm operating performance, this paper proposes the following conclusions and suggestions.

In the dimension of business location and business style, more business locations are able to generate better operating performance. It is therefore suggested that firm managers establish more branch firms in order to provide services to customers in various places and expand the service channel range and share the burden with the firm's headquarters. Through business location establishment, a firm is able to enhance its competitiveness and reputation and thereby can establish an information communication bridge between the firm and customers and respond rapidly to customer demands. Branch firms that provide resident CPA services and resident professional services may cause poorer operating performance, possibly because resident CPAs

or professionals may affect the distribution of human resources across the firm and divert the focus of CPAs from the business of the firm's headquarters. If the professionals are resident in their business locations, in high season, the diversion of human resources across branch firms can result in a heavier business burden. This may affect service quality and result in poorer operating performance. It is therefore suggested that firm managers increase the number of professionals in branch firms in order to reduce human resources distributed away from the firm's headquarters. This would reduce the adaption problem of human or business demand allocation as well as the lack of manpower at headquarters or increase the business burden to maintain the service quality of the accounting firm.

In the dimension of market regional distribution, higher degrees of region concentration can result in poorer operating performance. It is therefore suggested that managers expand in the market. In other words, business can be scattered across different regions (the northern region, central region, southern region, eastern region, and other regions) in order to reach more customers and create further business opportunities, so that the firm has customer bases in various regions and increases firm revenues and operating performance.

In the dimension of human configuration, higher degrees of human configuration concentration can result in better firm operating performance. This is not as expected and reaches a significant level. It is therefore suggested that managers concentrate manpower in specific service categories according to business attribute and expertise. This can facilitate total business revenue. In other words, if manpower is evenly distributed across the four service categories (auditing, taxation, management consultation, and accounting) then this may scatter professionals. This may also increase additional manpower employment to satisfy the demands of customers. This indicates that firm managers create highly concentrated human configurations in order to increase operating performance and reduce manpower costs.

In the dimension of business specialization or diversification, more diverse business can generate better operating performance. It is therefore suggested that firm managers develop different business markets; for example, public offering financial auditing and attesting, taxation, management consultation and business registration and other business to implement in order to increase customer groups of different sources and satisfy customer demands. In addition, business diversification is able to absorb more customers and is not limited to a conventional auditing business. This can help a firm to seek out new market opportunities in highly competitive conventional business markets with bottlenecks. Only in this way can a firm attract different types of customers, increase firm competitiveness and enhance operating performance.

The inter-dimensional cross analysis suggests that regarding the independent variables, in the case of a firm with more business locations and with branch firms providing resident CPA services, the concentration degree of the four variables of city concentration, region concentration, human configuration concentration and business specialization is lower. In other words, it is more scattered. In addition, if branch firms provide resident professional services, then the region concentration and business specialization degrees are relatively lower. Regarding the control variables, firms of larger size, with longer periods since their establishment and involving a partnership style are more likely to have scattered business revenues in different cities and regions, while business revenues are more diverse and manpower is more scattered in different professional service categories.

Taking into consideration business location and business style, market regional distribution, human configuration, and business specialization or diversification, factors with an important impact on operating performance are identified. The findings of this paper are expected to provide managers with a reference for practice and decision-making in terms of operation

direction, distribution of manpower, and business strategy in relation to the market, and thereby serve as the basis for improvement and development in the future.

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The Alienating Effect of Technology: Does Technological Innovation Cause Work Alienation?

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Abstract

This article basically analyzes how technological innovation affects employees' alienation from their jobs. Detailed purpose of the article; It also aims to analyze the impact of technological innovation on employee alienation from their jobs and strategies to reduce the negative impact of technological innovation on employee alienation. These research studies prepared by the literature review method are named as "compilation article" method. The article tries to explain what technological innovation means and how it is implemented, the definition and determinants of alienation and work alienation, the impact of technological innovation on employee alienation from work and the factors contributing to this effect, and strategies that can be used to reduce the negative impact of technological innovation on employee alienation. Based on the results obtained; Technological innovation is the process of developing new ideas, products, services or processes or significantly improving existing ones. Technological innovation can drive changes in business processes, consumer experiences, or the products themselves. However, it can also trigger work alienation, a condition in which employees perceive their jobs as meaningless, unimportant, or worthless. It is hoped that the article, which is a theoretical analysis, will contribute to the ongoing discussions of technology, artificial intelligence and organizational behaviour.

Keywords: Organizational Behaviour, Technology, Alienation, Technological Innovation, Work Alienation

1. INTRODUCTION

The scientific and technological advances that accelerated after the Enlightenment have fundamentally changed all facets of society, including business. These advances have given rise to new business models, employment opportunities and industries. Technological innovation, defined as the potential for technological renewal, has the power to change fundamental organisational processes, including the division of labour, coordination, control, communication and decision-making (Garud et al., 1997). Technological determinism is based on the principle of continuity of development and progress, with the active desire that technology will advance humanity. However, it is important to acknowledge the possibility that this notion, rooted in early modernity, may remain inactive. The current situation of the digital age illustrates this possibility. The term 'digital age' typically refers to the rapid advancement of technology and the widespread integration of digital processes into almost every facet of life. This phenomenon has both positive and negative effects. The benefits of technology include efficient communication, easy access to information and expanded educational opportunities. Tomlinson (2013) argues that a digital global culture has emerged that should not be ignored.

However, while digital technologies have brought significant progress to fields such as medicine, industry, and transportation, they are not without drawbacks. The use of social media and digital devices has introduced new types of diseases and addictions, which are discussed in the relevant literature. Treatment protocols for these issues are still being developed (Darı, 2017). Additionally, the digital age has brought about concerns regarding the protection of personal data. Cyber security threats, digital fraud and virtual crime are among the new problems that have emerged. However, the rapid development of technology and the rise in unemployment are major concerns. The impact of the digital age is often seen as both positive and negative. It is important to develop an awareness of the negative effects of technology while also taking advantage of its benefits. The digital age is an ongoing process that goes beyond the digitisation of analogue and mechanical systems. It is vital to maintain social awareness in order to continue this expansion. As with previous technological advances, the digital age is often associated with technological determinism. This association stems from a focus on the positive aspects of the digital age. Technological determinism argues that technology affects all aspects of society and can even determine human behaviour. This perspective emphasises the influence of technology on society, suggesting that social change is a consequence of technological progress. The effects of technological determinism manifest themselves in different areas of society. For example, this perspective suggests that rapid technological progress can lead to equally rapid social change. Although these changes can bring many innovations and conveniences, it is important to consider their potential drawbacks. Technological determinism can lead to dependence on technology, which can result in diminished personal relationships, reduced social interactions, and increased loneliness. However, it is also a perspective that considers the impact of technology on society. The rapid development of technology has contributed to the advancement of services in various sectors, including medicine, transportation, communication, and information technology, ultimately improving people's quality of life. Technological developments can ultimately trigger social changes and cause social problems. It is crucial to avoid biased language and maintain a clear, objective tone. While the rapid development of technology can provide benefits in many areas, it is important to strike a balance. The trust in technological developments has led to the belief that technology can improve or perfect human beings by facilitating their lives. This belief has given rise to the philosophical movement of transhumanism, which seeks to enhance people's physical and mental capacities and transcend their limitations. In accordance with this objective, the utilization of technological advancements on the human body seeks to manage and enhance the natural process of human evolution.

There are differing opinions on transhumanism. Some view it as a philosophy that enables humans to surpass their natural limitations and improve themselves. This approach suggests that individuals can extend their lives and enhance their intelligence and creativity by utilizing technological advancements. However, others regard transhumanism as a risky stance that seeks to exceed the natural limits of humans. According to this approach, exceeding natural boundaries can harm organic processes such as the understanding of human nature and social interactions. Additionally, some parties are concerned that transhumanism will create a new distinction between people and increase social inequality. Another criticism of transhumanism is the uncertainty surrounding the extent of technological boundaries. Some people have expressed concerns that transhumanism could lead to biological harm or have negative effects on other parts of society. Additionally, there is a risk that technology's control over human evolution could result in falling behind technologically and socially, as has happened in other periods of human history.

Transhumanism is an approach that aims to enhance human evolution, but it raises concerns about exceeding natural human limits. Therefore, evaluating transhumanism requires

considering not only its social and societal impacts but also its ethical implications. The digital age can be viewed through the lens of futurism as a technological era, and transhumanism as an intellectual stance. Futurism is an artistic movement that originated in Italy in the early 20th century. It aimed to reflect future technological developments through art, emphasizing concepts such as speed, dynamism, and modernity. In the digital age, these concepts have continued to evolve in a technological context. For instance, technologies like smart devices, artificial intelligence applications, autonomous systems, and augmented reality are the components that drive futuristic visions in the digital age.

The movement towards technological innovation can impact an organization's structural traits, including formalization, centralization, standardization, and flexibility. This effect may provide options for departmentalization, whether through functional, regional, product, or customer-based formats. Technological innovation can enhance the quality, cost-effectiveness, speed, and innovativeness of an organization's production or service offerings while impacting the motivation, satisfaction, commitment, and performance of its employees (Avadikyan et al., 2016). Nonetheless, technological innovation does not exclusively yield favourable effects. Rather, it can also produce negative outcomes, such as alienation. Alienation refers to the loss or weakening of an individual's relationship with themselves, others, and the environment (Schacht, 2015). This phenomenon emerged with the introduction of technology into human life. The widespread use of technology, particularly in the business world, can lead to employees experiencing alienation from their jobs. Job alienation is a condition in which employees perceive their work to be meaningless, insignificant, or worthless. They are dissatisfied, lack commitment and responsibility, have trouble in communicating with colleagues and managers, and feel anxious and stressed in the work environment (Greenberg & Grunberg, 1995). The objective of this theoretical analysis is to investigate the impact of technological innovation on employee job alienation. Answers to the following questions will be sought to further explore the topic at hand: what constitutes technological innovation and how is it brought about? What is the influence of technological innovation on employee alienation and which variables exert an impact? How is alienation and job alienation measured? What is the influence of technological innovation on employee alienation and which variables exert an impact? Lastly, how can the impact of technological innovation on employee alienation be mitigated?

2. CONCEPTUAL FRAMEWORK

2. 1. The Concept of Technological Innovation

Technological innovation involves the creation of new ideas, products, services, or processes, as well as the substantial improvement of existing ones. Such innovations predominantly emerge in the spheres of technology, science, and engineering (Azar & Ciabuschi, 2017). Technological innovation involves the creation of new ideas, products, services, or processes, as well as the substantial improvement of existing ones; and it yields various benefits, including the acquisition of a competitive edge, the enhancement of products or services, and the expansion of markets (Tidd & Bessant, 2020). Part of technological innovation entwines the origination of fresh and innovative concepts. These concepts have the potential to address current issues, uncover new opportunities in the marketplace, or devise superior techniques. Although innovation may stem from science and technology, essential components of the innovation process include uncovering novel technologies or optimizing the use of existing technologies (Drake, 1994). Technological innovation can lead to transformations in industry, business, and society. Innovation, whether in business processes, consumer experiences, or product development, has the potential to yield commercial benefits. Companies can achieve a competitive edge by introducing novel products or services that satisfy customer demands (Moorhouse et al., 2018).

The scope of technological innovation is vast, spanning across various fields and sectors. To succeed in the innovation process, it is crucial to integrate factors such as creative thinking, engineering expertise, market research, and financial investment. Technological innovation can improve society and enhance quality of life (Puertas et al., 2020). In this respect the three stages of technological innovation involve: invention, innovation, and diffusion. Invention refers to scientific and technological advancements, while innovation reflects their impact on economic activities. Inventions are transformed into innovations by making them economically viable; subsequently, production commences. Technological change is an accumulative process, where small improvements and radical innovations both contribute to the formation of technologies. Technological innovation is an ongoing dynamic process that constantly evolves (Belcher, 1996).

Today, investments in new technologies and R&D activities are the primary drivers of technological innovation. New technologies encompass a system for developing novel production methods, new products, and innovative management techniques. The process of advancing existing production technologies involves a systematic production process that actively employs knowledge by facilitating global sharing (Fichman, 2004). In summary, the adoption of new technology is a dynamic innovation process that enhances productivity in enterprises, lowers costs, promotes flexibility in the production process, and advances the quality of existing products.

Although various technologies have been developed throughout history to respond to different needs, it can be argued that a Fordist production system based on Taylorism gained widespread adoption after the Second World War to meet increasing demand. Factories, as the engine of Fordist production, have generated diverse interactions in various areas ranging from education to family structure, effectively shaping industrial society. Over time, this mode of production became the focus of economic and social crises (Peaucelle, 2000). Changes were made in production technologies to overcome these crises. The most significant aspect of this period, known as the post-Fordist era, is the introduction of flexible production systems. Starting in the 1980s, specialized production replaced mass production, and rigid rules were replaced by flexible rules. This transformation is explained by the concept of post-Fordism. Post-Fordism refers to the economic opportunities and flexibility afforded by new technologies in production. The utilization of micro-technologies in production and a diverse array of production forms based on varying consumer preferences and expectations are known as flexible specialization (Jessop, 2005).

Underpinning post-Fordism is the concept of flexible production, based on the understanding that future demand for manufactured products is uncertain. The concept of flexible production is based on the idea that consumers can adapt to changing product types. Flexible production systems involve a technology-intensive production process that quickly delivers products to consumers and easily adapts to changes, resulting in improved cash flow compared to traditional methods (Shifrin & Michel, 2022). As a result of the flexible production style, mass production has been fragmented into smaller units through subcontracting, leading to targeted production in different regions. This has resulted in the emergence of new forms of work, with technological innovation movements being the most significant factor (Shagvaliyeva & Yazdanifard, 2014).

2. 2. How Technological Innovation Affects Ways of Working

Working life in the United States has shifted away from a Taylorist production approach, which was prevalent until the 1980s, towards a post-Fordist production structure that values "flexibility". This change has largely been driven by rapid developments in technology, such as digitalization. As a result, the innovative process of technological innovation has had a profound impact on the dynamics of production and consumption, causing production to gradually

transform into a more flexible form. The rapid pace of technological innovation has transformed the competitive landscape, necessitating companies to adopt flexible production methods and labor practices (Reilly, 2001).

Flexibility can be defined as the ability to adapt to market fluctuations with minimal cost and in a timely manner. This attribute is crucial for companies to maintain their competitiveness in a globalised economy. The spread of flexible working practices poses challenges for workers; however, these practices have led to increased productivity in companies. Workers believe that technological advances combined with flexibility lead to job insecurity, lower wages and poorer working conditions (Kossek et al., 2021). The meaning of flexibility shifts as market conditions evolve over time and technology enables new social interactions on a daily basis. The concept of labour market flexibility is associated with various concepts such as flexible production, flexible work, wage flexibility, labour process flexibility and marketing flexibility. It should be noted that definitions vary from country to country. The meaning of flexibility has evolved over time to include definitions such as 'situational employment' or 'non-standard employment'. The central concern is the employer's attitude to flexible working, which extends to atypical and non-standard forms of work or employment that fall outside the scope of permanent employment contracts (Giurge & Woolley, 2022).

Technological innovation and the evolving global market dynamics are the driving force behind the emergence of flexible work arrangements. Technological advancements are the driving force behind the transformation of organizational structures, redefining the traditional hierarchies of workplaces, employers, and employees. The shift towards flexible work has resulted in a paradigm shift, leading to changes in organizational management, the adoption of flexible business practices, flexible compensation and scheduling arrangements, and a complete transformation of production methods (Allen & Shockley, 2009). New technological advancements have spurred a transition towards flexible specialization in the business world.

Rather than abandoning traditional work structures and protecting employees' positions and working hours through predetermined rules, flexible working arrangements enable employees to adapt to the changing needs of organisations competing in a global marketplace. There are currently two dominant views of flexible working arrangements. The first view prioritises the needs of the employer, helping to adapt to changing competitive markets and enabling employees to balance work and personal commitments. The second view is that such working arrangements create job instability, hinder organisational efforts and favour employers by controlling wages and working conditions. In summary, technological innovation has revolutionised work flexibility and promoted a management approach that favours organisations. (Maxwell et al., 2007).

Various flexible working patterns arise with technological advancements. Functional flexibility, for instance, enables employees to adjust to evolving technological conditions and perform jobs that require diverse skills. Employees with functional flexibility can undertake multiple responsibilities across varying job functions in the workplace. Organizations that operationalize functional flexibility can satisfy new needs and fill job openings without the need for new hires (Paulhus & Martin, 1988). Quantitative flexibility, distinct from functional flexibility, denotes an organization's ability to adjust its workforce in response to market conditions by increasing or decreasing the number of employees as necessary. While historically associated with low-skilled work, temporary employment is now prevalent in high-skilled job sectors due to changing market conditions driven by technological innovation. Contract work, subcontracting, and other forms of temporary employment are becoming increasingly common as organizations seek increased flexibility. Quantitative flexibility allows the employer substantial leeway in hiring and dismissing workers depending on market conditions (Heydarian-Forushani & Golshan, 2020).

Wage flexibility permits employers to adjust compensation up or down as necessary. Enterprise-level wage flexibility requires setting rates based on employees' skills, occupations, and external factors that do not influence their job functions. In this system, skilled workers may receive rewards, and during times of crisis such as economic downturns or business setbacks, wages may be reduced to establish a competitive edge in the market (Galí & Monacelli, 2016).

2. 3. New Ways of Working Generated by Technological Innovation

In the aftermath of the economic crisis of the 1970s, global unemployment was a major problem, prompting employers to look for cost-saving approaches to employment. As a result, governments occasionally supported flexible work arrangements in the early days in the hope of resolving unemployment. Additionally, advances in technology ushered in the emergence of new forms of work. Classical forms of employment may no longer suffice in light of the industry's transformation with new technologies. This has led organizations to adopt different forms of employment. The practice of enterprises subcontracting their activities to other companies is one of the primary reasons for the emergence of these new forms of employment today. Increasing global competition and technological innovation have created increasingly harsh market conditions (Eyck, 2003).

Part-time work is the most prevalent flexible working model based on technological innovation. Part-time work is defined as continuous and regular work that is less than the normal working time, and is seen as a serious solution to unemployment, as those who are unemployed often prefer part-time work to remaining jobless (Dunn, 2018). The advancement of technology after the 1970s altered the centralized structure of organizations and enabled employees to work independently. Teleworking, which emerged during this period, allows individuals to conduct work activities either in the main office or in locations outside the office where production takes place. Through remote communication technologies, employees can work without face-to-face interaction with colleagues. Teleworking has become more popular after the Covid-19 pandemic. It allows employees to have more freedom and boosts their creativity, while also reducing daily issues like traffic congestion and air pollution due to less commuting (Elbaz et al., 2022). Additionally, the organization benefits from time and cost savings. However, teleworking isolates employees from each other and hinders socialization. The blurring of boundaries between work and personal life can lead to loneliness and disconnection from both oneself and one's work. Moreover, transitioning to working from home may decrease productivity and result in a lack of discipline and motivation (Herrera et al., 2022).

One of the latest employment models driven by technological innovation is on-call work. The duration of work is entirely dependent on the employer. On-call work involves employees reporting to work after receiving a call from their employer, in line with a pre-existing employment agreement. It is impossible to work without getting the call, as it is a mandatory requirement for working under this model. The worker adapts fully to the requirements of their job, fulfilling longer hours of duty when demand is high and fewer hours when demand is low. This circumstance necessitates the employee to organize their entire life in tandem with the requirements of their job (Ferguson et al., 2016). The work-from-home model has been in use for years, but the pandemic has brought it to the forefront of attention. This model entails producing goods or providing services for an employer or intermediary from a location chosen by the worker, usually their own home, according to a contract, without the employer's or intermediary's supervision. In this employment model, the workplace must be outside the employer's premises and annexes. In this employment model, which places new technologies at its forefront, disadvantaged groups can more easily participate in working life (Haridas et al., 2021). Subcontracting is one employment model that is based on technological innovation. By

outsourcing some of the work that can be done within the organization, subcontracting saves time for the organization and ensures that the work is done by more specialized personnel. Organizations that are unable to invest in emerging technologies but still want to remain competitive in the market opt to outsource their activities to skilled personnel. This approach not only enhances organizational productivity, but also increases overall employment opportunities, making it a win-win solution (Kimura, 2002).

The rise of technological innovation has given way to a novel employment model known as the online platform model. In this digital employment model, the relationship between employers and employees differs from the traditional employer-employee relationship. Each job can establish multiple employer and employee relationships. The employee is mobile and can work in various locations, including their own office outside the employer's premises. Some platform workers have expertise in jobs that can be performed remotely from any part of the globe, such as text editing and translation, that is, location independent. Others, on the other hand, undertake platform jobs that require local and physical effort, including taxi driving and food delivery (Jesnes, 2019). The work platforms share several features, including flexibility in work hours, overtime, mandatory minimum wages, and the ability to work outside the traditional structures set by legislation and collective bargaining agreements that define legal obligations. It is widely recognized that digital work platforms, serving significant purposes for remote work and job fragmentation via task allocation, are a significant transformation in the landscape of global labor markets. Moreover, although digital platforms offer cost-effectiveness and competitive benefits to businesses, the robust employment relationship fostered by such platforms impedes employees from fully exercising their fundamental labor rights (Garud et al., 2022).

2. 4. Does Technological Innovation Lead to Work Alienation?

Alienation is the inability to fully assimilate into one's cultural, living, belief or environmental circumstances and has its roots in an ancient philosophical framework. The concept of alienation also explains the state of individuals who are surrounded by internal and external conditions that lead to their dissociation from society or the workplace. This dissociation occurs because they feel that their own creativity and activity is being left behind or even becoming dysfunctional (Schacht, 2015). After the Industrial Revolution, the migration from rural to urban areas and the resulting complex class structure had a significant impact on the formation of feelings of alienation. In addition, the emergence of a new capitalist order and technological advances due to globalisation have played a role. (Hearst, 1986).

According to Hegel, alienation can be seen as a means for self-improvement rather than a negative phenomenon. Hegel posits that moving away from one's current environment is essential for personal development (Kolb, 1986). Conversely, Marx regards alienation as an obstacle to societal progress. For Marx, the alienation process manifests in four stages: (1) alienation from labor, (2) alienation from product, (3) alienation from colleagues, and (4) alienation from oneself (Benedict, 2009). The lack of control over the product of one's labor causes alienation from work. Marx contends that alienation from labor is most prevalent in the working class. The lack of control over the product of one's labor causes alienation from work. Alternatively, alienation in work processes results from the absence of autonomy. Consequently, workers perform tasks out of compulsion rather than volition, leading to a sense of detachment from their work (Rosen, 1970). In this system, workers receive only material compensation for their labor. However, individuals who are unable to integrate their creativity, ideas, and thoughts into their work will fail to find meaning in it over time, and the work will become meaningless. Individuals who are disconnected from their labor and work activities lose connection to their inherent nature and ability to shape, alter, and enhance nature, setting human beings apart from

other living organisms (Musto, 2013). The nature at issue can encompass the surroundings, workplace, or social milieu, but individuals who surrender the possibility of improvement and change find themselves alienated from it. In the final stage, individuals can experience alienation from themselves in various forms, including separation from their work, profession, culture, and society. Those who become alienated from these factors will inevitably encounter a significant disconnect between their desired self and their actual self-identity (Sayers, 2003). All forms of alienation arose primarily during the transition to industrial society and have subsequently become widespread due to technological advancements and the introduction of new technologies.

Employee alienation from work occurs when the job requirements clash with the employee's individual nature, resulting in a lack of harmony. The implementation and formulation of work processes without involving the employee can result in the employee not achieving emotional fulfillment at work and suppressing their individuality, leading to inevitable workplace alienation (DiPietro & Pizam, 2008). It is noteworthy that personal characteristics of the individual determine the extent of alienation and its causes and consequences may vary. Apart from individual factors, alienation can also emerge from social, political, cultural, and economic factors. Consequently, this phenomenon has an impact not only on individuals but also on society. When someone experiences alienation, their social environment, including coworkers, family, and friends, is likely to reflect it (Al Hosani et al., 2020).

The rapid advancement of technology and widespread fears that its development will lead to increased unemployment have led to opposition against it throughout different periods. While this situation may negatively impact individuals' attitudes towards technology, innovative technological initiatives have transformed the way businesses operate rather than affecting unemployment. Employment has been maintained as workers shift to different fields and acquire new qualifications through technological tools, providing them with new job opportunities. It should be noted, however, that a minority may experience job alienation if they are unable to adapt to these changes (Adibifar, 2016). Job alienation refers to a psychological state of unawareness and disinterest of an employee towards their work caused by various factors related to the nature of the job or the workplace. The ability of technology to innovate work plays a significant role here (Mehta, 2022). As the job structure becomes more technology-oriented, employees tend to experience feelings of work alienation. This can lead employees to feel powerless over their work, rendering it meaningless, causing isolation from colleagues and work, and fostering negative attitudes towards their job. In summary, sectors where technology is highly ingrained pose a potential for employee alienation. This process is often referred to in literature as powerlessness, meaninglessness, rulelessness, alienation from society, and self-alienation (Seeman, 1959).

The dimension of work alienation, specifically powerlessness, stems from an emotional state where an individual perceives themselves as having no control over the production process or product, thus making it impossible to achieve desired results. The employee may feel defeated by technological advancements or that they have lost control over the work system. The belief that they lack the qualifications required by new technology determines this dimension. Individuals cannot control the new technologies present in their workplace. Consequently, they recognize their inability to attain desired outcomes and slip into a depressive state (R. N. Kanungo, 1979). Avoiding the required new qualifications in technology undermines an employee's authority in the workplace and may lead to exclusion from decision-making processes. Powerlessness encompasses the negative feelings of helplessness experienced by employees who do not achieve desired results at work. Such feelings demotivate employees and contribute to negative attitudes towards work. Employees who struggle to keep up with

technological innovations may experience negative emotions such as burnout, fatigue, and hopelessness. As a result, they may become disconnected from the production process and decision-making mechanisms, leading to work alienation (Schacht, 2015).

Workers seek coherence in their work environment, colleagues, and tasks, which enables them to appreciate their job and confidently prepare for the future. Employees who experience workplace alienation may lose their trust and feel a sense of profound meaninglessness. They may struggle to comprehend the organizational structure, including understanding the role and function of their own work, how it contributes to the larger process, and the relationships between other units and employees. This situation hinders employees from attributing meaning to their work. Furthermore, employees might experience a confusing meaning due to inadequate information about events. In the dimension of meaninglessness, employees find their work negligible, and it disconnects them from their coworkers. They exhibit an ambivalent attitude since they are unsure of what to believe or support. The sense of meaninglessness hinders employee integration with their environment and society. The presence of meaninglessness leads to increasing isolation from the organization (Espinoza Mogollon, 2021; Seeman, 1959).

New technologies that stem from technological innovation transform how workers interact with each other and their work, making them an integral part of a system that operates like a machine. This process, known as digital Taylorism, leads to employees gradually losing the sense of purpose in their lives and turning into mere machines that exist only to generate output. Living without emotions compels the employee to relinquish the meaning of their work (Peaucelle, 2000). Today, some employees face difficulty in understanding how their work directly benefits their organization or themselves, due to the intensity of workload and work-life balance supported by technology. Employees who perceive their work as meaningless may lose motivation, affecting their overall performance. Organizations that undergo technological innovation involve complex work and social patterns, emphasizing the need for clear communication and guidance. Meanwhile, an employee in a state of meaninglessness may struggle to find their place within the organization and thus be unable to effectively manage their network of relationships. This can result in the employee disengaging from important organizational matters, feeling unable to make sense of their surroundings (Adibifar, 2016).

In the phenomenon of work alienation, a normlessness phase exists where employees act as mavericks, adopting behaviors that serve their own interest by disregarding organization-established rules to achieve their goals. During this phase, employees neglect the warnings of managers and coworkers, and have no need to always pursue a specific objective to experience normlessness. Normlessness may also arise when an individual lacks a goal or when their personal norms conflict with those of the organization (Schwartz, 2012). In workplace settings, instances of disruptive behavior often occur when an employee's qualifications fall short of the expected potential, resulting in a violation of expectations. In a modernized organization utilizing new technologies, deregulation may arise when the current order is disrupted and competition amongst employees to attain the necessary qualifications for the technology intensifies. Consequently, while technological innovation modernizes the organization and raises its competitiveness, it simultaneously cultivates a culture of competition within the workforce. Employees who are unable to adapt to the competitive culture are at risk of rebelling against the established rules and ultimately becoming disengaged from both the organization and their work (Licht et al., 2007; Masur, 2021).

Organizations have their own values and goals to ensure productivity, efficiency, and order. Employees are expected to act in accordance with these goals. However, in the context of social alienation, the employee's own values and goals become more important than those of the organization. When faced with the challenge of fulfilling roles and responsibilities within the

organization, employees may experience dilemmas between conforming to organizational norms and remaining true to their own nature (Tidd & Bessant, 2020). The aforementioned paradoxical scenario, whether conscious or unconscious, can result in an individual's seclusion as he or she avoids interacting with colleagues in the workplace. Such individuals may develop an obsessive preoccupation that they are being excluded or unwelcomed by other employees. Employees who cannot align with the goals of the organization or who cannot match their own potential with the job requirements also struggle to communicate with their environment and participate in socialization opportunities within the organization. This results in subjective alienation from the organization, rather than a pervasive issue within the organizational structure. What is significant in the case of an alienated employee are the individual's precise evaluations and tendencies. The psychological state of the individual, rather than the organization's structure, is the defining factor leading to reduced communication with the work environment (Harvey, 2018).

During the ultimate stage of work alienation, self-alienation, the employee displays behaviors that conform to the expectations of others rather than exhibiting their true selves. The employee disregards their own capabilities and endeavors to achieve the objectives established by others. This circumstance results in the employee feeling disconnected from themselves. At this juncture, they prioritize the values of others and engage in actions aligned with those individuals' expectations, positioning them as the creators of their life. However, in doing so, they fail to recognize their own abilities. The individual who consistently prioritizes meeting the expectations of others eventually loses touch with their own desires. Neglecting their own potential causes mounting anxiety in employees, ultimately leading to self-alienation. The result is a disconnection from their true identity. Although the qualified employee who feels estranged from their own self possesses the necessary job requirements, they may struggle to effectively communicate with their surroundings due to their disconnection from their essence (Costas & Fleming, 2009). In present-day organizations, the employee's self-alienation is frequently associated with dependence on technology. The worker knowledgeable about technology and recent advancements may risk alienation from work by spending excessive time on social media, the internet, or digital games (Göker & Tekedere, 2022).

Alienation is a multifaceted concept related to factors including the work environment, organizational structure, colleagues, and individual desires, behaviors, and perceptions. Marx argued that under capitalism, workers were distanced from their work processes. Employees were instructed to specialize solely in their designated tasks, resulting in their disconnection from the whole product and limitation to their particular area (Musto, 2013). This narrow focus has led to dull, routine work, preventing workers from expanding their skills in the workplace and discovering new job-related knowledge. The rise in technological advancements has also resulted in various concerns and complications for workers, including increased reliance on machinery. Production is typically controlled by machines rather than workers in a mechanized organization (Brennen & Kreiss, 2016). As a result, workers may experience a decrease in self-confidence and self-esteem, leading to a loss of motivation to improve their skills and work performance, and eventual exclusion from the system. Over time, technological innovation can result in employee alienation from the workplace (Goffman, 2021).

There are multiple factors that contribute to job alienation. Initially, the focus is on the characteristics of the job itself, where the absence of autonomy, responsibility, social communication, and self-realization can lead to job alienation amongst employees. Additionally, job alienation can stem from an autocratic management style, division of labor due to organizational growth, increased management levels and responsibilities, and unmet expectations regarding career and professional advancement. Depending on various factors, employees may unconsciously develop a reluctance towards work, which can result in alienation

from their work. Furthermore, environmental factors such as economic, technological, and social structures can contribute to this phenomenon (Hesmondhalgh & Baker, 2013). Factors such as economic downturns, rising unemployment rates, inflation, high exchange rates, and interest rates invoke fear in employees, hindering them from displaying their fullest potential. Moreover, technological advancement and the associated loss of control and autonomy add up to the alienation that employees experience (Harvey, 2018; Stiglitz & Regmi, 2023). Again, cultural structure, injustices in role distribution within society, gender-related issues, and incompatible beliefs and attitudes with societal expectations are additional factors that contribute to job alienation. Working conditions, environment, and job requirements also play important roles as causes of job alienation. In workplaces where employees lack the ability to freely express their ideas and opinions, and where their daily routines are determined by others rather than themselves, they may feel powerless and gradually become disconnected from the organization. It is evident that alienation occurs as a result of specific circumstances, rather than being an inherent personal trait, and can be avoided through the development of appropriate measures and policies (Al Hosani et al., 2020; Mottaz, 1981).

Employees who experience job alienation tend to disengage from work processes and are less likely to participate in decision-making mechanisms. It is important to mitigate employee alienation to maintain a productive and positive work environment. Furthermore, employee alienation not only affects attitudes and behaviors within the work structure, but also reflects changes in general attitudes and behaviors. Job alienation negatively impacts work processes, ultimately decreasing the quality of an organization's products and services. This has repercussions for the individual, workplace, and society as a whole (R. Kanungo, 1982). It is a critical emotional state that can disturb organizational order and affect individual job performance. During this process, individuals may believe that they have no control over their own lives and fail to recognize their own potential and creativity. As a result, they may view themselves as mere objects rather than active participants in their own lives. Those who become objectified and disconnected from their work may experience reduced performance and exhibit negative behaviors at their job, which can ultimately harm both their colleagues and the organization. This situation could potentially result in significant financial losses for the organization. Furthermore, employees who feel alienated from their jobs may lack motivation to enhance their work or themselves, instead viewing their job as a burden (Amarat et al., 2019).

3. RESULTS

Due to the wide adoption of technology in various industries, people now rely heavily on it in their daily lives. As organizations look to stay competitive in a digital world, they must constantly update their structures. Technological innovation necessitates that organizations and employees enhance their skills and qualifications. Employees who fail to update their qualifications or renew their skills as required by new technologies may eventually become unable to work within the organization. The relationship between technology and alienation can be viewed positively or negatively. On one hand, technology leads to the development and advancement of human beings, while on the other hand, it can lead to the loss of human values and control. On one hand, technology leads to the development and advancement of human beings, while on the other hand, it can lead to the loss of human values and control. For individuals who are caught between opposing views on technology, the typical decision is to use technology to their own advantage. Nevertheless, although technological advancements make work life more productive, efficient, and organized, they are unable to prevent people from experiencing dissatisfaction and desensitization. Due to the uniformizing nature of technology, employees are restricted from expressing themselves within their organization and are required to adapt to the demands of machines.

As a result of the widespread use of machines, employees have become integrated into them. In machine-dominated work environments, employees are solely responsible for operating machines, causing them to lose their creative abilities and skillsets. The worker tasked with performing routine duties restricted to a specific step of the production process is isolated from colleagues and their roles. Modern technological advances in the workplace may exacerbate this detachment, leading to confusion and disengagement from both the job and the self.

4. DISCUSSION AND CONCLUSION

Technological innovation relies on numerous factors, including employee commitment, workplace environment, work nature, technology purpose, and use. Research indicates that technological advancement enhances job satisfaction, productivity, and creativity among employees. However, technological innovation can also result in job disconnection, workplace strain, and anxiety. Therefore, it is crucial to assess the impact of technological innovation on employee alienation from their work at both the individual and organizational levels.

To avoid technological innovation causing worker disengagement, consider these suggestions:

- View technology merely as a tool and apply it to simplify tasks.

- Avoid relying excessively on technology.

- Retain human values that technology cannot provide.

- Do not lose sight of the goal, significance, and relevance of work when utilizing technology.

- Technology can be used to motivate employees by recognizing the value of their work to both the individual and society.

- It is important to communicate effectively with colleagues and managers while utilizing technology.

- Social relationships should not be negatively impacted by technological use.

- Creating an environment of trust, respect, and cooperation is critical in the workplace.

- Additionally, employees should be encouraged to take time for themselves and rest when utilizing technology to prevent physical and mental fatigue.

Technological innovation has the potential to both distance employees from their work and enhance their job performance. However, it is crucial to use technology appropriately and find a balance between these outcomes. While this study evaluates the theoretical concept of technological innovation and job alienation, further research is necessary to investigate the interaction between these phenomena in practical settings. Further empirical research is recommended to study how technology affects the workforce and its potential to transform the organizational climate.

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The Role and Power of Tour Guides as Storytellers in Cultural Heritage Tourism

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Abstract

Storytelling began with the existence of humanity. Today, stories used in different fields play an important role in the formation of destination image, marketing and attractiveness in terms of tourism. In this context, tourist guides, one of the most prominent and key actors of the tourism industry, are the ones who build a bridge between destinations and guests and provide unforgettable tourism experiences to tourists through stories. It can be said that tourist guides use their storytelling role mostly in cultural heritage tours. Therefore, this study aims to contribute to the understanding of the impact and importance of the storytelling role of tourist guides on destinations and tourists within the scope of cultural heritage tourism. In this direction, a comprehensive literature review and evaluation has been conducted. Finally, some suggestions are presented for both tourist guides and destination managers, tourism marketers and managers to maximize tourists' story experiences related to cultural heritage.

Keywords: Cultural Heritage, Tourism, Tourism Marketing, Storytelling, Tour Guides.

1. INTRODUCTION

Humans are the only known creatures capable of telling stories. Storytelling is perhaps the oldest form of verbal communication, and it has a significant impact on how people interact in society (McCabe & Foster, 2006). The history of storytelling is significantly older than what can and has been dated today. The Aurignacians are credited with creating the first known cultural art forms. Archaeological finds of ancient art in France's Ardéche area in 1994 were dated to 34 500 BC. The Chauvet-Pont d'Arc Cave (La caverne du Pont-d'Arc) is particularly notable for its over a thousand cave paintings of various animals and hand stencils. The residents' culture demonstrates that they hunted, made jewelry, musical instruments, figurines, and creative works. Musical instruments such as ivory flutes and bird bones indicate that they likely danced as well (Ferraro, 2016). From then until now, people all across the world utilize tale to teach moral imperatives, history, and events that must be passed down from generation to generation. Storytelling is a cultural feature shared by all peoples of the world. Anthropologists discovered that for ages, "stories have ensured the survival and passing down of knowledge and beliefs." (Gensler, 2020).

Academics, thinkers, and scientists believe that storytelling has a transforming impact on cognition, knowledge, culture, and behavior. Humans are natural storytellers (Gensler 2020). Throughout history, people have told each other stories about where they come from, where they live, and where they have traveled. A feeling of location is fundamental to human existence. People like telling and hearing stories. People who dwell in a particular location get extensive experience there and frequently build a strong attachment to it (Bassano, Barile, Piciocchi, Spohrer, Iandolo & Fisk, 2019). Stories are such an integral part of our lives that it is easy to ignore

their critical role in how we connect with one another, interpret and make sense of the world and its events, and preserve our memories (Moscardo, 2010).

Storytelling is a social and transdisciplinary phenomena that piques the attention of academics in anthropology, archaeology, folklore, linguistics, psychology, sociology, marketing, tourism, and behavioral science. The need for memorable tourism has increased in recent years as a result of shifting visitor preferences, the emergence of the experience economy, and technology advancements. As a result, there is a strong need for tales in tourism, particularly tour guiding (Bryon, 2012). Moreover, while tour guides have been for almost as long as there has been travel, their professional competences have gotten relatively little attention in the tourism literature, and there is a scarcity of theoretical literature in this area. It has been observed that the role of storytelling in tourist guiding and its impact on destinations, tourism industry and tourists has not been sufficiently examined and discussed (Lin, Lin & Chen, 2017; Kim, Song & Shim, 2020). Therefore, this study aims to contribute to the understanding of the impact of the storytelling role of tourist guides on destinations and tourists within the scope of cultural heritage tourism. In this direction, a comprehensive literature review and evaluation was conducted. In addition, some suggestions are presented for both tourist guides and destination managers, tourism marketers and managers to maximize tourists' story experiences related to cultural heritage.

2. CONCEPTUAL FRAMEWORK

2.1. Relationship between Culture, Heritage and Tourism

The United Nations Educational, Scientific, and Cultural Organization (UNESCO) defines cultural legacy as characteristics of a group or civilization acquired from previous generations, preserved in the present, and conferred for the benefit of future generations (Santa & Tiatco, 2019). Cultural heritage includes tangible immovable (buildings and cultural landscapes), movable productions (artistic, ethnographic, scientific or technical, archaeological, archival, and bibliographical), intangible creations (oral expressions and traditions, cults, social practices, handicrafts), and natural resources (with specific physical, biological, and geological characteristics). All of these aspects help to shape the identity of a location, region, nation, or civilization (Roque, 2022). The rising desire for cultural experiences, as well as the use of cultural assets to attract visitors to diverse places, have elevated cultural resources to the status of a pillar of travel and tourism competitiveness (Dugulan, Balaure, Popescu, and Vegheş, 2010).

With the rapid rise in educational attainment among populations in both developed and developing countries, the development of tourism infrastructure prompted by the emergence and growth of mass tourism in the late twentieth and early twenty-first centuries, and a sustained period of peace, cultural tourism has entered an era of unprecedented growth (Kumar, 2017). Cultural tourism is estimated to account for 40% of all European tourism, with 4 out of 10 tourists choosing their destination based on its cultural offerings. It is safe to assume that most tourist attractions and destinations in the world today are based on cultural heritage (Jelinčić, 2021). Today, with millions of people traveling internationally and domestically to experience either general or personal legacy, cultural heritage has become the essence of tourism in many sites across the world. Cultural heritage tourism is rapidly becoming a development tool, while the use of cultural resources greatly improves overall country competitiveness. The efficient marketing and usage of available cultural resources may greatly boost GDP and job creation in the tourist industry (Agisilaos, 2012).

2.2. Storytelling as a Tool in Tourism and Cultural Heritage Marketing

One of the most effective methods of marketing communication is the use of stories. According to marketing theories, consumers are able to comprehend the advantages of a brand through the use of anecdotes. Destination marketing has incorporated storytelling as a fundamental strategy. The situation in which traveller's decision-making is increasingly influenced by narratives and narration about tourism destinations has been exacerbated by the increased use of new information and communication technologies (ICT) (Youssef, Leicht & Marongiu, 2019). In recent years, a growing number of academics and researchers have acknowledged the critical role of storytelling in the marketing and branding of a destination, product, or service. When executed effectively, storytelling is a substantial element of contemporary marketing that can enhance the product or service. Conversely, the utilization of narratives in branding establishes a robust connection that can foster an enduring relationship between the brand and its customers. In other words, stories are a critical marketing tool that can captivate audiences and convey a message (Ferraro, 2016; Gamil, 2017). Storytelling has an impact on the spirits of consumers. The consumer experience economy is defined by the pursuit of distinctive consumption experiences and products or services that resonate with their emotions and aspirations. Such experiences are fostered by narratives about products or services. The reader is left with a sense of transformation as a result of the "narrative transportation" that stories employ (Youssef et. al., 2019). Therefore, the significance of storytelling as a branding concept has been increasingly recognized, as it plays a critical role in tourism marketing.

Storytelling serves two critical functions in the tourism industry. Initially, it can establish a distinctive competitive advantage for the destination. Secondly, it has the potential to provide the tourist with a valuable and memorable experience (Mossberg, 2008). Storytelling is employed to co-create visitor experiences at the intersection of the tourism system, where the tourist, provider, and community intersect (Campos, Guerreiro & Beevor, 2023). Consumer experiences have become more valuable than the content of a product, which is often taken for granted, as the service economy has evolved into an experience economy. The character of experiences is regarded as "the key to success of tourism development" (Bryon, 2012), as the experience is influenced by aspirations and emotion rather than products or services. Particularly in the tourism sector, there is an increasing demand for the creation of extraordinary experiences for consumers. A method for staging such experiences and achieving success is to connect the experiencescape to distinctive stories through storytelling (Mossberg, 2008).

Contemporary tourists are not only interested in purchasing the tourist product, but also in purchasing the stories that underlie it, as they are inclined to participate, learn, and experience (Korez-Vide, 2017). Emotional connections are established and enduring alliances are fostered by well-crafted narratives, which elicit a variety of emotions. Furthermore, storytelling enhances intellectual engagement by providing context and significance to historical events, thereby facilitating the retention of knowledge (Hannam & Ryan, 2019; Pallombini, 2017). Tourists depart from their homes, interact with individuals from their own or other cultures, and return with recollections of their travels (McCabe & Foster, 2006). Conventional data sources may not provide the same level of detail as travel narratives. Narratives have the potential to generate chatter and word-of-mouth regarding a travel experience, which can either attract or detract from the destination's appeal (Hsiao, Lu & Lan, 2013). In addition, it has the potential to generate authentic and memorable tourist experiences that focus on stimulating the visitor's senses, including sight, scent, hearing, and taste. Furthermore, it has the potential to establish a framework for collaboration among stakeholders in the destination (Gamil, 2017). Hence storytelling has the potential to substantially impact the tourist experience as an immersive communication medium. It transcends the mundane transmission of information by involving visitors on an emotional and

cognitive level, thereby elevating their levels of satisfaction and engagement (Leong, Yeh, Zhou, Hung & Huan, 2024). A story that establishes a personal connection with individuals increases their likelihood of recalling the event. Consequently, destination brand managers may employ positive narratives to encourage tourists to visit their destinations (Yavuz, Sümbül, Elpeze Ergeç & Derdiyok, 2016). In this regard, storytelling may provide tourism destinations with distinctive competitive advantages and a means of establishing narrative landscapes.
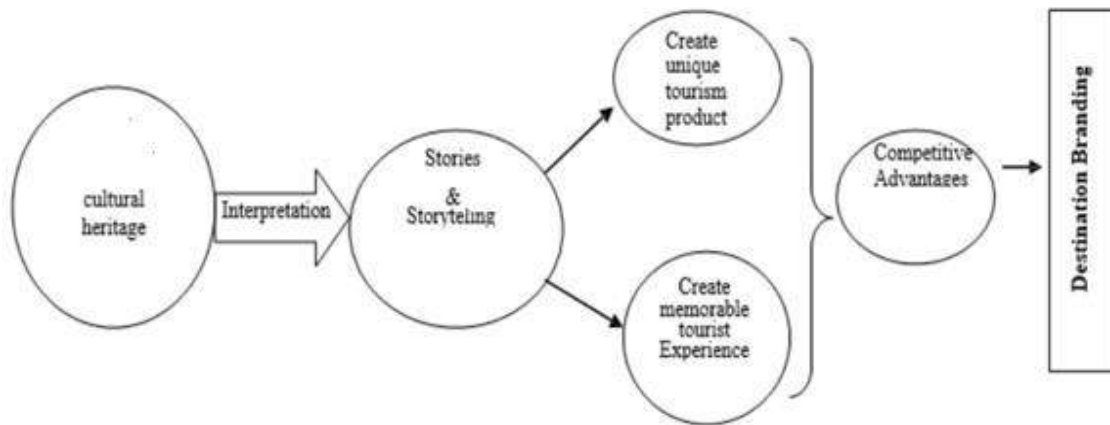

Figure 1.   Storytelling as a tool for marketing cultural heritage (Gamil, 2017).

In order to maintain a competitive edge in the tourism market, destinations must exert significant effort to differentiate and personalize their products and services in comparison to their competitors (Mitsche, Vogt, Knox, Cooper, Lombardi & Ciaffi, 2013). In this context, storytelling is essential for promoting the potential of the destinations. Tourism is significantly influenced by the history of destinations (Moscardo & Pearce, 1986). Storytelling has become increasingly popular as a competitive destination branding strategy (Youssef et. al., 2019) and is a valuable approach to engaging with visitors and emphasizing the significance of authenticity (Frost, Frost, Strickland & Maguir, 2020). The storytelling and cultural heritage can be a significant asset to destinations, as they can contribute to the development of a sense of place and identity for both residents and tourists. Furthermore, storytelling has the potential to illuminate the latent and intangible meanings of attractions, thereby attracting new visitors, and to offer a variety of perspectives on the same attractions in various contexts. In this view, the effective interpretation of cultural heritage through narrative is crucial for the preservation and promotion of its value. It should involve stakeholders, local communities, travelers, and individuals who utilize the spaces (Figure 1).

2.3. Storyteller Role of Tourist Guides

Tourism is a multifaceted industry and requires the cooperation of various actors. In order to achieve a successful tourism performance in destinations, each actor needs to fulfill their roles and responsibilities in the best way possible. Tourist guides, as one of the most prominent and key actors in the tourism industry, are the bridge and intermediary between destinations and guests. In this respect, tourist guides have many roles to play in addition to their personal and professional competencies. One of these roles is storytelling.

Tourist guides are mentors and advocates for culture. The guide functions as a cultural mediator and interpreter through narration (Holloway, 1981; Cohen, 1985). Recent research has investigated the ways in which tourism attractions and destinations are utilizing storytelling to engage with visitors, emphasize authenticity, and create memorable experiences (Chronis, 2012; Çınar & Toksöz, 2020; Penrose, 2020; Beavor, 2021; Leong et. al., 2024). Storytelling serves as a distinctive destination selling proposition that unites tourism services and attractions and serves as a compass that guides development as it localizes tourism narratives (Doyle, 2018).

The demand for stories has grown significantly due to their capacity to engage individuals on an intellectual, physical, emotional, and spiritual level (Sole & Wilson, 2002). Guides are increasingly crucial in this process as mediators of meaning (Nilsson & Zillinger, 2020). The influence of storytelling is derived from the human evaluation of heroes, mythologies, and extraordinary phenomena, which can have a direct impact on an individual's emotions (Simmons, 2002). Similarly to a theatrical performance, each guide excursion is an exclusive performance that involves a distinct audience (Holloway, 1981). A compelling narrative is not merely recounted; it captivates the audience through immersion (Ferraro, 2016). During the experience of following, listeners continuously cover narrative gaps, re-contextualize the narrative events in terms of their own experiences, and actively employ their imaginations, which often involved co-creation between guides and tourists (Frost et. al., 2020). In this respect, Storytelling talents are an important component of a tour guide.

In order for the stories conveyed by tourist guides to be interesting, the body language and communication skills of the tourist guide and his/her command of the subject are important. The role of the guide is very important for a story to be told to influence the audience. Given that tourist guides will be addressing a large group of travelers on the majority of their excursions, it is essential that they possess strong public speaking and narration skills in order to influence the group's response to the information they are presented with. They should be able to communicate plainly, control their breathing, and speak calmly and carefully to ensure that everyone understands the message. Information is acquired by individuals through sensory, auditory, or visual processing. To ensure that travelers feel as though they are a part of the narrative, tourist guides should provide information that corresponds to all three categories of processing. It is important to remember that narration is not solely about discussing facts and dates; rather, it is about engaging the audience through narrative and adding captivating events to inspire an interest in learning (İrigüler & Güler, 2017). To achieve a tour experience that is meaningful, a tour guide should share captivating stories that inspire learning (Lim & Aylett, 2007). Moreover, the guide's storytelling and the theatrical elements of the narrative increase the interaction between the tour guide and tourists (Blyablina, 2015). Furthermore, the authenticity of a location is influenced by the interaction between tour guides and the narrative. This implies that a tour guide who is highly experienced can more effectively employ a narrative to create a sense of realism in a location (Leong et. al., 2024).

In addition to the tourist product, visitors are interested in the stories that surround it, as they are eager to learn and engage actively (Mosseberg, 2008). Storytelling has been acknowledged as a potent instrument for enhancing the appeal and intrigue of historical events. Storytelling fosters a sense of authenticity and attachment by sharing stories about the cultural significance and history of a location, thereby deepening the connection between people and the specific location (Doyle & Kelliher, 2023). Tourist guides are storytellers who act as a bridge connecting destinations and visitors. By skillfully narrating stories, tourist guides inform tourists about historical events and cultural heritage, can bring historical events to life, inspire and move them, and entertain them at the same time.

In essence, narratives are emotionally and symbolically potent. The objective of storytelling is not solely to communicate facts and information, but to enrich, enhance, and imbue facts with meanings to construct a narrative that revolves around a concept (Gabriel, 2000). Verbal and nonverbal communication are both components of a guide's storytelling performance (Bryon, 2012). A narrative is not a product; rather, it is an activity, a "craft" form of communication. According to Salazar, van den Branden, Bryon, and Steylaerts (2009), the most effective interpretative storytelling is persuasive because it is personal, pertinent, and meaningful to visitors, and it engages them both intellectually and emotionally. Tourist guides are responsible for enhancing the significance of information through creative interpretation, which involves the integration of amusement into reality, the telling of stories, and the use of wit (İrigüler & Güler, 2017).

2.4. Tourist Guide's Interpretation Skills and Storyteller Roles in Cultural Heritage Tours

Heritage attractions frequently have a distinctive narrative that can be transformed into captivating experiences that capture the imagination of visitors. The historical narrative of these locations frequently encapsulates the social and historic life of the local community, thereby eliciting a significant sense of place identity (Beevor, 2021). Storytelling has the capacity to generate unforgettable experiences that enhance the value of destinations. These narratives may be interpretive and pertain to the fundamental history of the location, as well as to folklore and mythology (Pereira, Silva & Seabra, 2020). The purpose of interpretation is to "increase people's awareness of the places they visit, to provide knowledge that enhances their comprehension, and to foster interest that results in increased enjoyment and potential responsibility" (Herbert, 1989).

Interpretation is a critical component of the experience of a place, as it integrates both tangible and intangible elements (Mitsche et al., 2013). To interpret a destination is to present it in a manner that is comprehensible and relatable to individuals from other cultures or regions of the globe. The practice of interpreting stories has the potential to be an effective instrument for the management and conservation of tourism destinations. Interpretation is significant in various cultural contexts. In this context, interpretation is essentially narrative, which captivates visitors by evoking the essence of a location and immerses them in the culture of the community, thereby encouraging them to acquire knowledge about the destination and its attractions (Cao, 2019). Guides offer tourists new worldviews not only through verbal and non-verbal communication, but also through performances, stories, interpretation and other forms of mediation. Storytelling is also considered as part of a tourist guide's interpretive skills (Weiler and Black, 2015).

The act of storytelling is an ancient practice that has been used to transmit knowledge and culture (Sole & Wilson, 2002) and maintain traditions and customs (Lugmayr, Sutinen, Suhonen, Hlavacs & Montero, 2017). Storytelling in the context of cultural heritage is defined as the "experience built around a continuous, coherent narrative that leverages the interpretation of the available cultural heritage artifacts to develop the essential elements of storytelling: setting, characters, plot, conflict, theme, and a satisfying narrative arc (e.g., setup, tension, climax, and resolution)." This experience is delivered at and meaningfully staged on a cultural heritage site and may or may not explicitly correspond with actual events (Vrettakis, Kourtis, Katifori, Karvounis, Lougiakis & Ioannidis, 2019). Heritage is the representation of history in the context of tourism. Heritage tourism endeavors to offer a realistic reconstruction of the past through interpretation, as history is a contemporary construction that conveys the actuality of the past rather than a direct representation. This interpretation encompasses the site's material and intangible culture (Doyle, 2018).

When the physical remnants of the past have been destroyed, the storyteller can assume a critical role. In this instance, the intangible narrative can only be experienced through the creative narrative of the narrator, who employs secondary elements (such as illustrations and stories) as mediators to provide visitors with a general understanding of the locations that are no longer in existence (Moreira, Costa & de Sousa, 2024). In heritage experiences, the tourist guide may engage in a variety of storytelling techniques, such as historical narratives, mythology, folklore, and legends, as well as dynamic discussions, themed activities, staged performances, re-enactments, visual and digital storytelling, and poetry (Beevor, 2021). A theatrical guided tour is distinguished from any other guided tour by the theater elements, including the guide's performance, anecdotes, interactions between the guide and travelers, and rapport between tour participants. According to Blyablina (2015), tourists experience a sense of belonging and become engaged in the theatrical performance, which enhances the overall experience. Culture, religion, history, fantasy, and sagas are subject to significant interest in the present day. Contemporary tourism and regional development are reliant on culture and cultural heritage (Mossberg, Therkelsen, Huijbens, Björk & Olsson, 2010). All religions and cultures are founded on potent narratives that elucidate their fundamental principles and essential components. A significant role in the preservation of culture is played by these narratives, which are also referred to as mythology and legends (Beevor, 2021).Tour guiding is considered to be of the utmost importance in the heritage experience, as it entails the execution of an educational activity that is intended to convey the value of heritage through the revelation of its significance, a process that is typically referred to as interpretation (Weng, Liang & Bao 2020).

Tour guides are frequently asked about the appropriate portrayal of a site, particularly when the interpretive topics pertain to historical events. Topics that are focused on historical events and heritage values frequently have a diverse impact on individuals. Tour operators may opt to concentrate on the specific historic event at a specific location and discuss fewer other events or locations. The fragmentation of narratives is detrimental to the interpretation of archaeological sites; it fails to align with the visitor's learning requirements or accurately represent the site's significance, as numerous archaeological sites are not entirely comprehensible through a mere tour (Ababneh, 2018). Conversely The efficacy of storytelling in tour guide interactions is further bolstered by the use of a variety of techniques to engage and captivate the audience. Tour operators create a more authentic and immersive experience by engaging in compelling narration that animates historical events and figures (Leong et. al., 2024). The impact of historical narrative can be substantially increased by incorporating elements of humor, entertainment, sarcasm, exaggeration, and other colorful delivery methods. Tour guides cultivate a more profound connection to the historical narrative and enhance their overall engagement by incorporating these captivating components, thereby generating an immersive and unforgettable experience for visitors (Dennis & Sampaio-Dias, 2021). The tourist must engage with the guide and participate in the performance in order to have a memorable experience. The experience is enhanced by the enjoyment and excitement of the tourists who are involved (Blyablina, 2015).

3. DISCUSSION and CONCLUSION

This study aims to contribute to the understanding of the impact and importance of the storytelling role of tourist guides in the context of destinations and cultural heritage tourism. "Storytelling" is not limited to the personal narratives of travelers about their experiences, as evidenced by the literature. It can serve as a significant strategic instrument in the marketing of consumption experiences, particularly tourism experiences. Travel guides, magazines, documentaries, informational labels, guided excursions, and internet sites are just a few examples of the many marketing communication media that can be used to tell stories and enhance the appeal of a destination. Museums, galleries, theme parks, heritage sites, historic areas,

battlefields, and archaeological sites are among the numerous tourism contexts in which "storytelling" can be particularly effective as a marketing instrument. Therefore, it is self-evident that the construction and dissemination of narratives should be a significant consideration in the field of travel and tourism marketing (Chronis, 2012). Storytelling is an important factor in the sustainable development of cultural heritage tourism and a tool for transmitting it to future generations.

It is possible to make a number of suggestions for maximizing tourists' story experiences of cultural heritage. First and foremost, local authorities should use storytelling more effectively for destination identity development, branding and marketing. In this context, in cooperation with travel agencies, hotels, restaurants, entertainment venues, etc., the use and/or staging of themes reflecting the stories of the destination verbally or visually in both venues and social media platforms should be encouraged. In addition, gamification applications with artificial intelligence and augmented reality technologies can be used in appropriate venues for tourists to learn the stories in a more entertaining way. Presenting information on tours through storytelling will make the narrative effective and entertaining. In this respect, travel agencies and tourist guides need to be aware of the power of storytelling, to include storytelling more effectively in tours, to involve tourists in the process and to make experiences memorable. In this direction, tourist guides should also be able to make animations to strengthen and color their narratives. Therefore, it can be suggested that tourist guides should receive creative drama training. In addition, in order to make the tour more fun, for tourists to connect with the stories and have unforgettable moments, tourist guides can also give them various roles, just like a theater director. On the other hand, tourist guide professional organizations can organize practical specialization trainings in different destinations to improve the storytelling of newcomers to tourist guiding. This way, young guides can be better equipped with the history, cultural heritage and stories of the destination. In these trainings, guides can also be taught engaging storytelling methods.

Finally, recommendations can be made for future research to contribute to the literature on storytelling in tourist guiding. First of all, it may be suggested to examine the storytelling role of tourist guides for different types of tourism other than cultural heritage tourism. In addition, researchers can adopt qualitative and/or quantitative methods to examine the effects of storytelling on tourist behavior in guided tours.

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