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### Digital transformation for SMEs through an optimized approach to business process management

#### Abstract

**Research background and purpose:** Amidst the rapid digital transformation, small and medium-sized enterprises (SMEs) in Vietnam face numerous challenges in optimizing business processes and enhancing their competitiveness. This study aims to assess the readiness and digital transformation capabilities of SMEs while proposing distribution channel models and business strategies to help enterprises improve customer reach, streamline operations, and enhance business performance.

**Design/methodology/approach:** Research data were collected through an online survey via Google Forms, with participation from 200 managers of SMEs in Vietnam. The questionnaire was designed to evaluate the demand, readiness, and digital transformation capabilities of SMEs. Reliability tests for the measurement scales were conducted to validate the research hypotheses. The collected data were analyzed using quantitative methods to assess the effectiveness of business process redesign through automation and technological adoption.

**Findings:** The study proposes two key models: (1) The parallel distribution channel model, which integrates both traditional and modern channels, enabling SMEs to expand their global customer reach quickly and efficiently; (2) The multi-channel distribution model, which outlines specific tasks necessary for optimizing production management processes and improving customer service. The findings provide a clear roadmap for SMEs to restructure business processes, enhance automation, reduce costs, and optimize data processing, thereby improving their competitive capabilities.

**Value and limitations:** This study offers significant theoretical and practical contributions to the development of distribution strategies and digital transformation for SMEs. However, the research is limited to a small sample within Vietnam, necessitating further studies to validate the findings across different national and industry contexts.

Keywords: digital economy, smart manufacturing, Digital transformation, industrial revolution 4.0, Optimizing business process management

JEL Classification: F21, F23, P42, P45

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#### 1. Introduction

Firstly, the necessity and role of optimizing business processes are pivotal for enterprises. Business processes can be understood as a series of closely related and interconnected tasks within business operations, assigned to relevant departments to execute specific tasks. Each department specializes in its tasks to achieve the objectives efficiently. The purpose of optimizing business process management is to enhance efficiency and competitiveness, reduce time, costs and operational errors. When business processes within an enterprise are optimized, the organization can increase productivity, improve the quality of products or services, boost sales and increase profitability (Barba et al., 2012; Nguyen, 2024). Practical evidence has demonstrated that business processes play a crucial role for all types of enterprises, both large and small (Anand et al., 2013). Optimizing business process management involves the continuous improvement of a company or organization's business process management activities over a specified period (Giudice, 2016; Belli et al., 2019). The advent of new technologies such as artificial intelligence, machine learning, blockchain and the Internet of Things has introduced new opportunities and challenges for businesses. Therefore, enterprises must adapt quickly to maintain and enhance their competitive capabilities (Fisher, 2004). Optimizing business processes not only helps businesses reduce costs and increase efficiency but also facilitates adaptation for businesses and customers to changes and transformations in the digital economy. Through process optimization, customers can enjoy better, faster and more convenient experiences. Business process optimization allows companies to provide services and products quickly and accurately while creating diverse communication channels for customer interaction on digital platforms. This is a critical determinant of a business's survival and success in the digital economy (April et al., 2006).

Secondly, optimizing business processes involves designing multi-channel distribution channels or utilizing parallel distribution channels. In previous studies, authors have proposed using traditional distribution channels for direct product distribution, but this approach is rather simplistic (Petrison et al., 1994; Menon & Menon, 1997). To enhance the efficiency and competitiveness of business processes, as well as to reduce time, costs and errors in execution, management processes must be optimized. When all processes are standardized and executed in the correct sequence, minimizing issues arising in the management process helps prevent unnecessary errors and confusion. This lays the groundwork for elevated company management operations, internal capacity enhancement and improved competitiveness, leading to growth and development. Therefore, from the outset, every business needs to focus on building and standardizing the management of its business processes. This enables organizations or corporations to increase productivity, enhance the quality of goods

or services, boost revenue and improve profitability when their business processes are optimized (García-Bañuelos et al., 2017; Grigori et al., 2004). To optimize business processes, each department needs to focus on performing tasks as efficiently as possible. The process of enhancing and optimizing the business process management activities of an organization or corporation over a specific period is referred to as business process management. In the current era of digital transformation, if businesses continue to rely solely on traditional distribution channels without improving business processes, they will not achieve the desired efficiency. Therefore, optimizing business process management is essential to ensure the effectiveness, success and sustainable development of the enterprise. Without a robust management process framework, business operations cannot continue or expand sustainably. The management process framework is a solid foundation that allows businesses to operate easily, efficiently and effectively coordinate between different departments (Drath & Horch, 2014; Gorecky et al., 2015). A company will derive numerous benefits from standardizing the management process system with a range of implementation stages, as it will create a professional working environment, standardized with improved work processes. By outlining detailed tasks and responsibilities of each employee, department and team member, organizations can increase productivity comprehensively and help everyone understand their specific obligations.

Thirdly, optimization solutions for managing business process workflows apply to small and medium-sized enterprises (SMEs) within the context of digital transformation. Digital transformation has become a common term in the business world and has been further accelerated by the COVID-19 pandemic (Anatan & Nur, 2023). In Vietnam, the country's economic readiness for digital transformation has increased by six notches from 37 to 43 points, with improvements in digital literacy, the expansion of Industry 4.0 and the transfer of digital knowledge. However, according to the ASIA House Annual Outlook 2023 report, the score for creating digitalfriendly environments for commerce has decreased by 8%. The readiness for digital transformation may vary across industries, aspects and business scales (Rupeika-Apoga & Petrovska, 2022). Different industries have their own characteristics and requirements for digital transformation. For example, industries related to information technology and digital services, such as information technology and digital marketing, may have a higher readiness level compared to traditional industries such as agriculture or manufacturing (Brozzi & Matta, 2021). For businesses in general and SMEs in particular, there are many management processes that operate in parallel, fulfilling different roles to achieve the business's operational goals. Dividing management processes into functional groups is a reasonable approach, which many businesses use in practice. These management processes can be managed and adjusted specifically to ensure they meet the requirements and objectives of each business function. From a functional perspective, management

processes in a business can be divided into the following groups: human resource management processes, including recruitment management, training processes and performance management processes; job and project management processes, including project resource management, progress management processes and task assignment; production management processes, including production process management and quality management processes; business management processes, including the operation and development of business activities and customer relations; administrative and accounting business processes, including payroll calculation and payment processes, approval processes for procedures and paperwork (Gröger et al., 2014). All management processes must meet the basic standard of aligning with the business's strategic vision and allowing the business to expand and grow in the future. When business processes are established and implemented smoothly and effectively, employees can complete their work faster and with better quality based on clearly defined job instructions. Additionally, business processes help save and reduce the operating costs of the business (Samaranayake, P., 2009).

Based on the analysis of the necessity and role of optimizing business processes designing multi-channel distribution systems or utilizing parallel through distribution channels, the author propose this article with the following structure: First, discuss the benefits and importance of optimizing business processes through integrating traditional distribution channels with modern distribution channels and utilizing multi-channel distribution systems. Second, present a method using primary data to assess and propose a research model on the factors influencing the demand, readiness and capacity for digital transformation of small and mediumsized enterprises (SMEs). Third, discuss the findings along with their theoretical and practical implications, limitations and future research related to optimizing business processes based on designing multi-channel distribution channels or utilizing parallel distribution channels for effective product distribution in the digital age. Fourth, present conclusions on the solutions for optimizing business process management applicable to SMEs in the context of digital transformation. This will help businesses enhance operational efficiency, maintain production levels, reduce costs, increase revenue and retain customers. An efficient investment and management strategy for multi-channel distribution will be developed for businesses through multi-channel supply chains. This is considered a crucial strategy for better serving customers in the era of globalization and the fourth industrial revolution.

This article aims to achieve the following main objectives: first, the article delves into analyzing the benefits and roles of optimizing business processes. To achieve this, it is necessary to design multichannel distribution systems combined with the use of parallel distribution channels. For businesses, this is considered a key strategy to enhance competitiveness and improve operational efficiency, while also enabling businesses to adapt to the dynamic business environment of the digital

age. Second, the article evaluates the factors affecting the demand, readiness, and digital transformation capability of small and medium-sized enterprises (SMEs). Through this proposal, the article aims to introduce a new approach focusing on optimization of business processes to support SMEs in effectively optimizing their distribution channels. Third, to discuss practical and theoretical solutions for effectively managing multi-channel distribution systems while analyzing the implications for sustainable development strategies of businesses in the era of globalization and the Fourth Industrial Revolution. The research problem addressed in this article focuses on clarifying the following aspects: in the context of rapid digital transformation, businesses, particularly SMEs, face several challenges, such as: how can traditional and modern distribution channels be effectively integrated to optimize the supply chain? What factors influence the decision to invest in and adopt multi-channel distribution systems? How can costs and risks be minimized during the implementation of parallel distribution channels while ensuring increased revenue and business efficiency? These issues will be investigated through a multidimensional approach, relying on empirical data collected from SMEs. Based on this, the study aims to propose optimal management strategies to enhance competitiveness in a volatile business environment.

#### 2. Literature review

#### 2.1. Theoretical Framework on Business Process Optimization and the Impact of Business Process Management on Business Operations Efficiency

In today's business environment, Business Process Optimization (BPO) has become a crucial factor in helping enterprises enhance operational efficiency, reduce costs and compete more effectively in the market. Optimizing business processes not only improves productivity but also plays a vital role in meeting the increasing demands of customers. It is evident that a Business Process (BP) is a set of closely related activities or tasks carried out to achieve a specific business goal. Business processes involve a variety of activities and must be carried out through multiple steps, depending on the type of operation and the specific needs of each company. Typically, to manage business tasks, companies use several common business processes, such as: production processes (which include various activities and steps based on the type of business and its needs), human resources management processes (comprising steps related to recruitment, training, performance management, and employee career development), sales processes (which involve activities such as prospecting for potential customers, offering products/services, contract negotiation, completing transactions, and postsales service), customer care processes (handling requests, complaints, and providing

customer support), and marketing processes (market research, developing marketing strategies, advertising, and promotions), among others. Businesses need to optimize their business processes to improve employee productivity and the overall efficiency of their activities. Business process optimization also helps companies minimize errors, improve the quality of products or services, and thereby enhance customer satisfaction and strengthen their reputation and brand. Moreover, optimizing processes helps improve information flow within the company, providing accurate and timely data for managers, enabling them to make quicker and more accurate decisions (Dumas et al., 2018). Business Process Management (BPM) is a comprehensive approach aimed at optimizing, monitoring, and improving business processes within an organization. BPM helps minimize waste and optimize workflow processes, thereby enhancing the overall efficiency of the organization. By automating repetitive tasks and eliminating unnecessary steps in processes, BPM helps reduce operational costs for businesses (Dumas et al., 2018). Furthermore, BPM enables companies to be more agile in adapting processes to quickly respond to changes in the business environment and customer demands (Henriksen, 2017; Hang, 2023). BPM not only optimizes existing processes but also helps design and develop new processes to keep pace with market changes and technological trends (Hammer, 2014). With BPM, businesses can operate flexibly, reduce costs, improve service quality, and maintain competitiveness in an everevolving business environment. This way, businesses can measure and evaluate the effectiveness of existing business processes, while also assisting businesses in making decisions to improve and optimize current operations. Therefore, optimizing business processes not only helps businesses save time, resources, and costs but also contributes to improving product and service quality, thereby enhancing market competitiveness (Ivanov et al., 2016). Furthermore, BPM helps businesses manage and control business processes more effectively, minimizing unfortunate risks and addressing errors that arise during operations. This enables businesses to adapt and respond quickly to changes in the business environment amidst globalization and international economic integration (Jain & Mittal, 2014).

Although business process optimization greatly supports businesses during operations, if it is not organized systematically, or if the business processes are inefficient, it can lead to reduced productivity and negatively impact the final business outcomes (Marjanovic & Tasic, 2017). Additionally, inefficient business processes can result in time and resource wastage, which increases operating costs for businesses (Zeki et al., 2013). At an individual level, people only see a part of the process and very few can see the full impact of the process, where it begins and ends, the necessary source data and potential inefficiencies. Ineffective business processes can lead to disorder that negatively impacts the business, resulting in one or more situations such as wasted time, missing or incorrect information, more errors and demoralized staff (Mzoughi et al., 2014). During the production and business operations, if

a company fails to establish clear business processes and systematize them, it can lead to delays in bringing products to the market. This can result in missed competitive opportunities, reduced credibility and reputation of the business and also negatively impact sales figures. Business operations then become difficult, leading to risks and loss of control in business operations. Therefore, businesses need to optimize their process management, especially by focusing on maximizing effectiveness of business processes through the application of optimal management methods, tools and techniques. Business Process Management (BPM) is how a business creates, modifies and analyzes predictable processes that are necessary for efficiently operating business activities (Tuan et al., 2021).

In a company, each department has its own specific roles and responsibilities, but all share a common goal of supporting one another to achieve sustainable development for the business. During operations, each department handles its own distinct tasks. When a company implements business process management, it gains a comprehensive and objective perspective on the current state of business operations, allowing it to identify areas that need improvement to enhance overall efficiency (Tien et al., 2020). To successfully undergo digital transformation, the first step a company must take is to optimize its business processes. This helps the company reduce costs and improve operational efficiency (Rokhman, 2011). Companies can apply digital transformation solutions within the supply chain, combined with supply chain finance, to address capital shortages and promote more sustainable development in a volatile business environment. Optimizing business processes in the context of digital transformation not only helps save costs but also improves efficiency, laying the foundation for an effective supply chain and promoting business growth.

Process automation helps minimize human intervention in repetitive tasks. This is because, when these tasks are performed manually, they are prone to errors due to lack of focus, fatigue, or inexperience (Olan et al., 2022). When automated, tasks such as data entry, data verification, and handling simple operations can be carried out more accurately and efficiently. This not only helps reduce errors but also saves time for employees, allowing them to focus on higher-value activities such as strategic decision-making or product improvement (Viriyasitavat et al., 2020).

Moreover, given the continuous fluctuations in the market, companies that use intelligent data management systems can easily collect, analyze, and respond to these changes. Smart data analytics tools help companies gain a deeper understanding of market trends, allowing them to adjust products, marketing strategies, or business strategies quickly and accurately (Sulis et al., 2020). Automated systems can provide real-time information, enabling managers to make quick and timely decisions (Parody et al., 2016).

Thus, business process optimization not only reduces waste and enhances work efficiency but also plays a crucial role in improving interaction and synchronization

across departments. When processes are optimized, departments within the company can work more efficiently and coordinate better, thereby increasing productivity and improving the quality of the products and services the company provides (Viriyasitavat et al., 2020). This synchronization helps ensure consistency in production and delivery processes, leading to higher customer satisfaction, as products and services are delivered on time and meet the expected quality standards (Lee, 2015). When processes are optimized, the company not only minimizes errors but also improves the speed of task execution, enabling faster delivery of products and services. This not only strengthens the company's competitiveness in the market but also improves overall business performance, as companies can more flexibly and effectively meet customer needs.

Furthermore, through optimizing business process management, companies can eliminate unnecessary activities and daily tasks, making them faster and more efficient (Lübbecke et al., 2016). Indeed, optimizing workflow processes, enhancing interaction and synchronization between departments, will help companies improve performance and productivity, product and service quality by increasing quality control and ensuring consistency in the production and delivery process. If business process management is optimized, companies can easily adapt to changes in the business and market environment, helping to save time, resources and costs, while improving productivity, efficiency and product and service qualit. Ultimately leading to growth and development in an increasingly competitive market.

Business Process Management (BPM) has become a critical approach in optimizing the efficiency and productivity of business operations. However, without well-defined business processes, many enterprises fall behind in the digital transformation process due to the absence of effectively designed processes. For example, in the U.S. retail industry alone, nearly \$40 billion is lost annually due to inadequate or insufficient digitization of business process operations between companies (Zhu et al., 2015).

The optimization of business process management also has a significant impact on improving the operational efficiency of companies. When companies implement optimization, they can eliminate unnecessary daily activities and tasks, which helps save time and reduce the burden on employees, thereby enhancing work efficiency (Lübbecke et al., 2016). By removing redundant steps, companies become faster and more flexible in carrying out daily tasks, while minimizing errors and waste (Zhu et al., 2015). Additionally, optimizing business processes strengthens the interaction and synchronization between departments. The various departments in a company, from production and marketing to sales and customer service, can work more effectively when processes are synchronized and well-coordinated (Leimstoll & Quade, 2016). This not only improves productivity but also enhances product and service quality, as quality control is consistently applied throughout the production and delivery processes (Dumas et al., 2018; Krogstie, 2016; Rosemann et al., 2006). Ensuring consistency in

processes helps companies minimize errors and ensures that products/services meet the expected quality, which directly contributes to customer satisfaction (Szelągowski & Berniak-Woźny, 2020; Andriani et al., 2018).

Another important benefit of business process optimization is the ability to adapt flexibly to changes in the business environment and market (Olding & Rozwel, 2015). In a constantly changing and highly competitive market, companies need to have the ability to change quickly to meet customer demands and seize new opportunities (Seymour & Koopman, 2022). When processes are optimized, companies can save time, resources, and costs, thereby improving productivity and work efficiency. This means that companies will be able to compete better in the market, improve the quality of the products and services they offer, and achieve sustainable growth and development (Szelagowski & Berniak-Woźny, 2020).

Many businesses struggle with identifying the appropriate key performance indicators (KPIs) due to a lack of measurement tools, and collecting the data necessary to evaluate BPM effectiveness is also difficult. This raises concerns about whether BPM delivers the expected benefits Szelagowski & Berniak-Woźny, 2022). In the context of digital transformation, SMEs can greatly benefit from digital technologies, as these technologies help automate processes, minimize errors, and improve operational efficiency (Fischer et al., 2020; Nguyen, 2024). Digital transformation also enhances companies' ability to engage with customers through various digital platforms (Chu, 2023). It also provides personalized services and quick feedback from customers to the business, helping companies seize new market opportunities, improve products and services and enhance their competitive position (Butt, 2020; Erjavec et al., 2023). However, the digital transformation landscape also poses several challenges for SMEs. These enterprises need to invest in technology infrastructure, software and employee training, which requires substantial capital (Philbin et al., 2022). Additionally, there is a significant shortage of skilled labor in information technology and digital management, posing a major obstacle. The development of digital technology also brings risks related to information security, necessitating businesses to invest in effective security solutions (Yao et al., 2023). To maximize the benefits of BPM in the context of digital transformation, small and mediumsized enterprises (SMEs) need to implement specific strategies. These businesses must clearly define the goals of applying BPM during the digital transformation process, including improving operational efficiency, enhancing product quality, optimizing customer experience, and boosting competitiveness (Zahar Djordjevic et al., 2022). Once the goals are established, businesses should select technology solutions that align with their size and available resources. This enables them to fully utilize existing resources to optimize the effectiveness of BPM. Furthermore, SMEs must establish security protocols and invest in data protection solutions to ensure information safety during the digital transformation process. Additionally,

they need to allocate resources for training and skill development for employees to provide them with the knowledge and capabilities to use new technologies (Melo et al., 2023). Only then can SMEs improve their operational efficiency, strengthen their competitiveness, and achieve sustainable growth in the digital era. Implementing BPM not only helps businesses improve process management but also allows them to adapt to changes in the business environment and respond promptly to customer needs (Brodeur et al., 2022). This is a critical factor for the survival and success of businesses in today's rapidly developing digital transformation landscape. In conclusion, despite the challenges BPM may face during implementation, it remains a key tool for SMEs to optimize business processes and leverage the benefits of digital transformation. By understanding and addressing the challenges associated with BPM and effectively applying digital transformation strategies, SMEs can enhance their operational efficiency, improve competitiveness, and achieve sustainable development in the digital economy.

## 2.2. Optimizing Business Process Management in the Digital Transformation Context

Digital transformation is the process of applying digital technologies to optimize business processes and enhance operational efficiency for enterprises. In the context of digital transformation, the application of information technology, especially digital technologies, helps businesses improve the efficiency of their business operations. By effectively applying digital technologies, companies can automate repetitive tasks. Business process management systems, automation software, and data analysis tools can help businesses monitor and improve existing processes. Digital transformation not only optimizes business processes but also enhances operational efficiency within organizations. To achieve this, businesses can adopt various solutions, such as using business process management (BPM) software (Li et al., 2008). The selection of BPMS (Business Process Management System) tools will help companies automate business activities, thereby increasing productivity and minimizing errors during operations. BPMS tools offer many useful features, such as process design, process automation, document management, and data analysis. In the context of rapidly advancing technology, businesses can also leverage artificial intelligence (AI) and machine learning (ML) to automate and optimize their business processes. AI and ML technologies can assist in analyzing customer data, forecasting product demand, and optimizing production and operational processes (Viriyasitavat et al., 2020). Additionally, cloud computing and the Internet of Things (IoT) technologies help businesses access data flexibly without spatial limitations. IoT devices can automatically send information about energy or material consumption, helping businesses optimize their production and operational processes (Viriyasitavat et al., 2020). Moreover, businesses can

also adopt modern technologies to automate marketing and customer relationship management (CRM) activities to optimize sales processes, enhance customer care, and improve customer retention. These technologies help businesses optimize business processes, reduce time and costs, increase productivity, and improve product and service quality (Niedermann et al., 2011).

When business processes are optimized, the products and services provided by the company will have better quality, faster delivery times, and fewer errors. This leads to increased customer satisfaction through the automation of marketing activities and customer relationship management (CRM) to optimize sales processes, customer care, and retention. It also helps simplify business process management, reduce time and costs, increase productivity, and improve product and service quality (Niedermann et al., 2011). For successful digital transformation, optimizing business process management is a critical factor, especially for small and medium-sized enterprises (SMEs). To achieve this, businesses need to establish a clear and transparent process system (de Ramon Fernandez et al., 2020). They must analyze current processes, identify existing issues and weaknesses in handling operations, and develop a plan to improve these processes. During this phase, companies can seek support from digital technologies such as machine learning and artificial intelligence to optimize their business processes (García-Bañuelos et al., 2017). These technologies help reduce errors, optimize productivity, and enhance coordination between departments within the company. To achieve this goal, businesses should also focus on training employees to effectively use digital technologies and manage business processes more efficiently. This ensures that employees have the necessary skills to implement optimized business processes and apply new technologies proficiently (Hidayat & Akhmad, 2016).

To enable small and medium-sized enterprises (SMEs) to successfully undergo digital transformation, optimizing business process management is an important factor. Effectively managing business processes requires companies to establish clear and transparent process systems that are consistently and efficiently applied throughout the entire enterprise. Companies need to analyze their current business processes and evaluate the issues and weaknesses in the implementation process. Subsequently, they need to develop an optimization plan to address these issues and improve their business processes. At this stage, companies can seek assistance from digital technologies such as process automation, machine learning and artificial intelligence to enhance and optimize their business processes. Machine learning and artificial intelligence can help reduce errors, optimize productivity and increase interaction between different departments. To achieve these goals, companies also need to pay attention to employee training in using new digital technologies and managing business processes more efficiently. This ensures that employees have the necessary skills to perform optimized business processes and use new technologies effectively (Hill & Scudder, 2002; Zirena-Bejarano et al., 2023).

To optimize business process management, companies should prioritize customercentric approaches. Optimizing business process management starts with focusing on customers and their needs (Kang et al., 2016). This will result in better products and services that meet the expectations and demands of customers, while also strengthening relationships with them. To optimize business process management, companies must use technology to enhance processes and increase productivity (Khalid et al., 2017). Technology can be used to automate tasks, mitigate risks, minimize errors and improve efficiency. In addition, companies must use optimization management techniques such as Lean, Six Sigma, Total Quality Management (TQM) and Business Process Reengineering (BPR) to optimize and monitor business processes (Lalic et al., 2017; Niedermann et al., 2011). This is an important step to identify issues and errors and to improve and optimize business processes.

In general, previous studies have indicated that to successfully digitize, small and medium-sized enterprises should begin by optimizing their business process management. Failure to do so may result in ineffective operations that could lead to reduced productivity, output and competitiveness. Studies have also provided advice on selecting BPMS tools to automate and manage a company's business processes in an optimized manner. This section introduces research conducted in the context of improving and optimizing business processes within enterprises through Business Process Management (BPM). The majority of studies emphasize that Business Process Management is a comprehensive management approach focused on enhancing and optimizing business processes within enterprises. These studies assess the role and significance of the Business Process Management method in the success and sustainable development of businesses. However, most of the studies presented above have not clarified and have not outlined the business processes aimed at optimizing management activities and integrating technological solutions into each stage of those processes. Therefore, this article aims to provide insights into practical issues that businesses need to address in order to optimize business process management. This article will introduce specific business processes that businesses should implement to optimize their operations. Companies need to use business process management (BPM) tools, methods and techniques to achieve this. By optimizing business process management, companies can design, manage and improve their business processes using tools and techniques such as process programming, process analysis, process automation, process optimization and process performance evaluation. Companies should also focus on training employees in business process management and using effective process management tools to increase productivity and reduce investment costs. Finally, to successfully optimize business processes, companies need a detailed strategy and plan to ensure effective and continuous process management activities. This is the solution that helps companies achieve the highest efficiency in optimizing business processes. When business processes are well-organized and managed,

companies can increase productivity and product quality, reduce operational costs, improve competitiveness and enhance the customer experience when purchasing goods and services. Moreover, optimizing processes also helps companies easily adapt to changes.

#### 3. Methodology

To propose an optimal solution for business process management optimization for small and medium-sized enterprises (SMEs) in the current digital transformation context, this research utilized a combination of various methods. The methods used in this study include synthesis analysis method, statistical comparison method, survey method, business process design analysis method, qualitative and quantitative analysis method. The synthesis analysis method was employed to synthesize the collected data from previous studies worldwide to systematize the related theories regarding the optimization of business process management for SMEs in the context of digital transformation.

The statistical method of comparison was utilized to contrast and compare the hypotheses proposed by the author with previous studies. Additionally, a comparison was made between traditional business processes and modern business processes leveraging digital technology to enhance business efficiency. The author employed a random sampling method to select a sample size of 200 managers from small and medium-sized enterprises in Vietnam. Data for the study were collected through an online survey questionnaire that represented 30 observations for 5 independent variables and 1 observation for the dependent variable. Thus, according to Hair et al. (1998), the minimum sample size for this study is:

$$n = 30 \ge 5 = 150$$
 individuals.

Therefore, with the random sampling method used to select a sample size of 200 managers from small and medium-sized enterprises in Vietnam following standardized procedures, the author believe that the representativeness of the research sample can be ensured. The higher the sample selection, the better; however, ensuring the representativeness of the study and ensuring the conditions for collecting complete and scientific content information (Biemer et al., 2007) are paramount. To establish a foundation for data collection, based on research conducted by Sánchez (2017), Sánchez and Zuntini (2018), Fletcher and Griffiths (2020) and Matarazzo et al. (2021), the author propose a model to study the factors influencing the needs, readiness and capacity for digital transformation of small and medium-sized enterprises (Bujang et al., 2018). Figure 1 below illustrates the proposed model.





Source: Author design

Hypothesis 1 (H1): Business processes impact the digital transformation capability of small and medium-sized enterprises (SMEs).

Business processes are often likened to the heart that drives critical activities within a business. They have a significant impact on the digital transformation capability of SMEs (Sánchez, 2017). The optimization and effectiveness of business processes determine whether a business can integrate digital technologies, enhance customer experiences and improve productivity. Business processes should be built based on both business theory and practicality, respecting environmental and legal aspects, while ensuring flexibility and adaptability to changes in the digital economy. Therefore, investing in and improving business processes is a crucial task for SMEs to succeed in the digital transformation.

Hypothesis 2 (H2): *Technology impacts the digital transformation capability of small and medium-sized enterprises* (SMEs).

Technology is considered a key determinant of the digital transformation capability of SMEs (Fletcher & Griffiths, 2020). The flexibility of technology and the ability to integrate digital technology into business processes enable flexibility and

efficiency in business operations. Technologies like blockchain, artificial intelligence, automation and data analytics help businesses capture valuable information for digital transformation and optimize business processes (Ben Slimane et al., 2022). Additionally, technology creates diverse communication channels with customers, provides omnichannel experiences and improves customer service. To succeed in digital transformation, SMEs need to invest in modern, advanced technology and have the ability to upgrade existing technologies. This is a critical part of SMEs' success in the digital revolution.

### Hypothesis 3 (H3): *Employees performing activities within the business process impact the digital transformation capability of small and medium-sized enterprises (SMEs).*

The workforce plays a vital role in determining the digital transformation capability of SMEs. They are directly involved in carrying out activities within business processes and can significantly influence the success of digital transformation (Sánchez & Zuntini, 2018). Their collaboration and knowledge of digital technology, capabilities and skills for performing tasks, as well as adaptability to changes in the process, are crucial. Employees need to understand and execute new business processes, efficiently use digital technology, adhere to the company's regulations and procedures and interact well with customers and partners (Ngan & Duyen, 2017). They need training and support to master digital skills and be prepared to participate in the digital transformation process. Moreover, enthusiasm, a positive attitude towards work and the ability to contribute ideas from employees can drive innovation and improve business processes, contributing to the optimization of the digital transformation of the enterprise.

### Hypothesis 4 (H4): Business Strategy impacts the digital transformation capability of small and medium-sized enterprises (SMEs).

Business strategy plays a crucial role in determining the digital transformation capability of SMEs. It serves as a guiding map for businesses, determining how they approach and use digital technology to enhance business efficiency (Matarazzo et al., 2021). SMEs need to develop a business strategy focused on digital transformation, including market analysis, business objectives, suitable market positioning and segmentation, leveraging digital technologies like artificial intelligence, machine learning and blockchain to optimize business processes (Le Viet & Dang Quoc, 2023). This strategy should also consider identifying target customers, building a brand, defining marketing strategies, developing digital products and services to meet current and future market needs. A successful business strategy demands creativity, readiness to face challenges and the ability to create new value through digital technology. A business strategy is not just a planning document but also a blueprint for the enterprise's success in the digital economy, showing how businesses can leverage digital technology to enhance

performance, produce advanced products and services and maintain a competitive edge in the market.

## Hypothesis 5 (H5): Operations Management impacts the digital transformation capability of small and medium-sized enterprises (SMEs).

Operations management is a critical component of the digital transformation process for small and medium-sized enterprises (SMEs) (Sánchez, 2017). SMEs need to adapt to the rapidly changing business environment in the digital economy. Operations management involves optimizing human resource management, financial management, production management and customer management to ensure higher performance. SMEs must invest in management tools and systems to monitor, evaluate and optimize all aspects of business operations. This allows SMEs to leverage digital technology to improve production processes, customer service and market interaction, quickly adapting to the challenges and opportunities presented by the digital business environment.

The results obtained from the final survey table include 30 observed variables. The study used a 5-level Linkert scale to measure the intention to digitally transform small and medium-sized enterprises through optimizing business process management.

For easier data collection, the study chose the sample size using non-random sampling methods (specifically, convenience sampling and judgmental sampling). This sampling technique is widely used because it allows for quick, uncomplicated and less costly information gathering (Hassan, H. A., & Ahmad, A. B., 2021). The group also collected responses through an online questionnaire to provide the most favorable conditions for the research subjects to participate in the survey. The sample subjects were selected as leaders and managers from 200 small and medium-sized enterprises. A total of 200 survey questionnaires were sent via email and Zalo to 200 small and medium-sized enterprises in Vietnam to gather their opinions. To determine the number of businesses to investigate, the author used a sample selection and size determination method, as shown by the following calculation:

N = 5 \* number of measurement variables participating in EFA (1)

The minimum sample size to use to analyze the EFA model is 50, preferably 100 or more (Hair Jr. et al., 2010).

The collected data will be used to preliminarily evaluate the measurement scales using the method of determining the Cronbach's Alpha reliability coefficient and the exploratory factor analysis (EFA) method to develop the official measurement scale. This is an important step to ensure the reliability and effectiveness of the study. The Cronbach's Alpha reliability coefficient is used to assess the degree of homogeneity of

observations in a measurement scale. A high Cronbach's Alpha reliability coefficient indicates that the items in the measurement scale are being measured consistently and have high reliability. The exploratory factor analysis (EFA) method is used to determine the internal structure of a measurement scale by identifying common factors that influence the observations in the scale. These factors can then be used to form an official measurement scale, improving the accuracy and reliability of the study. The conditions for applying EFA are based on the Bartlett criterion and the KMO coefficient:  $0.5 \le \text{KMO} \le 1$  and sig<0.05 (2). The Bartlett test is performed to check if the data has sufficient dispersion to perform factor analysis. If the values of the Bartlett criterion and the KMO coefficient meet the expected values, the data will be considered suitable for applying exploratory factor analysis to determine if the measurement scale is appropriate.

#### Main findings

#### 4.1. The proposed process for optimizing business operations

Optimizing business operations is a necessary task for businesses to develop and survive in the era of digital transformation and increased competitiveness in the market and to achieve their business objectives. Optimizing business processes helps businesses improve their operational efficiency, maintain their production status, reduce costs, increase revenue and retain customers. With the aim of comprehensive digital transformation in businesses, Vietnam has embarked on the process of digital transformation, changing the mode of operation, work processes and business models to bring about higher efficiency and new values. Vietnamese businesses all realize that if they do not optimize their business operations, they will face many difficulties in competing with their competitors in the industry and may fail to gain market share. Moreover, not optimizing business operations can also lead to unnecessary costs, inflexibility in the process and inability to meet customer needs. However, most small and medium-sized businesses are still struggling and have not yet formed business processes, or in other words, they have not optimized their business operations.

The first task in optimizing business operations for small and medium-sized enterprises is to redesign their distribution channels to efficiently supply goods to potential customers. To distribute the company's products to potential customers, businesses can choose from a variety of forms, such as direct sales, online sales, or through agents and utilize distribution systems. Utilizing a distribution system is an approach to reach customers through distributors, wholesalers and retailers.





Figure 2. Parallel distribution channel combining traditional and modern distribution channels

Source: Author design

Traditional distribution channels and modern distribution channels are two different methods used to approach and distribute products from a business to customers or consumers (Fayyaz & Azizinia, 2016). The traditional distribution channel typically uses traditional methods to distribute products through channels such as retailers, distributors, sales representatives, or direct product distribution to customers (Frazier, 1999). Generally, traditional distribution channels are used to reach customers in the same area or nearby the business. The modern distribution channel is used to distribute products through online channels such as the company's website, mobile applications, social media and email marketing (Yan, 2008). By using these multichannel distribution methods, the company can quickly and conveniently reach customers worldwide (Palmatier et al., 2019). Therefore, modern distribution channels are often less expensive because they can use existing online technologies without having to invest initial costs to build relationships with retailers, distributors, sales representatives, or direct product distribution channels like traditional distribution channels.

On the other hand, the way modern distribution channels approach customers also demonstrates greater flexibility compared to traditional distribution channels

(Trihatmoko & Mulyani, 2018). While traditional distribution channels often approach customers directly and interact with them on a personal level, modern distribution channels tend to approach customers more flexibly and with less personal interaction. Therefore, modern distribution channels allow companies to distribute products more quickly than traditional distribution channels. When using traditional distribution channels before reaching customers. However, modern distribution channels allow the company to distribute products directly to customers without intermediaries, making the delivery speed much faster than traditional distribution channels (Trihatmoko & Mulyani, 2018).

In traditional markets, businesses can only use traditional distribution channels. However, in the context of globalization and international economic integration, businesses need to take advantage of multi-channel distribution to achieve business efficiency. This means that businesses use multiple distribution channels for one type of product to satisfy customer needs. Using multiple distribution channels enhances the ability of businesses to access and serve customers globally quickly and conveniently, while reducing risks of relying solely on one distribution channel. Businesses that use parallel distribution often achieve quick market coverage.



Source: Author design

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This is an effective distribution strategy that businesses should apply in the context of the strong development of the Fourth Industrial Revolution. However, to ensure business efficiency and gain competitive advantage, businesses need to develop a tightly managed investment strategy.

## 4.2. Developing a Multi-Channel Distribution Investment and Management Strategy

To implement the digital transformation for small and medium-sized enterprises, utilizing multichannel distribution is an important strategy that helps businesses to better reach and serve customers. To build an effective investment and management strategy for multichannel distribution, small and medium-sized enterprises need to take the following steps:



Figure 4. The process of developing an effective multi-channel distribution investment and management strategy

Source: Author design

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The first step of a business when conducting business operations is to search for opportunities to obtain information about industries, products or services. Then, the business needs to determine current market demand, research competitors, potential customers and new trends. The second task of the business is to plan the construction of a multi-channel supply chain. To do so, the business needs to analyze the market and target customers: Research the market and customers to identify suitable business channels (Canavan et al., 2007). Analyze data on the level of development of online and offline channels, usage rates, market share and new shopping trends, from which to establish suitable online sales channels such as websites, social networks, mobile applications, e-commerce and other channels. Optimize websites and other online channels to meet customer needs and increase sales. To allocate a multi-channel distribution budget plan, the business needs to evaluate costs to determine the cost for each distribution channel and other management activities related to multi-channel distribution, including personnel costs, marketing costs, transportation costs, storage costs and management costs (Melkonyan et al., 2020). Then, the business needs to determine the necessary investment level for each distribution channel based on the company's priorities and business objectives. Ensure that the budget is allocated appropriately to the overall strategic plan of the company, which will prioritize the most efficient distribution channels for investment (Charles Gibson, 2018). Evaluate the effectiveness of each channel, including conversion rates, profits, sales, returns and related costs. Finally, allocate the budget for each distribution channel based on investment level and company priorities to ensure that the budget is allocated appropriately and reasonably to meet business objectives and optimize investment efficiency. Businesses need to measure the effectiveness of each distribution channel to know which channels are beneficial and which channels need to be adjusted or stopped. Businesses also need to monitor and evaluate the effectiveness of each distribution channel and multi-channel management activities. Adjust and optimize operations over time to enhance efficiency and reduce costs. At the same time, evaluate and adjust multi-channel distribution strategies regularly to ensure that they are consistent with market changes and customer needs. Businesses need to update their strategies to ensure effectiveness in using them to enhance service quality and improve customer experience.

#### 4.3. Production process optimization

The production process is an essential part of business operations. It is a set of activities carried out during production to convert raw materials into finished products through a series of steps. The production process includes product design, material procurement, manufacturing, quality control, packaging and product transportation. These activities are usually carried out according to a specific production plan to ensure that the products

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are produced on time, in the right quantity and with the quality needed to meet customer requirements. Optimizing the production process is one of the most important tasks for businesses to ensure that products are produced and distributed on time, with the right quality and achieve high economic efficiency (Mulder et al., 2015).





Evaluate and analyze the effectiveness of the current production schedule. Before seeking alternative solutions, the business needs to assess and analyze the results of the current production process. This means evaluating factors such as production time, production costs, production efficiency, product quality and other risks in the production process. This helps managers identify issues in the production process, determine weaknesses, slow steps, or other barriers that affect the production process.

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Thus, the business will propose solutions to optimize the production schedule (Khanh & Kim, 2016).

Find solutions to improve the efficiency of the production process. This is an important task that the business needs to carry out. The business needs to consult experts, solicit the opinions of employees and customers, conduct experiments and analyze data. From there, the business can use new technology, innovate the production process, optimize the production process and improve management of the workforce. The solutions that the business needs to apply in this step are to strengthen technology, improve resource management and optimize the production process.

Identify a new production schedule: the business needs to create a new production plan based on the solutions found to improve the current production process. The new production schedule must be designed to include specific steps, completion time and resource allocation for each production stage. During this process, the business needs to analyze its ability to meet customer requirements, achieve higher efficiency and reduce production costs.

Apply new technologies: in the context of strong digital transformation, businesses need to use the latest and most advanced technologies to innovate, optimize and improve the efficiency of the production process. The business needs to use new machines, equipment, software and automation systems to reduce production time, increase productivity, reduce errors and detect technical issues early. New technologies that improve productivity and product quality such as Artificial Intelligence (AI), Internet of Things (IoT), blockchain and robotics can also be applied to improve the production process and improve business performance.

Adjustment and Optimization: once a new production schedule is in place, it is important for the business to regularly monitor and evaluate it to ensure that it is operating efficiently. The business needs to review and refine production processes to optimize the efficiency of the process. This may involve testing, evaluating and modifying production steps, adjusting the use of production equipment and tools and optimizing production management processes to ensure product quality, increase productivity and reduce production costs. This step is necessary for businesses to meet production needs and improve production efficiency.

Employee Training: this is an important step in ensuring production efficiency. In order to optimize the production schedule, employees need to be trained and understand the new production process, how to use new technologies and how to improve labor productivity. This helps them perform their assigned tasks better and meet customer requirements. This process helps employees enhance their ability to interact with new systems, equipment and technologies used in the new production

process, better meeting customer requirements. The training process should focus on technology skills, time management and other soft skills.

# 5. Analyzing the readiness and digital transformation capability of small and medium-sized enterprises

Digital transformation is a crucial process for the development and competitiveness of small and medium-sized enterprises (SMEs) in the digital age. To achieve success in digital transformation, businesses need to clearly understand their readiness level as well as the factors affecting their digital transformation capability. This study aims to assess the demand, readiness and digital transformation capability of SMEs through the design and application of evaluation scales. In this section, the author will analyze the factors influencing the demand, readiness and digital transformation capability of SMEs. The survey focuses on designing an evaluation scale for the digital transformation demand, readiness and capability of SMEs in the current digital transformation context.

#### 5.1. Test the reliability of Cronbach's Alpha scale for observed variables

The Cronbach Alpha coefficient method is used to test the reliability of a questionnaire with the characteristics or attributes of a reliable observation set (Wadkar et al., 2016). The study calculates the ratio of the observed variance to the expected variance if one question is removed from the questionnaire. The Cronbach Alpha coefficient value ranges from 0 to 1, with higher values indicating higher reliability of the questionnaire (Taber, 2018; Kennedy, 2022). To test the reliability of the Cronbach Alpha coefficient, the author used statistical tools such as SPSS. The questionnaire data was input into the SPSS software and then the Cronbach Alpha coefficient value is between 0.8 and close to 1, then the observation meets the reliability requirements. If it is between 0.7 and close to 0.8, then it is acceptable. If the Cronbach Alpha coefficient is  $\geq 0.6$ , it is an acceptable scale. If the measuring variable has a total correlation coefficient is less than 0.3, it is excluded (Wilcox, 1992).

### Table 1. Cronbach's Alpha of the variables in the scale of factors influencing the demand, readiness and digital transformation capability of SMEs

Observed variables	Medium scale if variable type	Variance scale if variable type	Correlate total variable	Cronbach's Alpha if variable type			
Business Process (BPro): Alpha = 0.849							
BPro1	12.8350	8.802	.666	.816			
BPro2	12.7550	8.799	.715	.803			
BPro3	12.7800	9.298	.603	.833			
BPro4	12.7850	9.195	.586	.838			
BPro5	12.9050	9.112	.737	.800			
Technology (Tech): Alpha = 0.827							
Tech1	13.6100	6.732	.610	.796			
Tech2	13.6350	6.886	.526	.819			
Tech3	13.5800	6.104	.785	.746			
Tech4	13.6350	6.504	.613	.795			
Tech5	13.6000	6.171	.599	.802			
Employees carry out activities within the business process (Emp): Alpha = 0. 902							
Emp1	12.0800	10.576	.750	.881			
Emp2	12.1050	11.602	.582	.915			
Emp3	12.2050	9.943	.872	.854			
Emp4	12.2100	10.529	.762	.878			
Emp5	12.2200	10.313	.818	.866			
Business Strategy (BStra): Alpha = 0. 867							
BStra1	15.9450	14.113	.624	.853			
BStra2	15.9750	13.442	.688	.841			
BStra3	16.0150	13.824	.652	.848			
BStra4	15.8700	14.425	.701	.839			

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Bstra5	15.8750	13.949	.761	.828			
Bstra6	15.8450	15.639	.585	.858			
Business Operations Management (BOMan): Alpha = 0. 897							
BOMan1	12.5879	8.769	.641	.899			
BOMan2	12.4774	8.382	.760	.871			
BOMan3	12.4472	8.693	.788	.866			
BOMan4	12.4573	8.431	.767	.870			
BOMan5	12.4824	8.615	.787	.866			
Decision for Business Process Optimization Management (Decision): Alpha = 0.765							
Decision1	9.5700	6.357	.569	.710			
Decision2	9.3400	6.135	.492	.749			
Decision3	9.5400	5.647	.619	.679			
Decision4	9.4100	5.650	.589	.696			

Source: Calculated by the calculating author

Table 1 shows that the scales used all have relatively high Cronbach's Alpha coefficients (>0.4). All observed variables in this scale have a total variable correlation coefficient greater than 0.6. Therefore, these scales ensure reliability and are suitable for use in further analysis steps (Sharma, B., 2016).

The analysis results indicate that the proposed hypotheses are all appropriate, proving that the measurement scales are acceptable. Firstly, the hypothesis that business processes positively impact the digital transformation capability of small and medium-sized enterprises (SMEs) is confirmed. The analysis shows that the Cronbach's Alpha coefficient of this variable is 0.849, which is greater than or equal to 0.6, indicating that business processes significantly affect the digital transformation capability of SMEs. This can be explained by the crucial role of business processes in the operation and management of enterprise activities. This finding aligns with Sánchez's 2017 assertion that effective business processes help businesses optimize resources, enhance operational efficiency and ensure flexibility in responding to market changes (Sánchez, 2017). When these processes are digitized and automated, businesses can increase productivity, minimize errors and provide better services to customers. This also facilitates the integration of new technologies such as artificial

intelligence (AI), the Internet of Things (IoT) and blockchain into their daily operations.

The hypothesis regarding technology (Tech) has a Cronbach's Alpha reliability value of 0.827, which is greater than or equal to 0.6, proving that technology impacts the digital transformation capability of SMEs. Technology is a key determinant in the digital transformation process. Modern technology not only helps automate processes but also provides powerful data analysis tools that support businesses in making datadriven decisions. Previous studies have also suggested that modern technologies such as blockchain, artificial intelligence, automation and data analytics help businesses (Ben Slimane et al., 2022). SMEs need to invest in advanced technology to maintain competitiveness and meet the growing demands of customers.

The hypothesis that employees carrying out activities within the business process significantly impact the digital transformation capability of SMEs is supported by the analysis results, with a Cronbach's Alpha coefficient of 0.902, indicating high reliability. Employees are crucial in implementing and maintaining effective business processes (Charles Gibson, 2018). They need to be trained to master digital skills and be ready to participate in the digital transformation process. The collaboration and technological knowledge of employees will help businesses easily implement new technologies and optimize existing processes.

The fourth hypothesis concerns business strategy (Business Strategy). The Cronbach's Alpha coefficient for this variable is 0.867, indicating that business strategy significantly impacts the digital transformation capability of enterprises. A clear business strategy focused on digital transformation will guide businesses in the right direction and leverage the opportunities provided by digital technology (Khanh, & Kim, 2016). This strategy should include specific objectives, market analysis, customer positioning and the development of digital products and services.

The final hypothesis relates to operations management (Operations Management). The Cronbach's Alpha coefficient for this variable is 0.897, showing that operations management strongly affects the digital transformation capability of SMEs. Effective operations management helps optimize production processes, financial management and human resource management, enabling businesses to utilize digital technology to enhance performance and reduce costs (Sánchez, 2017).

This analysis confirms the validity of the hypotheses and highlights the importance of each factor in the digital transformation process of SMEs. It demonstrates that to succeed in the digital age, businesses need to focus on optimizing business processes, investing in technology, enhancing employee capabilities, developing clear business strategies and managing operations effectively.

#### 5.2. Evaluation of the scale by exploratory factor analysis EFA

Kaiser-Meyer-Olkin Measure Adequacy		.737	
	Approx. Chi-Square	4134.644	
Balett's	df	435	
	Sig.	.000	

#### Table 2. KMO and Bartlett test results for independent variables

Source: Calculated by the calculating author

The results of the EFA analysis show that, the KMO coefficient = 0.737 and the Bartlett test has statistical significance of 0.000, so the research data is suitable for EFA analysis. This result also shows that, 6 factors are extracted at the Eigenvalue level of 2.447, the total variance extracted is 66.020%. The significance level (Sig.) = 0.000 < 0.05 so the variables are correlated with each other on the overall scale. Therefore, the observations made satisfy the conditions for factor analysis EFA.

#### 5.3. Evaluation of the scale by exploratory factor analysis EFA

CFA analysis of 6 scales with 30 observed variables satisfying the conditions was performed by AMOS software.

	Component					
	1	2	3	4	5	6
BStra5	.884					
BStra4	.828					
BStra2	.745					
BStra6	.738					
BStra3	.733					

#### Table 3. Rotated Component Matrixa

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BStra1	.694					
Tech3		.922				
Tech5		.885				
Tech1		.842				
Tech4		.839				
Tech2		.704				
BOMan5			.869			
BOMan3			.866			
BOMan4			.851			
BOMan2			.849			
BOMan1			.762			
BPro5				.848		
BPro1				.812		
BPro2				.800		
BPro3				.723		
BPro4				.703		
Emp3					.879	
Emp1					.770	
Emp4					.764	
Emp5					.754	
Emp2					.677	
Decision1						.774
Decision3						.760
Decision4						.746
Decision2						.710

Source: Calculated by the calculating author

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The results indicate that 6 factors were extracted based on the criterion of Eigenvalue greater than 1, with a total extracted variance of over 50% (meeting the requirement). That is, the 30 observed variables proposed by the research group explained 66.020% of the observed variable variance. Moreover, the scales for the 6 extracted factors all had good convergent validity and achieved factor loading values greater than 0.3 (meeting the requirement for the sample).

The results show that there are 6 factors extracted with the criterion of Eigenvalue greater than 1 and the total variance explained is over 50% (meeting the requirement). Therefore, the 30 observed variables proposed by the research team explain 66.020% of the variance of the observed variables. At the same time, the scales for the 6 factors are all convergent and have factor loadings greater than 0.3 (meeting the requirement for the sample).

The results of the linear regression analysis show an adjusted R-squared of 0.5870. This means that the factors assumed in this model contribute to 58.7% of the variation of the dependent variable "Optimizing Business Process Management Decision". The ANOVA results show that the statistical F value of the model is 110.154, with a significance level of Sig = 0,000. Therefore, the multiple linear regression model is suitable for the study's data.

#### 6. Discussion

The author have proposed several processes to optimize the business operations of some companies. In this proposal, the Parallel Distribution Channel combines traditional distribution channels with modern distribution channels to reach and distribute the company's products to customers or consumers. The foresighted proposals have identified distribution channels, but they are quite singular. For example, retailers and agents use traditional distribution channels to distribute products directly to customers (Menon & Menon, 1997; Baxevanos & Labridis, 2006). Some authors argue that, in today's digital economy, companies should establish modern distribution channels to distribute products through online channels such as the company's website, mobile applications, social networks and email marketing (Hunt, 2018; Wang et al., 2023). Based on related works (Zhu et al., 2018), the author assume that companies should combine distribution channels to enhance business efficiency. This seems to be a novel and useful approach. Even if businesses have used modern distribution channels before, the distribution efficiency has not been truly effective (Belz & Peattie, 2012). As a result, when using a single modern distribution channel, businesses may encounter some difficulties. In today's business environment, especially on online platforms, if businesses use single modern distribution channels, they may struggle to compete with larger competitors with greater resources and scale (Simone & Sabbadin, 2018). For example, transporting products from factories or storage points to customers may

incur significant costs, especially when transporting goods on a small scale. Therefore, businesses using a single modern distribution channel need to consider ways to optimize the transportation process to minimize costs. Conversely, our research found that companies that combine both types of distribution channels can reach a diverse customer base, from traditional customers to online customers, from consumers to businesses. The reality has shown that Walmart's case is a typical example, with 11,500 stores worldwide, Walmart is the largest retailer in the world. In today's digital economic development context, this retail giant is no longer interested in opening more stores but instead begins to focus on online business aspects in hopes of generating additional revenue and competing with Amazon while aiming to enhance customer experience at this system and applying technology to reduce operating costs. Currently, Walmart has enhanced mobile application allowing shoppers at traditional stores to pay quickly with their mobile phones without waiting at the checkout counter, a navigation map system to products that customers are looking for, the ability to scan code to learn about the origin, source and condition of products... Through accessing online distribution channels, Walmart has achieved promising results with online sales growth of 40% in 2018.

The author observe a significant increase in businesses using multiple distribution channels to enhance business efficiency. Nowadays, businesses not only focus on one or two traditional distribution channels like retail stores they used to. Amazon is considered a prime example of using multiple distribution channels. They not only sell online through their website but also utilize various channels such as mobile applications, social media platforms and even physical retail stores like Amazon Go. They have expanded and diversified distribution channels by integrating new channels such as online markets, mobile apps, websites, social media and even trial stores or providing fast delivery services. Therefore, they have obtained tremendous revenue and a large customer base.

Although multi-channel distribution brings numerous economic benefits to company operations, its implementation often encounters significant challenges. If not thoroughly addressed, prolonged projects can adversely impact business operations. In the worst cases, projects may fail and require termination (Beerepoot et al., 2023). Several global enterprises also face constraints and challenges in deploying multichannel distribution, which are readily apparent. Nike, a leading global sports brand, confronts challenges in managing consistency and brand positioning across various distribution channels, from retail stores to online sales and large retail partners. Similarly, Apple maintains an extensive distribution system encompassing Apple Stores, major retailers like Best Buy and online sales. Maintaining consistency in shopping experiences and customer support across these channels poses a significant challenge. Unilever, one of the world's largest consumer goods companies with brands such as Dove, Lipton and Axe, manages a vast global distribution network from supermarkets

to local retailers and online channels, especially in executing multi-channel sales strategies. These examples illustrate the complexity and challenges that large enterprises face when implementing multi-channel distribution. Significant challenges that every company must confront when implementing multi-channel distribution include resistance from sales staff. When a new distribution system is introduced, sales staff may feel threatened by the transparency and control of the new system. This is particularly true for employees accustomed to informal or less transparent work environments. They may worry that the new system will expose improper behaviors or create pressure due to closer supervision (Hübner et al., 2016). This resistance can lead to decreased work motivation, increased turnover rates and a tense working environment. On the other hand, the transparency of the new system can threaten members who work irregularly or create a sense of control for distributors. To address this issue, businesses need to implement management change measures, including training and support for employees to understand the benefits of the new system and feel more comfortable with the changes. Furthermore, multi-channel distribution requires coordination between departments such as Sales, Marketing, Logistics and Production. However, lacking clear differentiation of roles and responsibilities among these departments in a common process can lead to internal disputes in cooperation (Molnár et al., 2023). This can lead to internal disputes and conflicts. Each department may have its own goals and priorities and without agreement and cooperation, the distribution process becomes complex and inefficient. To address this issue, businesses need to build clear workflows, define the roles and responsibilities of each department and establish effective communication mechanisms to ensure that all departments understand and collaborate in achieving the company's common goals. Especially for large enterprises with branches and distributors participating in Distribution Management Systems (DMS), the software's organizational hierarchy must have clear permissions to ensure information security between branches and distributors. Not all DMS software providers have this capability. In large enterprises with multiple branches and distributors, ensuring information security among units is a significant challenge. The DMS needs to have clear permission settings to ensure that sensitive information is accessed only by authorized personnel. Failure to secure this could lead to information security risks and undermine distributors' trust. To address this issue, businesses need to select reputable DMS software providers capable of providing robust information security solutions and ensure that the system is configured correctly to protect critical information. On the other hand, deploying a multi-channel distribution system requires companies to adapt quickly to changes in the business environment. However, some companies may struggle to change processes and organizational structures to fit the new system. This can lead to delays in implementation and reduce the effectiveness of distribution channels. To solve this problem, businesses need a clear change strategy, including training and development

for employees, business process improvements and the adoption of new technologies to support the transition. Another limitation of multi-channel distribution is the cost of deployment and maintenance. Building and maintaining a multi-channel distribution system requires significant investment in finance, manpower and time. Companies need to budget for software development, employee training and system maintenance. Without a clear financial plan and effective cost control, businesses may face financial difficulties that impact their operations. To address this issue, businesses need to establish detailed financial plans, tightly control costs and ensure that investments provide proportional value. Moreover, implementing multi-channel distribution also requires businesses to effectively interact with customers across various channels. This includes managing customer data, tracking orders and addressing customer service issues. Without an effective management system, businesses may struggle to provide good service and maintain customer satisfaction. To address this issue, businesses need to invest in Customer Relationship Management (CRM) systems and data analytics tools to monitor and improve customer interactions. Distributing products through multiple channels can lead to inconsistency in service quality and customer experience. This can affect the brand's reputation and image. Therefore, businesses need to establish strict quality standards and ensure that all distribution channels adhere to these standards. Additionally, businesses need monitoring mechanisms and effective evaluation of channel operations to ensure that service quality is consistently maintained. By addressing these challenges, businesses can enhance the effectiveness of their multi-channel distribution strategies and maintain customer trust and satisfaction.

Therefore, it can be affirmed that distribution channels are an essential component of every business's operations, efficiently delivering products from manufacturers to end consumers. However, deploying distribution channels is not always straightforward and sometimes faces significant constraints. Thus, businesses need to implement solutions to address these distribution channel limitations. Firstly, enhancing transparency through the application of modern information management technologies such as Customer Relationship Management (CRM) systems to track all customer and partner-related information is essential (Xu et al., 2013). To avoid responsibility shifting between departments, businesses should clearly define the roles and responsibilities of each department in the distribution channel process, thereby optimizing work efficiency. For large enterprises with multiple branches and distributors, integrating Document Management Systems (DMS) is crucial as it supports clear authorization and information security between branches and distributors, enabling effective and flexible management conditions. Moreover, businesses should leverage modern communication tools and platforms such as video conferencing and group chats to enhance communication and interaction in the digital age. Lastly, to address distribution channel constraints, businesses need to continuously improve

and evaluate the effectiveness of their processes, adjusting and optimizing them over time to meet market conditions (Helmi et al., 2021).

#### 7. Conclusion

In the current era of digital transformation and development of digital businesses, optimizing business process management is extremely important. This is because optimizing business process management helps to improve the quality of products and services, enhance customer satisfaction and improve the brand of the business (Ko, 2009). To optimize business process management, small and medium-sized enterprises need to proactively seek, evaluate and implement measures to improve and streamline their current business processes. This is done by seeking ways to reduce costs, increase efficiency, enhance quality and ensure compliance with relevant legal regulations related to business processes. Activities to optimize business process management may include re-evaluating current processes, setting new targets and standards, using new technologies to improve business processes, training employees to enhance their skills and capabilities and enhancing synchronization and interaction among different departments within the business.

To optimize business process management, in addition to evaluating and analyzing the effectiveness of the current production schedule, searching and selecting solutions to improve it, determining a new production schedule, the enterprise needs to adjust and optimize the production schedule as well as enhance employee training in optimized operations. Especially, to achieve optimal efficiency in business processes, the enterprise needs to apply new technologies to optimize the production process. This can be done through specific solutions such as applying business process management software with superior features to monitor and manage business processes, thereby reducing errors and optimizing processes (García-Bañuelos et al., 2017). Additionally, the enterprise can apply an electronic document management system (EDMS) to store, manage and search for important information about business processes. The enterprise can also choose Internet of Things (IoT) technology to enhance the connectivity of smart devices to monitor and control business processes automatically, thereby reducing errors and optimizing processes. Applying Artificial Intelligence (AI) and Deep Learning technology in the process of analyzing business data, customer data and predicting results in business processes to optimize processes and make more accurate decisions. Blockchain technology also provides a secure and reliable platform for storing and sharing information about business processes, helping to increase transparency and ensure compliance with legal regulations. This will help the enterprise save costs and time and enhance operational efficiency. It will improve the quality of products and services, increase customer satisfaction and improve the enterprise's brand, creating a competitive advantage in the market. Therefore, the enterprise needs a detailed strategy and plan to

ensure effective and continuous implementation of process management activities. This will help the enterprise save costs, increase production efficiency, improve product and service quality, increase competitiveness and reduce risks in the operation process. This is the optimal solution to increase the efficiency of enterprise operations, helping them to successfully achieve their digital transformation goals to participate in and lead the digital economy.

Although this study utilizes intelligent methods to select representative samples of small and medium-sized enterprises (SMEs) in Vietnam to ensure the reliability and accuracy of research results, the sample size of 200 could be considered modest. The next step, future research efforts will focus on expanding the sample size and developing new data analysis techniques to assess the effectiveness of applying and implementing management processes to optimize business processes. This is a concern that businesses in general and small and medium-sized enterprises in particular, are highly interested in amid the ongoing digital transformation.

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