www.cya.unam.mx/index.php/cya

Contaduría y Administración
Accounting & Management

Contaduría y Administración 71(2), 2026, e553

Individual absorptive capacity as a stepping stone for digitalization, digital transformation, and small business performance; Entrepreneurial perspectives

La capacidad de absorción individual como base para la digitalización, la transformación digital y el desempeño de las pequeñas empresas; perspectivas emprendedoras

Harmon Chaniago*[1], Yen Efawati[2]

[1]Bandung State Polytechnic, Indonesia
[2] Adhirajasa Reswara Sanjaya University, Indonesia

Received July 9, 2023; accepted August 21, 2025
Available online February 17, 2026

Abstract

This study aims to disclose the role of individual absorptive capacity on small business digital transformation and its impact on business performance. The research method used is the explanatory survey. The research was carried out on small businesses in Bandung City, Indonesia. A sample of 334 small entrepreneurs was taken by purposive sampling. Data were processed using descriptive statistics and multiple regression. The study found that individual absorptive capacity affects small businesses' digitalization and digital transformation. Simultaneously, individual absorptive capacity, digitalization, and digital transformation strongly affect small business performance. For companies that do digitalization and digital transformation, performance will improve. However, the effect of individual absorptive capacity on business performance is partially negative. It means the individual absorptive capacity does not directly influence business performance, but does have an impact when mediated by

*Corresponding author.

E-mail address: harmon@polban.ac.id (H. Chaniago).
Peer Review under the responsibility of Universidad Nacional Autónoma de México.

https://doi.org/10.22201/fca.24488410e.2026.5126

other variables such as digitalization and digital transformation. Thus, this research demonstrates that absorptive capacity is a crucial variable determining other factors.

JEL Code: L29, O33, M21
Keywords: individual absorptive capacity; digitalization; digital transformation; business performance; small businesses

Resumen

Este estudio tiene como objetivo revelar el papel de la capacidad de absorción individual en la transformación digital de las pequeñas empresas y su impacto en el desempeño empresarial. El método de investigación utilizado es la encuesta explicativa. La investigación se llevó a cabo en pequeñas empresas de la ciudad de Bandung, Indonesia. Se tomó una muestra de 334 pequeños emprendedores mediante muestreo intencional. Los datos se procesaron utilizando estadísticas descriptivas y regresión múltiple. El estudio encontró que la capacidad de absorción individual influye en la digitalización y la transformación digital de las pequeñas empresas. Simultáneamente, la capacidad de absorción individual, la digitalización y la transformación digital afectan fuertemente el desempeño de las pequeñas empresas. Para las empresas que realizan digitalización y transformación digital, el desempeño mejora. Sin embargo, el efecto de la capacidad de absorción individual sobre el desempeño empresarial es parcialmente negativo. Esto significa que la capacidad de absorción individual no influye directamente en el desempeño empresarial, pero sí tiene un impacto cuando está mediada por otras variables como la digitalización y la transformación digital. Así, esta investigación demuestra que la capacidad de absorción es una variable crucial que determina otros factores.

Código JEL: L29, O33, M21
Palabras clave: capacidad de absorción individual; digitalización; transformación digital; desempeño empresarial; pequeñas empresas

Introduction

Various research results have proved that small businesses significantly contribute to employment and a country's economy (Ibarra et al., 2020; Susanto & Meiryani, 2019). Small business is an economic activity that is not too large, is run by the community independently, uses simple technology, and the target market is still local (Chaniago, 2020; Ingram et al., 2018). The limit is not too big, and the market is local, judging from the business activities that have not varied. It can operate with small capital, with family as employees, and the owner doubles as a leader. The number of small businesses in Indonesia exceeds that of large and medium businesses. However, during the COVID-19 period (from September 2019 to 2022), 60% of small businesses in Bandung, Indonesia, collapsed (BPS_Kota_Bandung, 2021).

The Indonesian state divides business groups into formal and non-formal (UU_No_20, 2008). Formal companies are grouped into small, medium, and large businesses. Non-formal business groups do not have legality and are not registered with the government. The main constraints for small businesses in

Indonesia are marketing, raw materials, capital, and technology (Maksum et al., 2020). The challenges faced by small businesses stem from the lack of professionalism among their entrepreneurs and leaders, including a lack of innovation.

According to Paredesa et al. (2018) and Serna et al. (2018), innovation can be a powerful solution to business problems. Thus, every small business member, leader, and employee must innovate to find solutions to their business issues. Sources of innovation can come from the external and internal environment. Entrepreneurs who are observant will be able to overcome difficulties by making various innovations from their environment. Chemma (2021) stated that intense business competition would encourage the growth of innovation. This compulsion makes entrepreneurs learn many alternatives, innovate, adapt to situations, and imitate and develop individual absorption according to consumer needs or requests. In their research, Zhao et al. (2021) and Kamal et al. (2021) concluded that companies that can absorb knowledge outside the organization will easily solve their problems.

Observations in the research area showed that small businesses absorb skills from each other to develop themselves. Examples of marketing strategies include seeking market opportunities, providing consumer services, utilizing social media for marketing purposes, and selling products through online marketplaces.

Individuals and organizations need the ability to absorb. The ability to absorb is seeking, acquiring, and applying external knowledge for the company's benefit (Lowik et al., 2017; Müller et al., 2021). This definition includes searching for new ideas, methods, and technologies for company activities. The ability to absorb will encourage innovation at both the individual and organizational levels (Ahmed et al., 2020; Kang & Lee, 2017). The results of research by Lowik et al. (2017), Knudsen and Schleimer (2020) concluded that the ability individuals to absorb affects the company's ability. Meanwhile, Gallegos and Miralles (2019) Absorptive capacity is the process of increasing knowledge and experience that leads to the development of future capabilities. However, research on absorptive capacity is mostly only carried out on large businesses and is still minimal on small businesses (Kamal et al., 2021). Besides that, information about the importance of knowledge acquisition for SMEs (Muscio, 2017) is also still lacking, especially related to information technology and digital. Research Ahmed et al. (2020) also suggested the need for absorption research at the individual level. It means that individual absorptive capacity research in the business world is rarely done. Moreover, the number of references to individual absorptive capacity for the business world is still limited.

The concept of individual absorptive capacity in the business world is still new and needs to be investigated by researchers. As far as is known, research on individual absorptive capacity has only been done by Lowik et al. (2017), and Knudsen and Schleimer (2020). These three researchers have not seen

individual absorptive capacity as the main variable. Furthermore, the analysis of individual absorptive capacity in small businesses is not yet comprehensive, especially regarding the use of digital technology. Small businesses are having a hard time adopting digital technology (Anim-Yeboah et al., 2020). On that basis, the first gap of this study analyzes the relationship between individual absorption and digital technology.

Digitization is converting physical data into digital with the aim of business process automation (Clerck, 2017); meanwhile, digital transformation is utilizing digital technology to optimize business activities (Furjan et al. (2020). This rapid change can be achieved by absorbing superior values from other companies and modifying them according to each business's needs. It will accelerate the achievement of small business performance. Bouncken et al. (2019) reminded us that corporate growth challenges depend on integrating digital technology and its use within the enterprise. This opportunity is possible for small businesses.

This study aims to analyze the activities of individual absorptive capacity, digitalization, and digital transformation and their impact on small business performance. Thus, this research provides three contributions. First is a theoretical framework for entrepreneurial behavior in achieving company performance, especially in digitizing, digital transformation, and individual absorptive capacity. Second, it contributes to filling the literature gap and reminds researchers that individual absorption capacity is important for small businesses, especially for small business leaders. Third, explore the relationship between individual absorption capacity with digitalization and digital transformation in achieving company performance. The novelty of this paper centers on the combined analysis of individual absorptive capacity, digitalization, digital transformation, and business performance in small companies in developing countries.

Theoretical framework

This research allows the use of analysis from various economic and management theories. Because this research relates to company performance, the theory used revolves around theories to improve small business performance. The theories used to improve business performance usually involve aspects of management, human resources, strategy, and innovation. Many theories can be used, each theory has advantages and disadvantages. From the literature, several theories and approaches can be used, namely:

1. Classical management theory. Emphasizes job analysis and finding the best method for carrying out tasks. Its advantages focus on efficiency, performance improvement, clear organizational structure, and application of management principles. Weaknesses: treating employees as machines, not

paying enough attention to the psychological and motivational factors of human resources, placing too much emphasis on routine a result of which inhibits innovation, high organizational structures tend to hinder organizational communication, less suited to the more complex and digital modern era, less suitable for dynamic environments (Boyd, 2023).

2. Motivation theory. Humans have certain motivations to fulfill their needs. Companies will easily achieve their goals if they can control existing human resources by providing human needs. The advantages: ease of achieving productivity by understanding employee needs, increasing group satisfaction and performance by understanding HR's desires, and encouraging the growth of a climate of innovation. Weaknesses: it is difficult to find a universal approach to motivating human resources, people can change at any time and as a result it is difficult to find the right motivation strategy, does not pay attention to variations in individual needs, cannot be applied to all ages of the workforce, human resource motivation is sometimes determined by external motivation (KnowledgeHut, 2023).

3. Theory of innovation and value creation. Explain the importance of innovation as part of the life of the company. Advantages: understanding of product innovation, product and service differentiation, markets, value creation, and efficiency. Weaknesses: requires research costs for innovation, risk of failure when implementing innovation, risk of innovation being imitated by competitors, additional marketing costs for each new product, requires certain people and technology skills to implement innovation (Küfeoğlu, 2022).

4. Organizational learning theory. Carrying the concept of learning and mutual learning will result in organizational progress. The advantages: increase the organization's adaptability and responsiveness to environmental changes, encourage innovation and creativity in the organization, improve individual and group performance, make it easier to adjust organizational strategies when situations change, the foundation for effective knowledge creation in the company, reduce errors and conflict. Weaknesses: it takes time and resources to learn from each other, some members of the organization may be resistant to change, personal initiative is limited due to collective learning, complex cultural changes are difficult to implement, what is learned is not always useful for the company (Keenan, 2023).

5. Balanced Scorecard. It is strategic management used by organizations to focus on strategy and improve performance. Uses financial, customer, internal process, and learning and growth perspectives to measure overall company performance. Advantages: considering financial and non-financial aspects (customers, learning, and growth), linking operational activities to long-term goals, and the importance of innovation. Weaknesses: difficulty measuring non-financial aspects, determining weights to measure performance can be subjective, the potential for errors in interpretation of performance

measurements, in some cases organizations focus on short-term goals, measuring innovation lacks precision, difficult to measure intangible assets (Tarver, 2023).

6. Intellectual capital theory. Helps organizations to understand and recognize all the value of intangible assets (company intellectual assets), such as knowledge, expertise, information, intellectual property rights, experience, customer relationships, brands, and others. This broadens management's view of the resources that can shape a company's competitiveness. Intellectual capital exists in humans (individuals, groups), organizations, culture, technology, and others. Advantages: an in-depth understanding of optimizing intangible assets, orientation towards innovation, use of knowledge to create competitiveness, ability to attract quality employees, involvement of knowledgeable employees, and weaknesses, namely dependence on quality human resources, not always related to performance finance.

Experts say intellectual capital is crucial in shaping a company's competitiveness. Researchers have developed many methods and approaches to understand and leverage intellectual capital. This theory focuses on how companies can utilize intangible assets such as knowledge, skills, and expertise to generate wealth and strengthen competitiveness (Mahmood & Mubarik, 2020; Quintero-Quintero et al., 2021). The components of intellectual capital continue to evolve, and there is no widely accepted standard yet (Kang & Lee, 2017). Some intellectual capital components include human capital, customer, social, technological, and spiritual capital (Quintero-Quintero et al., 2021). The two most important components are human capital and technological capital (Wirajing et al., 2023). These two components are predicted to increase the company's competitiveness.

Regarding research variables, many researchers have proven that absorptive capacity determines organizational innovation, such as research by Sancho-Zamora et al. (2021, p. 2) "proves that absorptive capacity directly or indirectly influences innovation and company success". Likewise, Ahmed et al (2020) research concluded that absorptive capacity has a positive impact on company innovation. Research by Zhao, et al (2021) also proves the same thing that individual absorption and creativity have a direct and significant influence on organizational innovation performance. Among the existing innovations are technological innovations, such as the use of digital technology and digital transformation.

Several researchers have proven that digitalization has an impact on business success (Guo et al., 2020; Manríquez et al., 2022; Mulyana et al., 2023; Proksch et al., 2021). Likewise, the results of research on digital transformation, researchers have concluded that it can increase business success (Mandviwalla & Flanagan, 2021; OECD, 2017). Meanwhile, there is no research relating individual absorptive capacity to digitalization, digital transformation, and its impact on business performance. Referring to the explanation that has been presented, this research assumes that the individual variables absorptive capacity, digital, and digital transformation are interrelated with business performance.

Individual absorptive capacity

Human capital is based on human knowledge, competence, skills, and innovation (Aman-Ullah et al., 2022). Because small businesses' HR has many weaknesses, they look for practical solutions such as leveraging individual absorptive capacities. Individual absorptive capacity is related to human knowledge, skills, and innovation. Various studies have recognized the benefits of innovation for companies. Some experts relate innovation to technology. Bouncken et al. (2019) declared innovation the center of digitalization and business models. However, innovation is formed and born by creative humans who can absorb scientific knowledge. Research by Ahmed et al. (2020) has proven that human capital positively influences absorptive capacity and business performance. Absorption capacity is vital for company innovation and competitiveness (Müller et al., 2021; Sancho-Zamora et al., 2021). Ahmed et al. (2020) conclude that absorptive capacity is the ability to acquire and apply new knowledge to gain a competitive advantage. This advantage is obtained by making various innovations that suit the community's needs. Innovation that the community likes is proof of the superior capacity of individual absorption in the company.

Knoppen et al. (2022, p. 312) define absorptive capacity as "a multidimensional construct or, as an ability that is developed through a series of knowledge or learning processes". Lowik et al. (2017) state absorptive capacity is an individual activity to recognize, assimilate, change, and exploit new external knowledge. Meanwhile, Gallegos and Miralles (2019) reminded us that developing absorptive capacity is a process of increasing knowledge and experience that leads to the development of capabilities in the future. Absorptive capacity is an important element for converting knowledge into commercial use (Zhao et al., 2021).

From existing references, the concept of absorptive capacity is discussed more at the organizational level and still minimally discussed at the individual level. Knudsen and Schleimer (2020) state that absorption capacity is divided into three levels: organizational, group, and individual. Kang and Lee (2017) reminded us that the concept of absorptive capacity needs to be developed from various aspects.

This research focuses on the absorptive capacity of individuals level, especially the absorptive capacity of small business entrepreneurs. There are limitations to experts in formulating individual absorption capacity. Horvat et al. (2019) provide limitations with a focus on the identification, acquisition, assimilation, and exploitation of new knowledge to produce company performance. Likewise, Lowik et al. (2017) define individual absorptive capacity as an individual activity to recognize, assimilate, transform, and exploit external knowledge. Meanwhile, Knudsen and Schleimer (2020) define it as more

focused on the use of individual knowledge and its development. When measuring an individual's absorptive capacity, it should be linked to the research objectives. Therefore, departing from the previous definition, this study defines individual absorption capacity as an individual activity to recognize, seek, assimilate, transform, utilize, and combine knowledge from outside into something more valuable. Indicators to measure it include activities: identifying outside knowledge (Horvat et al., 2019; Lowik et al., 2017), recognizing new knowledge (Ahmed et al., 2020; Lowik et al., 2017), understanding new knowledge (Bello et al., 2018), assimilating (Horvat et al., 2019; Lowik et al., 2017), modify and convert (Lowik et al., 2017), using new knowledge (Ahmed et al., 2020; Knudsen & Schleimer, 2020), make use of new knowledge (Lowik et al., 2017) and combining knowledge (Knudsen & Schleimer, 2020).

Individuals usually absorb activities that include product manufacturing, the technology used, marketing and sales, business development strategies, and customer service. Individual absorptive capacity activities are diverse and cover all company activities. It means individual absorptive capacity can be used in almost all company activities.

Digitalization

Technological capital is an essential component of intellectual capital and positively impacts business performance (Diebolt & Hippe, 2022). It originates from human technical knowledge. Analyzing technological capital can use digitalization theory. The theory of digitalization explains the development of a society dominated by digital technology and information. This theory covers the development and implementation of digital technology in various aspects of life.

The concept of digitalization is more focused on digital technology in the form of digital hardware and software, such as digital applications and platforms (Endres et al., 2021; Guo et al., 2020). Carroll et al. (2023, p. 347) state “Digitalization refers to the integration of digital technologies into everyday life and business practices and builds on IT-enabled change and IT change management, such as using software to automate processes or support a business function (for example ERP or CRM)”. Researchers have shown the benefits of digital technology in businesses. Digitalization is the first step to digital transformation in industries (Hilali et al., 2020). Du (2021) and Tronvoll et al. (2020) confirmed that technology could be a tool that empowers individuals to achieve business goals. Digitalization refers to the interaction between digital technologies and social institutional processes that transform these technologies into infrastructure technologies and impact society and the economy (Teubner & Stockhinger, 2020, p. 2).

The literature explains that digitalization is a process of hardware and software innovation related to information communication tools (Endres et al., 2021); converting physical data to digital form for the purpose of automating business processes and workflows (Clerck, 2017); incorporating innovation and digital content into multiple platforms for consumers (Belleflamme & Toulemond, 2016); a code base where third parties can supplement in the form of new modules and services as they wish (Baber et al., 2019; de Reuver et al., 2018); value creation through digital technology and the speed of technology used (Kannan & Li, 2017; Proksch et al., 2021); services that incorporate digital technology (Nambisan et al., 2017; Rachinger et al., 2018); the use of more modern digital technology to create value, benefit and offer to consumers (Parida et al., 2019; Scott et al., 2019); a mix of computerized information and communication technologies (Sturgeon, 2019); and increased application of digital technology (Bouncken et al., 2019).

Digitalization is achieved through digital technologies, such as information technology, computing, communications, and promotional software (Guo et al., 2020; Vial, 2019). Digitalization is the connection of technologies, processes, data, and other things that provide intelligence and action to produce business results. Examples of digitization are; converting writing on paper into electronic files, paper images into JPEG, and music into MP3 (Gobble, 2018). Gobble further explained that digitalization provides savings, most commonly through increased efficiency and reduced error rates, but does not change how companies do business or think about, create, and deliver value.

Digital services can use various digital element platforms like social media and other information technology applications. Zouari and Abdelhedi (2021) found digitalization as one of the needed service quality dimensions. In digitizing, many companies use existing platforms for business interactions and marketing their goods online (Mulyana et al., 2023; Wang, 2020), such as Alibaba, Amazon, OLX (Anim-Yeboah et al., 2020), and local platforms. Research results prove that digitalization supports businesses' performance (Guo et al., 2020; Proksch et al., 2021; Ribeiro-Navarrete et al., 2021). Digitalization has the potential to help small businesses improve effort performance.

The development of digital technology is changing customer behavior in meeting their needs, and companies are trying to adapt their innovations to customer desires. The growth of the digital world is driven by the rapid development of hardware and software information (Endres et al., 2021). Becker and Schmid (2020) have reminded us that the development of digital technology is significant for business and impacts the community's economy. The interaction between information technology systems and knowledge management will accelerate the implementation of digitalization (Bresciani et al., 2021). The results of a survey of several companies led Heavin and Power (2018) to conclude that companies are doing exciting things with digital and other technologies, such as the use of mobile phones, social media,

and Cloud applications. Other researchers show that there are several useful digital technologies, such as blockchain (Liu et al., 2018), the Internet of Things (Bresciani et al., 2018), and big data (Hopkins, 2021).

In measuring digitization, experts are still diverse. Chen et al. (2016) researched service-oriented portals from portal maintenance, B2B functions, and lay computing. On the other hand, Kwabena et al. (2021) measured it from excellence and compatibility technology. They explained the advantages of the user's perception of whether the technology is helpful and its compatibility with the company's future needs.

This study defines digitalization as hardware and software innovations related to codebases and IT platforms and is used to complete various company activities (Kwabena et al., 2021). The indicators include "advantages and compatibility" (Kwabena et al., 2021, p. 335), "speed, and reliability" (Calderon-Monge & Ribeiro-Soriano, 2023); function (Chen et al., 2016).

Digital transformation

The Digital Transformation theory is a perspective on the business and corporate world changes due to the adoption and implementation of digital technology. Digital transformation involves using technology to modernize and optimize business processes, products, and services and improve interactions with customers and other stakeholders. It encompasses modifications in information technology, operations, and business and requires changes in organizational culture, working methods, and business models.

To this day, there is no standard agreement on digital transformation and digitalization (Gradillas & Thomas, 2023). Digital transformation is a continuation of digitalization. He highlights the impact of information technology/digital technology on various company activities, such as structure, information flow, capabilities, and company capacity (Anim-Yeboah et al., 2020). OECD (2017) stated that digital transformation increases business competitiveness globally. Likewise, the research of Mandviwalla and Flanagan (2021) concluded that digital transformation directly impacts the performance of small businesses. Sedangkan Guenzi and Habel (2020) state digital transformation is the process of using digital technology to create or modify business processes, culture, and consumer experiences to meet business and market needs.

Digital transformation is a business concept that encompasses changes in business organizations of various sizes and industries (Warner & Wäger, 2019). A digital transformation is a new approach for companies to compete in seizing a dynamic and tight market (Chen et al., 2021). Digital transformation helps organizations increase efficiency, expand markets, and strengthen their competitive position. Digital transformation can be applied in large, medium, small, and other companies. Digital transformation

determines what technology is needed to improve company performance. The effect of digital transformation on performance is more focused on people, processes, and the sustainability of changes in various things in the organization due to the use of digital technology.

Many digital platforms can convey information to consumers (Belleflamme & Toulemond, 2016). Digital technology changes many areas of society's activities (Anim-Yeboah et al., 2020). However, to use digital platforms, companies must adapt their operations to a digital environment (Baber et al., 2019). Adapting to this requires digitalization and digital transformation. However, some small businesses fail to transform into digital (Schallmo et al., 2017). It happens because of the wrong application of unfit principles, ideas, innovations, and methods (Doukidis et al., 2020). The Ribeiro-Navarrete et al. (2021) study showed that social media updates, social media usage, and internal workers' training could improve company performance.

Experts see the digital transformation from different angles, such as the use of digital technology to transform to a newer business model (Magnusson et al., 2021); digital technology that brings organizational and structural changes (Garzoni et al., 2020); use of technology to radically improve performance (Hinings et al., 2018); the process of improving performance by combining information technology, computing, communication and connectivity (Vial, 2019); operational and organizational changes (Anim-Yeboah et al., 2020); use of new digital technologies to enhance core business (Carroll et al., 2023) e.g., social media, cellular phones, etc (Arango-Botero et al., 2021; Galindo-Martín et al., 2019; Mulyana et al., 2023); and digital transformation is involving family, local, economic and digital relationships (Mandviwalla & Flanagan, 2021).

These show that discussing digital transformation will be related to adopting information technology in business and organizational operations, fundamental changes in business, new markets, structure, strategy, distribution and services, information flow, new standards, and benefits.

Galindo-Martín et al. (2019) did research on digital transformation. They measured it by buying cloud computing services over the Internet, purchasing email platforms, buying office software (e.g., word processors, spreadsheets, etc.), using social networks (e.g., Facebook, LinkedIn, Xing, Viadeo, Yammer, etc.), and creating and implementing a website. On the other hand, Kotarba (2017, p. 124) measured it from "economy (connectivity, human capital, use of the internet, making markets), society (smart infrastructure, internet users, growth of the internet, digital technology, ICT Investments, mobility), industry (digital asset stock, digital transactions, work digitalization, interaction between firms, customers, and suppliers), enterprises (digital traffic, performance, social media performance, customer engagement, digital revenues, sales, assets), clients (digital self-service ratio, application world performance, performance of clients, evaluation of online experience)". Lee et al. (2018) measured it

from blog/web availability, and Hilali et al. (2020) saw it from customers, data, and innovation. From various indicators, it can be seen that the digital transformation indicators have many variations and are multidimensional.

From the previous explanation, digital transformation can be defined as utilizing the latest digital technology to change business models, processes, products, and organizational structures by involving multiple human activities internally and externally. The ultimate goal of digital transformation is to improve company performance. This study uses indicators that are suitable for small business needs, namely availability and ability to use: email, office software (Galindo-Martín et al., 2019), cellular (Teubner & Stockhinger, 2020), social media (Arango-Botero et al., 2021; Galindo-Martín et al., 2019; Teubner & Stockhinger, 2020), blog/web (Galindo-Martín et al., 2019; Lee et al., 2018), big data (Hilali et al., 2020; Hopkins, 2021), platform and online business (Anim-Yeboah et al., 2020).

Business performance

Theoretically, business success is the achievement of company goals within a certain period (Chaniago, 2023: 20). The leader of a business determines its success (Amato et al., 2017; Ibarra et al., 2020). Companies achieve their goals when they show performance to their plan. However, the role of a leader is very dominant in determining a business's performance, especially the performance of small businesses (Chaniago, 2020).

Many factors determine the achievement of performance, such as entrepreneurial leadership, innovation, technology, resources, etc. Theoretically, a company's performance is the achievement of organizational goals related to profitability, turnover, market share, and owner desires. Engidaw (2021) defined company performance as doing something successfully using knowledge. He measured it from a financial and non-financial perspective, such as sales, profit, and market share.

However, there is no consensus on measuring the performance of small businesses. Researchers should avoid measuring the performance of small businesses only from financial records (Shah & Ahmad, 2019) because their financial records tend to be inaccurate. The limited knowledge and technology of small businesses cause it.

The solution to measuring the performance of small and medium enterprises is using the entrepreneur's perception (Abu-Rumman et al., 2021). Adam and Alarifi (2021) research on small and medium businesses during COVID-19 concluded that innovation practices could improve businesses' performance and sustainability. They measured the sales, profits, assets, capital, production, and market

share increase. Abu-Rumman et al. (2021) also did the same thing in measuring small and medium businesses' performance.

Some researchers measure business performance from a financial perspective, such as added value, sales (Kim et al., 2017; Srhoj et al., 2020), profit, revenue, sales, added value, asset inventory, asset return, gross production, and productivity (Cravo & Piza, 2018). Amato et al. (2017) found that they can measure company performance from financial aspects such as sales growth, stock growth, and company size growth. Meanwhile, profitability and stable business development are indicators of company performance (Kliestik et al., 2022).

From the existing references, most businesses' performance is calculated from a financial and organizational perspective, whereas business performance can be seen from multiple perspectives (Chaniago et al., 2019). Dyckhoff and Souren (2022) suggested using various criteria to evaluate business performance, and Engidaw (2021) emphasized the importance of considering financial and non-financial factors. Some literature refers to business performance as business success.

Based on the performance measurement criteria from the references, business performance measurement can be grouped into financial and organizational perspectives, owners' perspectives, and consumer perspectives. The economic (financial and organizational) perspective is the most commonly used. It assumes that financial improvements from administrative and management capabilities, such as the growth of turnover, profit, sales, assets, total production, and others. However, Khan et al. (2021) have warned that economic and social factors determine business performance.

The owner's perspective looks at how much the company can fulfil the owner's wishes, such as increasing assets, employee welfare, social impact, owner satisfaction with company goals, technological innovation, a green environment, etc. This perspective departs from the interests and views of the owners of companies. However, finance cannot represent all the interests of the owners. Not infrequently, the owner establishes and maintains a company because it has specific goals, such as social goals, environmental sustainability, and reputation in the community.

This research measures business success from two points of view, namely finance and company owners. This is intended for ease of obtaining data. This is because, from a financial and owner perspective, the data can come from within the company, namely the leadership and owner of the company. In small businesses, the boundaries between the leaders and the owners, of their respective functions are not very clear, because the owner mostly doubles as the leader or manager and if the leader is separate from the owner, then the leader usually comes from the closest family, such as his wife or children. Therefore, to get representative data, the respondents came from leaders and company owners.

Indicators for measuring business success from a financial perspective consist of increases in profits, sales, and market share (Cravo & Piza, 2018; Engidaw, 2021; Nuryakin et al., 2018; Serapicos et al., 2019). Owner's perspective group indicators are corporate goals (Cravo & Piza, 2018; Tronvoll et al., 2020), asset & capital increase (Adam & Alarifi, 2021; Cravo & Piza, 2018), perceived business success (Amato et al., 2017), and social impact (Khan et al., 2021). Researchers who measure from two perspectives are Adam and Alarifi (2021), Amato et al. (2017), and Cravo and Piza (2018). Especially for small businesses, experts have warned to avoid measuring business performance on the number of employees because small businesses deliberately carry out labour efficiency. From the explanation of the literature, it is assumed that individual absorptive capacity is related to digitalization, digital transformation, and business performance, so the hypotheses are formulated as follows:

H1: Individual absorptive capacity has a positive effect on digitalization

H2: Individual absorptive capacity has a positive effect on digital transformation

H3: Individual absorptive capacity has a positive effect on business performance

H4: Digitalization has a positive effect on business performance

H5: Digital transformation has a positive effect on business performance

H6: Individual absorptive capacity, digitalization, and digital transformation simultaneously have positive effects on business performance

The relationship between the research concepts is depicted in Figure 1.

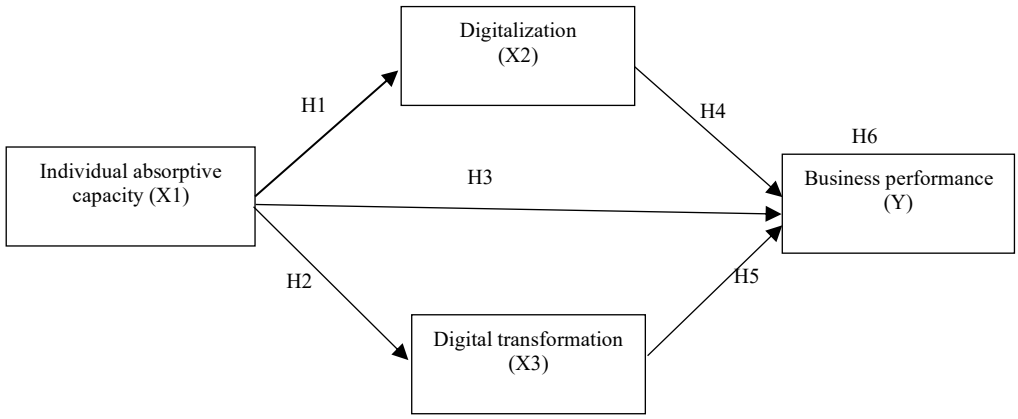

Figure 1. The framework of the study

Source: Author's own

Methodology

This research uses an explanatory survey method from July 2021 to February 2022. In the context of explanatory survey research, research aims to identify and explain relationship patterns (cause and effect) between the variables studied. In general, the research steps that have been carried out are: 1. Determine the research problem, research scope, research objectives, and research variables and compare them with research results in several scientific journals; 2. Conduct a pre-survey on the research object, namely small businesses in the city of Bandung, Indonesia; 3. Develop a theoretical framework, a hypothesis based on existing references, and a statistical analysis that will be used; 4. Determine the population and sample, then select a representative sample from the population; 5. Determine the type of survey, namely: face-to-face, online (via social media, telephone), or hybrid. The type of survey used is hybrid; 6. Designing survey questions: creating a questionnaire, the questionnaire questions must be clear and relevant in line with the research objectives; 7. Test the measuring instrument (pilot test) on 30 similar potential respondents. This is aimed at obtaining the level of validity of the measuring instrument (Hair et al., 2019); 8. Data collection, questionnaires distributed online, via telephone, social media, and face-to-face; 9. Analysis of survey results using descriptive statistics and multiple regression. To speed it up, SPSS and AMOS software are used. SPSS is used to test validity and descriptive testing, while AMOS is used for multiple regression testing and model testing; 10. Prepare a comprehensive report that presents the findings, interpretations, and implications of the survey results.

The research location is in Bandung, Indonesia. The choice of research location was based on several considerations: 1. Bandung is one of the big cities in Indonesia; 2. This city is also a tourist and trading city with a dense population; 3. Bandung has a large number of SMEs. From existing data, in 2019 there were 3,793 small businesses in Bandung. The COVID-19 pandemic caused 60% of small businesses to collapse, and in 2021 there were 1,516 small businesses left (BPS_Kota_Bandung, 2021). This number was used as the research population. There are several reasons for making SMEs that are still operating the target population: 1. Data for SMEs that have collapsed are not available; 2. Many researchers have carried out research taking samples from SMEs that are still operating; 3. Companies that have absorptive capacity are believed to be able to adapt to situations to progress, at least to survive operations. So, if an SME is no longer able to operate, there is the possibility of problems with its absorptive capabilities.

The population of this research consists of a collection of business units classified as small businesses. Two respondents, the leaders, and owners of small businesses, represented each business. There are several considerations for choosing two respondents for each company: 1. The leader and owner are two business people who carry out different functions. Leaders have more control over the company's

technical issues (finance, organization, and production), while owners focus more on company policy, strategy, and development; 2. Sampling two people from each company will get more complete and more comprehensive data; 3. The questionnaire has been designed to be able to differentiate between the leader and the owner. At the beginning of the questionnaire, there is a choice that must be filled in, whether he is the leader, owner, or a combination of both.

The number of samples was determined by referring to the provisions of Chaniago et al. (2023). He argued that if the population is <500, 20% of the sample is taken. However, if the population is >500, a minimum of 10% is taken. This opinion shows that the number of this research sample is a minimum of 10% x 1.516 = 152 small business units. As two respondents from each small business unit are taken, the total sample is = 152 x 2 = 304 respondents. In order to avoid data shortages, the sample size was augmented by 10%, resulting in a total of 334 respondents. Furthermore, the sample is taken in a ratio for each type of small business, as shown in Table 1.

Table 1
Sample distribution on small business

Type of small business	The sum of units*	The sum of the sample (Small Business Units)	The sum of the sample (Leaders and managers)
Retail	411	45	90
Wholesaling	49	6	12
Service	147	16	32
Manufacture	518	57	114
Other	391	43	86
TOTAL	1,516	167	334

*Source: BPS_Kota_Bandung (2021)

To collect data using electronic and printed questionnaires. In the questionnaire, the absorptive capacity variable consists of 8 question items, the digitalization variable has 5 question items, the digital transformation variable has 8 question items and business performance has 7 question items. Before the questionnaire is used, a validity test is carried out by testing the measuring instrument (pilot test) by 1. Distributing it to 30 potential respondents; 2. The data and answers obtained from each respondent were then correlated with the total answers using Pearson correlation and the help of SPSS software; 3. Next, check the results of each question item correlation, if the correlation is >0.3, it means it is valid (Chaniago et al., 2023; Sugiyono, 2021); 4. The results of the validity test showed that all question items correlate 0.463 to 0.894 or > 0.3 as shown in table 2, table 3, and table 4. This means that all question items in the questionnaire are valid, and the questionnaire is worthy of being used as a measuring tool in this research and used to collect information from respondents.

Table 2
Item-Correlation for the Absorptive Capacity Variable

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
i1	29.533	13.637	.787	.795	.812
i2	29.700	14.700	.594	.677	.836
i3	29.667	14.575	.482	.627	.851
i4	29.833	14.420	.511	.560	.847
i5	29.667	14.575	.601	.657	.835
i6	29.533	15.706	.470	.401	.849
i7	29.500	14.259	.650	.718	.829
i8	29.400	14.179	.702	.813	.823

Source: own computation

Table 3
Item-Correlation for the Digitalization Variable

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
I9	16.067	13.582	.794	.862	.911
I10	16.067	13.651	.709	.523	.927
I11	15.867	12.878	.844	.811	.901
I12	15.900	12.852	.791	.744	.912
I13	16.100	12.231	.894	.912	.890

Source: own computation

Table 4
Item-Correlation for the Transformasi Digital Variable

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
i14	28.567	21.978	.640	.507	.881
i15	28.800	21.890	.673	.718	.877
i16	28.767	20.944	.778	.828	.866
i17	28.767	21.082	.759	.816	.868
i18	28.567	20.047	.756	.735	.869
i19	28.500	20.948	.715	.734	.873
i20	28.267	25.099	.463	.543	.895
i21	28.433	24.461	.568	.552	.888

Source: own computation

Table 5
Item-Correlation for the Business Performance Variable

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
i22	23.433	19.909	.697	.746	.860
i23	23.433	18.392	.798	.820	.845
i24	23.667	18.437	.730	.873	.855
i25	23.700	19.045	.734	.869	.854
i26	23.933	21.099	.521	.362	.880
i27	23.700	20.769	.534	.694	.879
i28	23.733	19.306	.653	.751	.865

Source: own computation

Questionnaires were given to companies to fill out by small business leaders and owners. The samples were taken by purposive sampling. The sample criteria refer to the provisions of the Indonesian government's constitution regarding small businesses: the greatest assets of small businesses are IDR 500 million (35,000 USD), excluding land and buildings, and the maximum number of employees is 20 people. Other criteria are having been running for ≥ 3 years and operating in Bandung City, Indonesia. Small businesses that do not meet the standards were excluded from the sample. Technical sampling was done by distributing questionnaires using G-forms, telephone calls, social media, and face-to-face interviews. For data collection to be carried out consistently when collecting data using questionnaires, G-forms, and face-to-face interviews, the following things are carried out: 1. In the questionnaire given, there is a column that must be filled in by respondents with the options: leader, owner or owner+leader; 2. Every time a respondent finishes filling out the questionnaire, the data is always checked for completeness and the respondent's position (leader, owner, or owner+leader); 3. Every time you collect respondent data by telephone, they are always asked whether their position is leader or owner; 4. The sample percentage taken face to face is 30% x 167 = 51 small businesses or 102 small entrepreneurs. This is intended to obtain representative data about small businesses in Indonesia.

Data that has been collected from respondents, before being used, is first tested using Cronbach's Alpha. The test results showed the reliability for the individual absorptive capacity variable = 0.846, digitalization = 0.842, digital transformation = 0.730, and business performance = 0.886. The four variables have Cronbach's Alpha > 0.7. This result shows that the data obtained is feasible for this research (Chaniago et al., 2023; Hair et al., 2019).

Data obtained from respondents were processed using descriptive statistics (mean test. frequency) and validity tests with the help of SPSS software. Meanwhile, the multiple regression test and model test use the help of AMOS software. There are several basic considerations for using AMOS software: 1. AMOS software can prove causal relationships between several variables at once and test complex models; 2. Able to carry out more in-depth and comprehensive testing suitable for advanced analysis; 3. Visualize the model clearly and easily modify the model if necessary.

The formula for each structural equation from the hypothesis to be tested is as follows:

Partial influence of each variable:

$Y1 = b1X1 + e1$; $Y2 = b2X1 + e2$; $Y3 = b3X1 + e3$; $Y4 = b4X2 + e4$; $Y5 = b5X3 + e5$

Simultaneous influence:

$Y6 = b4X2 + b3X1 + b5X3 + e6$

Notes:

Y1, Y2, Y3, Y4,Y5 = partial influence; Y6 = total simultaneous influence; b1, b2, b3, b4, b5 = Coefficient correlation

X1= Individual absorptive capacity; X2= Digitalization; X3= Digital transformation; Y=Business performance

e1-e6 = epsilon/other factors not studied

The basis for decision-making refers to table 6.

Table 6
Model feasibility test index

Criteria	Cut off value
CMIN/DF	≤2.00
Cr	≤2.58
RMSEA	≤0.08
GFI	≥0.90
AGFI	≥0.90
TLI	≥0.90
CFI	≥0.90

Source: (Hair et al., 2019)

Indicators for measuring each research variable are presented in Table 7.

Table 7
Source of instrumentation

Construct	Source
Individual Absorptive Capacity:	
Identify outside knowledge	Horvat et al. (2019); Lowik et al. (2017)
Recognition for new knowledge	Lowik et al. (2017); Ahmed et al. (2020)
Understanding new knowledge	Ahmed et al. (2020)
Assimilate	Lowik et al. (2017); Horvat et al. (2019)
Modify and convert	Lowik et al. (2017)
Using new knowledge	Ahmed et al. (2020); Knudsen and Schleimer (2020)
Make use of new knowledge	Lowik et al. (2017)
Combining knowledge	Knudsen and Schleimer (2020)
Digitalization:	
Advantages and compatibility	Kwabena et al. (2021)
Speed and reliability.	Calderon-Monge & Ribeiro-Soriano. 2023; Kannan & Li. 2017; Proksch et al.. 2021
Function	Chen et al. (2016)
Digital Transformation:	
Use of email. office software	Galindo-Martín et al. (2019); Vial (2019)
Cellular	Mulyana et al. (2023); Teubner and Stockhinger (2020)
Social media	Galindo-Martín et al. (2019); Arango-Botero et al. (2021); (Chan et al., 2022)

Blog/web	Galindo-Martín et al. (2019); Lee et al. (2018); Mulyana et al. (2023)
Platform dan online business	Anim-Yeboah et al. (2020); Chomiak-Orsa and Liszczyk (2020)
Big data	Hilali et al. (2020); Hopkins (2021); Tagscherer and Carbon (2023)
Business Performance:	
Profit. sales. market share	Adam and Alarifi (2021); Cravo and Piza (2018); Engidaw (2021); Nuryakin et al. (2018); Serapicos et al. (2019)
Company goals	Cravo and Piza (2018); Tronvoll et al. (2020)
Asset & capital increase	Adam and Alarifi (2021); Cravo and Piza (2018); Manríquez et al. (2022)
Perceived business success	Amato et al. (2017)
Social impact	Khan et al. (2021); Manríquez et al. (2022)

Source: Compilation of literature. 2023

Results

The data processing shows that the majority of respondents are male (56.3%), have an average productive age (30 years to 50 years), and have status as a leader (54%). 78% of respondents' education is senior high school, and their monthly sales are around 1,093 USD. The businesses operate in the manufacturing sector (33.5%), retailing (25.7%), and service (7.8%). Most small businesses use eight employees, and during the COVID-19 period, the turnover of 34% of small businesses was declared constant, 43% decreased, and 23% said their turnover increased. Regarding market share 81% of small businesses market their products locally, and only 19% have been able to sell their products nationally. 82% used their funds to fund the company, 11% used loans, and 7% used grants. It means that access to financing for small businesses in Indonesia is still an obstacle. The majority use 2 to 4 types of technology in running their business, such as websites, Instagram, WhatsApp, and Facebook.

In the next step, the data from the questionnaire were analyzed using multiple regression using the AMOS23 software. The results showed that all variables are significant and have value. The calculation results are shown in Figure 2, and the hypotheses test results are presented in Table 8.

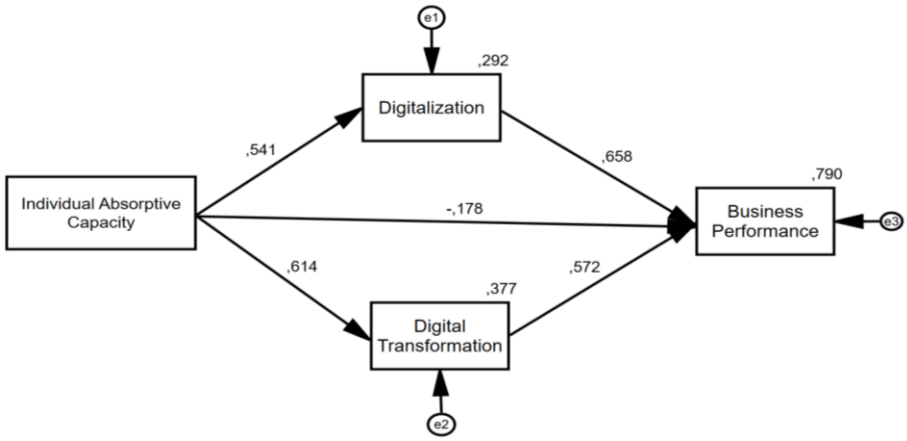

Figure 2. Hypotheses Results
Source: Author's own

Table 8
The result of the hypotheses test

Variables			P	Standardized Total Effects	Squared Multiple Correlations	Notes
Business performance	<--	Digital transformation	***	0.572		Accepted H5
Business performance	<--	Digitalization	***	0.658		Accepted H4
Business performance	<--	Individual absorptive capacity	***	-.178		Accepted H3
Digitalization	<--	Individual absorptive capacity	***	0.541		Accepted H1
Digital transformation	<--	Individual absorptive capacity	***	0.614		Accepted H2
Business performance	<--	Three variables	***		0.790	Accepted H6

***) significance level = 0.000
Source: own computation

Table 8 shows that individual absorptive capacity affects three variables: digitalization, digital transformation, and business performance. The effect of individual absorptive capacity on business performance is -.178. Digitalization and digital transformation have provided evidence to influence business performance positively. The significance level of the total calculation is < 0.05 or below the stipulated provisions of 5%.

This study managed to show evidence to confirm and find the following:

1. Individual absorptive capacity affects digital transformation by 61.4% (Y2), significant at 0.000 or accepts hypothesis H2. The individual absorptive capacity variable has provided evidence of a positive influence on digital transformation.

2. Individual absorptive capacity has provided evidence to positively affect digitalization by 54.1% (Y1), significant at 0.000 or accepting the H1 hypothesis. This means that the individual absorptive capacity variable positively impacts digitalization.

3. Individual absorptive capacity has provided evidence to have a negative effect on business performance; the effect is -17.8% (Y3), significant at 0.000, or rejects the H3 hypothesis. It means that the individual absorptive capacity variable negative impact on business success. This means that individual absorption capacity does not directly benefit business success.

4. The test also provided evidence that digitalization positively affects business performance with a value of 65.8% (Y4), significant at 0.000, or accepts the H4 hypothesis. The conclusion is that digitalization variables have a positive impact on business performance.

5. The next test also found that digital transformation positively affects business performance by 57.2% (Y5), significant at 0.000 or it accepts the H5 hypothesis.

6. This study also found the simultaneous effect of individual absorptive capacity, digitalization, and digital transformation on business performance of 79% (Y6), significant at 0.000 or accept hypothesis H6. The impact is positive and is included in the vital criteria.

This research also provides evidence that digitalization and digital transformation variables can increase business success. Meanwhile, the absorptive capacity variable will have a positive impact on business success, if mediated by digitalization and digital transformation.

To validate the model a multivariate model test was used via AMOS software, the results are presented in Table 9.

Table 9
Model feasibility test index

Criteria	Cut off value	Model Result	Explanation
CMIN/DF	≤2.00	1.416	Good
Cr	≤2.58	1.704	Good
RMSEA	≤0.08	0.021	Good
GFI	≥0.90	0.886	Marginal
AGFI	≥0.90	0.913	Good
TLI	≥0.90	0.930	Good
CFI	≥0.90	0.914	Good

Source: own computation

With a fairly large sample (334 respondents), the test results also show that the model has a very good fit to the data, this is indicated by the Chi-Square value of 1.416 with p = 0.062 (> 0.05), CMIN / DF of 1.416 (< 2.00), and RMSEA obtained at 0.021 (< 0.05). Referring to the information in Table 9 and comparing the values in the "Limit value" column with the "Model results" column, the proposed model based on the existing data is fit and acceptable.

Discussion

In principle, humans are born to study. Since childhood, humans have been accustomed to absorbing science, from walking, communicating, and doing business, including digital technology. This study finds that individual absorptive capacity is helpful for small businesses in carrying out digitalization and transforming them into digital. It also provides evidence that digitalization and digital transformation can improve the performance of small companies, even in difficult times, such as the COVID-19 period. This finding is in line with the research results of Mandviwalla and Flanagan (2021). This study also finds that individual absorptive capacity, digitalization, and digital transformation partially or simultaneously affect the business performance of small businesses, with the level of influence included in the substantial criteria.

This study shows that individual absorptive capacity does not have a direct significant effect on business performance, and even shows a negative effect of -17.8%. This means that individual absorptive does not directly benefit business success. However, when mediated through digitalization and digital transformation, the indirect effect of individual absorptive capacity on business performance becomes very strong and significant (β = 0.790). This indicates that the mediating role of digitalization and digital transformation is very dominant in bridging the influence of individual absorptive capacity on business performance.

A somewhat controversial finding is that individual absorptive capacity partially negatively affects business performance. This study's results prove that individual absorption does not directly benefit business success. The impact is mediated by digitalization and digital transformation. In this case, digitalization and digital transformation are tools to achieve company goals. Theoretically, the findings of this research are in line with the research results presented by Ahmed et al. (2020), Kang and Lee (2017) that "the ability to absorb will encourage the birth of individual and organizational innovation." Meanwhile, innovation will increase business success (Chaniago, 2021). This research also proves that human capital theory remains a central factor in achieving business success.

The results of observations in the research area show that small entrepreneurs (owners and leaders) absorb ideas and activities from source external parties, the Internet, and media social such as product design, brand, logo, product attributes, product processing methods, technology used, market share, and customer service. Education, young age, and sufficient entrepreneurial experience strongly support the ability to assimilate and modify quickly and precisely. Comparing and modifying a product to make it look more attractive and selling it in the local market is an effective strategy for SMEs. Usually, small businesses sell goods they produce in the local market at lower prices. The same findings from Echegoyen et al. (2020) also conclude that small businesses tend to sell their products in the local market. It is one of the tricks and strengths of small businesses to survive and grow to dominate the local market.

Among small entrepreneurs learning from each other has become a practical way to develop with minimal costs. In developing countries like Indonesia, small businesses tend to lack the funds for research and development. Fund problems and the low quality of human resources remain obstacles for small businesses (Maksum et al., 2020). To survive in business small entrepreneurs overcome this obstacle by absorbing science from external parties and modifying it as best they can. Economic motives motivate entrepreneurs to learn from each other and absorb knowledge from similar companies that have been successful.

Observation results found that small businesses tend to imitate products that are easy to sell in the market, have little capital, low at risk, use simple technology, and do not require special skills. According to data, the majority of SMEs sell their products in local markets, and only a few can sell in regional markets. Their average monthly sales are 1,093 USD, and they have an average workforce of eight people. When this research was conducted, Indonesia was hit by COVID-19, and 43% of small entrepreneurs' turnover had decreased. This decline was caused by a decrease in the purchasing power of local consumers, due to various impacts of the COVID-19 problem.

The results of the data analysis illustrate that small entrepreneurs need individual absorptive capacity to implement digitalization and digital transformation in their companies. It's easier for them to imitate other companies. Chaniago (2022) explained that owners who double as leaders could use various innovations to achieve business performance. The speed of change and progress of the company depends on them. Entrepreneurs with absorption power must pay attention to the needs and desires of consumers. Entrepreneurs need to be selective in individual absorptive capacity. The accuracy of choosing which one needs to be exploited is determined mainly by the entrepreneur's level of education and experience.

The explanation above shows that individual absorptive capacity, digitalization, and digital transformation of tools are essential to improve business performance. Focus on individual absorptive capacity occurs as a form of an entrepreneur's strategy to get out of trouble, survive, and develop his

business. The results of data analysis show that individual absorptive capacity through digitalization and digital transformation has a strong influence on improving business performance. This is caused by existing resources' ability to use the latest technology and the company's ability to provide its technology to achieve company targets. This study has identified and presented evidence that individual absorptive capacity, digitalization, and digital transformation are crucial factors for transitioning a business following market demands. In this case, absorptive capacity is an individual's dynamic capacity and will accumulate into the company's dynamic capacity. These factors play a vital role in sustaining business operations and improving the performance of small businesses.

The outcomes of hypothesis testing indicate that all hypotheses, except for hypothesis H3, can be accepted. The findings suggest that hypothesis H3 negatively impacts business performance. This needs to be an important concern for entrepreneurs and be careful when adopting external sources of knowledge. Nevertheless, the positive relation between individual absorptive capacity, digitalization, and digital transformation benefits small entrepreneurs. The progress of small businesses in implementing digitalization such as using superior technology with high work speed and reliability, as well as carrying out digital transformation by integrating various tools such as email, office applications, cell phones, social media, websites/blogs, and online business platforms, has been proven, to improve their performance. Digitalization and digital transformation also make it easier for consumers to get goods directly and communicate with producers. This can be achieved by training employees to update social media, and using it for the company (Ribeiro-Navarrete et al., 2021). This digital technology has cut a reasonably long distribution chain and sped up and increased consumer service accuracy. This finding is similar to the results of a study conducted by Rachinger et al. (2018); Proksch et al. (2021); Ribeiro-Navarrete et al. (2021); Guo et al. (2020), who concluded that digitalization influences business performance.

The success of a business is not only seen from a financial perspective but must also be seen from other perspectives (Engidaw, 2021; Khan et al., 2021), such as the owner's perspective. Owners will feel satisfied when assets increase, capital increases, the perceived success increases, and the social impact is positive. Owners will be satisfied if they can achieve these factors. These factors are now easy to accomplish if they optimally carry out digitalization and digital transformation activities, such as using various service software that is easy for consumers to use (Social media: WhatsApp, IG, TikTok; Software: MS_Word, PDF. email; Gmail, yahoo; Marketplace: Shoppe, Lazada, TokoPedia.…). Small entrepreneurs need individual absorptive capacity to carry out digitalization and digital transformation of company activities. Using individual absorptive capacity will accelerate the achievement of small businesses' digitalization and digital transformation targets. Ignoring individual absorptive capacity is the

same as thwarting digital transformation. For small businesses, digital transformation is the key to business survival (Anim-Yeboah et al., 2020). The failure of digital transformation means the loss of a potential digital market. In this phenomenon, increasing an individual's ability to absorb information is a crucial factor in the digital transformation process, which directly influences the success of small businesses.

Conclusions

Business performance can be influenced by various factors, such as absorptive capacity, digitalization, digital transformation, and others. This study finds that individual absorptive capacity partially positively affects digitalization and digital transformation. Individual absorptive capacity, digitalization, and digital transformation simultaneously affect the performance of small businesses with solid criteria. However, individual absorptive capacity partially has a negative impact on business performance.

Individual absorptive capacity will positively impact performance if mediated by digital technology. This study proves that adopting sciences also requires sound judgment and logic. Each object to be absorbed must align with the company's interests. For small entrepreneurs, it is advisable to steer clear of blindly copying external knowledge without careful consideration. Choose an option that is predicted to be profitable and beneficial for the company.

Limitations and future direction

This research was carried out when COVID-19 hit Indonesia. Many SMEs collapsed then, so data collection was limited for SMEs still operating. When the COVID-19 period is over, the research that has been done needs to be re-confirmed. Avoid combining all business sectors as the object of study; therefore. it is highly recommended that the following researcher analyses only specific sectors and expands the research to several large cities. Another thing to note is that future researchers must continue this research from an employee perspective and add individual innovation variables.

Declaration of competing interest

The authors declare no conflict of interest.

References

Abu-Rumman, A., Shraah, A. A., Al-Madi, F., & Alfalah, T. (2021). Entrepreneurial networks, entrepreneurial orientation, and performance of small and medium enterprises: are dynamic capabilities the missing link? Journal of Innovation and Entrepreneurship, 10(29). https://doi.org/10.1186/s13731-021-00170-8

Adam, N. A., & Alarifi, G. (2021). Innovation practices for survival of small and medium enterprises (SMEs) in the COVID-19 times: the role of external support. Journal of Innovation and Entrepreneurship, 10(15). https://doi.org/10.1186/s13731-021-00156-6

Ahmed, S. S., Guozhu, J., Mubarik, S., Khan, M., & Khan, E. (2020). Intellectual capital and business performance: the role of dimensions of absorptive capacity. Journal of Intellectual Capital, 21(1), 23-39. https://doi.org/10.1108/JIC-11-2018-0199

Aman-Ullah, A., Mehmood, W., Amin, S., & Abbas, Y. A. (2022). Human capital and organizational performance: A moderation study through innovative leadership. Journal of Innovation & Knowledge, 7(4). https://doi.org/10.1016/j.jik.2022.100261

Amato, C., Baron, R. A., Barbieri, B., Bélanger, J. J., & Pierro, A. (2017). Regulatory Modes and Entrepreneurship: The Mediational Role of Alertness in Small Business Success. Journal of Small Business Management, 55(sup1), 27-42. https://doi.org/10.1111/jsbm.12255

Anim-Yeboah, S., Boateng, R., Odoom, R., & Kolog, E. A. (2020). Digital Transformation Process and the Capability and Capacity Implications for Small and Medium Enterprises. International Journal of E-Entrepreneurship and Innovation, 10(2), 26-44. https://doi.org/10.4018/IJEEI.2020070102

Arango-Botero, D., Valencia-Arias, A., Bermúdez-Hernández, J., & Duque-Cano, L. (2021). Factors that promote social media marketing in retail companies. Contaduría y Administración, 66(1), 1-22. https://doi.org/10.22201/fca.24488410e.2021.2475

Baber, W. W., Ojala, A., & Martinez, R. (2019). Effectuation logic in digital business model transformation Insights from Japanese high-tech innovators. Journal of Small Business and Enterprise Development, 26(6/7), 811-830. https://doi.org/10.1108/JSBED-04-2019-0139

Becker, W., & Schmid, O. (2020). The right digital strategy for your business: an empirical analysis of the design and implementation of digital strategies in SMEs and LSEs. Business Research (2020), 13, 985–1005. https://doi.org/10.1007/s40685-020-00124-y

Belleflamme, P., & Toulemond, E. (2016). Negative intra-group externalities in two-sided markets. International Economic Review, 50(1), 245-227.

Bello, A., Jibir, A., & Ahmed, I. (2018). Impact of Small and Medium Scale Enterprises on Economic Growth: Evidence from Nigeria Journal of Economics and Business, 4(1), 236–244.

Bouncken, R. B., Kraus, S., & Roig-Tierno, N. (2019). Knowledge- and innovation-based business models for future growth: digitalized business models and portfolio considerations. Review of Managerial Science, 15, 1-14. https://doi.org/10.1007/s11846-019-00366-z

Boyd, C. (2023). Management Theories | Definition, Branches & Approaches. Retrieved November 10, 2023, from https://study.com/academy/lesson/classical-management-theory-1900-1930-definition.html

BPS_Kota_Bandung. (2021). Indonesia Statistics. Bandung Municipality in Figures 2021 (Kota Bandung Dalam Angka 2021, in Indonesian) Bandung, Indonesia: BPS Kota Bandung Retrieved from https://bandungkota.bps.go.id/publication/2021/02/26/2fb944aeb2c1d3fe5978a741/kota-bandung-dalam-angka-2021.html

Bresciani, S., Ferraris, A., & Del Giudice, M. (2018). The management of organizational ambidexterity through alliances in a new context of analysis: Internet of Things (IoT) smart city projects Technological Forecasting and Social Change, 136(November 2018), 331–338. https://doi.org/10.1016/j.techfore.2017.03.002

Bresciani, S., Huarng, K.-H., Malhotra, A., & Ferraris, A. (2021). Digital transformation as a springboard for product, process and business model innovation. Journal of Business Research, 128(May 2021), 204–210. https://doi.org/10.1016/j.jbusres.2021.02.003

Calderon-Monge, E., & Ribeiro-Soriano, D. (2023). The role of digitalization in business and management: a systematic literature review Review Managerial Science. https://doi.org/10.1007/s11846-023-00647-8

Carroll, N., Hassan, N. R., Junglas, I., Hess, T., & Morgan, L. (2023). Transform or be transformed: the importance of research on managing and sustaining digital transformations. European Journal of Information Systems, 32(3), 347-353. https://doi.org/10.1080/0960085X.2023.2187033

Chan, Y. E., Krishnamurthy, R., & Sadreddin, A. (2022). Digitally-enabled university incubation processes. Technovation, 118, 102560. https://doi.org/10.1016/j.technovation.2022.102560

Chaniago, H. (2020). Investigation of factors influencing traditional retail success in small cities in Indonesia. Journal of Applied Economic Sciences, XV(Spring, 1(67)), 65-75. https://doi.org/10.14505/jaes.v15.1(67).05

Chaniago, H. (2021). The Effect of Small Business Innovation and the Role of Government on the Environment: Evidence from Indonesia. International Journal of Energy Economics and Policy, 11(6), 198--205. https://doi.org/10.32479/ijeep.11808

Chaniago, H. (2022). The effect innovation cloning to small business success: entrepreneurial perspective. Journal of Innovation and Entrepreneurship, 11(52), 1-18. https://doi.org/10.1186/s13731-022-00245-0

Chaniago, H., Muharam, H., & Efawati, Y. (2023). Business Research Methods and Modeling (Metode Riset Bisnis dan Permodelan, in Indonesian) (Y. Efawati, Ed.). Edukasi Riset Digital, PT.

Chaniago, H., Mulyawan, I., Suhaeni, T., & Jumiyani, R. (2019). Key Factors for Success of Modern Retail in Indonesia (Faktor Kunci Keberhasilan Ritel Modern di Indonesia; in Indonesian). Jurnal Akuntansi, Ekonomi dan Manajemen Bisnis, 7(2), 201-208. https://doi.org/10.30871/jaemb.v7i2.1726

Chemma, N. (2021). Disruptive innovation in a dynamic environment: a winning strategy? An illustration through the analysis of the yoghurt industry in Algeria. Journal of Innovation and Entrepreneurship, 10(34). https://doi.org/https://doi.org/10.1186/s13731-021-00150-y

Chen, C.-L., Lin, Y.-C., Chen, W.-H., Chao, C.-F., & Pandia, H. (2021). Role of Government to Enhance Digital Transformation in Small Service Business. Sustainability, 13, 1028. https://doi.org/10.3390/su13031028

Chen, Y.-Y. K., Jaw, Y.-L., & Wu, Y.-H. (2016). Effect of Digital Transformation on Organisational Performance of SMEs: Evidence from the Taiwanese Textile Industry's Web Portal. Internet Research, 26 (1). https://doi.org/10.1108/IntR-12-2013-0265

Chomiak-Orsa, I., & Liszczyk, K. (2020). Digital marketing as a digital revolution in marketing communication. Informatyka Ekonomiczna, 2020(2), 9–19. https://doi.org/10.15611/ie.2020.2.01

Clerck, J. (2017). Digitization, digitalization and digital transformation: the differences. i-SCOOP. Retrieved 23 February 2022 from https://www.i-scoop.eu/digital-transformation/digitization-digitalization-digital-transformation-disruption/

Cravo, T. A., & Piza, C. (2018). The impact of business-support services on firm performance: a meta-analysis. Small Business Economics. https://doi.org/10.1007/s11187-018-0065-x

de Reuver, M., Sørensen, C., & Basole, R. C. (2018). The digital platform: a research agenda. Journal of Information Technology, 33(2), 124-135.

Diebolt, C., & Hippe, R. (2022). Lessons from Human Capital Evolution over the Last 200 Years. In Human Capital and Regional Development in Europe: A Long-Run Comparative View (pp. 117-138). Springer International Publishing. https://doi.org/10.1007/978-3-030-90858-4_6

Doukidis, G., Spinellis, D., & Ebert, C. (2020). Digital Transformation—A Primer for Practitioners. IEEE SOFTWARE, 37, 13-21. https://doi.org/10.1109/MS.2020.2999969

Du, S. (2021). Reimagining the Future of Technology: "The Social Dilemma" Review. Journal of Business Ethics, 177, 213-215. https://doi.org/10.1007/s10551-021-04816-1

Dyckhoff, H., & Souren, R. (2022). Integrating multiple criteria decision analysis and production theory for performance evaluation: Framework and review. European Journal of Operational Research, 297(3), 795-816. https://doi.org/10.1016/j.ejor.2021.05.046

Echegoyen, H. E. G., Coronado, S., & López, A. T. (2020). Marke forces, competitive strategies and small business performance: Evidence from Mexico`s low-income market. Contaduría y Administración 65(1), 1-25. https://doi.org/10.22201/fca.24488410e.2018.2037

Endres, H., Huesig, S., & Pesch, R. (2021). Digital innovation management for entrepreneurial ecosystems: services and functionalities as drivers of innovation management software adoption. Review of Managerial Science, 16, 135-156. https://doi.org/10.1007/s11846-021-00441-4

Engidaw, A. E. (2021). The effect of external factors on industry performance: the case of Lalibela City micro and small enterprises, Ethiopia. Journal of Innovation and Entrepreneurship, 10(10). https://doi.org/10.1186/s13731-021-00147-7

Furjan, M. T., Tomičić-Pupek, K., & Pihir, I. (2020). Understanding Digital Transformation Initiatives: Case Studies Analysis. Business Systems Research, 11(1), 125-141. https://doi.org/10.2478/bsrj-2020-0009

Galindo-Martín, M. A., Casta˜no-Martínez, M. S., & M´endez-Picazo, M. T. (2019). Digital transformation, digital dividends and entrepreneurship: A quantitative analysis. Journal of Business Research, 101(August 2019), 522–527. https://doi.org/10.1016/j.jbusres.2018.12.014

Gallegos, J. F. D. C., & Miralles, F. (2019). Analyzing technological innovation in low and medium-low tech peruvian manufacturing companies. Contaduría y Administración 64(4), 1-22. https://doi.org/10.22201/fca.24488410e.2018.1830

Garzoni, A., De Turi, I., Secundo, G., & Del Vecchio, P. (2020). Fostering digital transformation of SMEs: a four levels approach. Management Decision, Vol. 3, 58, 543-1562. https://doi.org/10.1108/MD-07-2019-0939

Gobble, M. M. (2018). Digital Strategy and Digital Transformation, . Research-Technology Management, 61(5), 66-71. https://doi.org/10.1080/08956308.2018.1495969

Gradillas, M., & Thomas, L. D. W. (2023). Distinguishing Digitization and Digitalization: A Systematic Review and Conceptual Framework. Journal of Product Innovation Management 1–32. https://doi.org/10.1111/jpim.12690

Guenzi, P., & Habel, J. (2020). Mastering the Digital Transformation of Sales. California Management Review. 62(2020), 57–85.

Guo, H., Yang, Z., Huang, R., & Guo, A. (2020). The digitalization and public crisis responses of small and medium enterprises: Implications from a COVID-19 survey. Frontiers of Business Research in China, 14(19), 2-25. https://doi.org/10.1186/s11782-020-00087-1

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). Multivariate Data Analysis (8 ed.). Cengage.

Heavin, C., & Power, D. J. (2018). Challenges for digital transformation – towards a conceptual decision support guide for managers. Journal of Decision Systems, 27(Sup1), 38-45. https://doi.org/10.1080/12460125.2018.1468697

Hilali, W. E., Manouar, A. E., & Idrissi, M. A. J. (2020). Reaching sustainability during a digital transformation: a PLS approach. International Journal of Innovation Science, 12(1), 52-79. https://doi.org/10.1108/IJIS-08-2019-0083

Hinings, B., Gegenhuber, T., & Greenwood, R. (2018). Digital innovation and transformation: An institutional perspective. Information and Organization, 28(1), 52–61.

Hopkins, J. L. (2021). An investigation into emerging industry 4.0 technologies as drivers of supply chain innovation in Australia. Computers in Industry, 125, 103323. https://doi.org/10.1016/j.compind.2020.103323

Horvat, D., Dreher, C., & Som, O. (2019). How Firms Absorb External Knowledge-Modelling and Managing the Absorptive Capacity Process. International Journal of Innovation Management, 23(01), 1950041. https://doi.org/10.1142/s1363919619500415

Ibarra, D., Bigdeli, A. Z., Igartua, J. I., & Ganzarain, J. (2020). Business Model Innovation in Established SMEs: A Configurational Approach. Journal of Open Innovation: Technology, Market and Complexity, 6(76), 1-22. https://doi.org/10.3390/joitmc6030076

Ingram, T., Kraśnicka, T., & Głód, G. (2018). Relationships between familiness, innovation and organizational performance in Polish family businesses. CREATIVITY AND INNOVATION MANAGEMENT, 29(4), 701-718. https://doi.org/10.1111/caim.12407

Kamal, E. M., Lou, E. C. W., Yusof, N. A., & Osmadi, A. (2021). Absorptive capacity of Malaysian SME construction organisations, Architectural Engineering and Design Management. 18(3), 1-12. https://doi.org/10.1080/17452007.2021.1883518

Kang, M., & Lee, M.-J. (2017). Absorptive capacity, knowledge sharing, and innovative behaviour of R&D employees. Technology Analysis & Strategic Management, 29(2), 219-232. https://doi.org/10.1080/09537325.2016.1211265

Kannan, P. K., & Li, H. A. (2017). Digital marketing: A framework, review and research agenda. International Journal of Research in Marketing, 34(1), 22-45. https://doi.org/10.1016/j.ijresmar.2016.11.006

Keenan, M. (2023). What is Organizational Learning Theory? . Retrieved November 10, 2023, from https://www.workramp.com/blog/what-is-organizational-learning-theory/

Khan, R. U., Salamzadeh, Y., Shah, S. Z. A., & Hussain, M. (2021). Factors affecting women entrepreneurs' success: a study of small- and mediumsized enterprises in emerging market of Pakistan. Journal of Innovation and Entrepreneurship, 10(11). https://doi.org/10.1186/s13731-021-00145-9

Kim, S.-H., Kim, Y.-K., & Choi, S.-H. (2017). A Study on the Effects of Small Enterprise Start-up Preparatory Factorson Business Performance. International Journal of Industrial Distribution & Business 8(5), 23-33.

Kliestik, T., Sedlackova, A. N., Bugaj, M., & Novak, A. (2022). Stability of profits and earnings management in the transport sector of Visegrad countries. Oeconomia Copernicana, 13(2), 475–509. https://doi.org/10.24136/oc.2022.015

Knoppen, D., Saris, W., & Moncagatta, P. (2022). Absorptive capacity dimensions and the measurement of cumulativeness. Journal of Business Research. Volume 139(February 2022), 312-324. https://doi.org/10.1016/j.jbusres.2021.09.065

KnowledgeHut. (2023). Motivation Theories. https://www.knowledgehut.com/tutorials/project-management/motivation-theories

Knudsen, M. P., & Schleimer, S. (2020). The role of prevailing individual absorptive capacity versus absorptive capacity development for different innovation outcomes. Knowledge Management Research & Practice, 20(5), 704-718. https://doi.org/10.1080/14778238.2020.1787801

Kotarba, M. (2017). Measuring Digitalization – Key Metrics. Foundations of Management, 9(1), 123-138. https://doi.org/doi:10.1515/fman-2017-0010

Küfeoğlu, S. (2022). Innovation, Value Creation and Impact Assessment. Springer.

Kwabena, G.-Y., Mei, Q., Ghumro, T. H., Li, W., & Erusalkina, D. (2021). Effects of a Technological-Organizational-Environmental Factor on the Adoption of the Mobile Payment System. Journal of Asian Finance, Economics and Business, 8(2), 329–338. https://doi.org/10.13106/JAFEB.2021.VOL8.NO2.0329

Lee, C.-S., Kim, Y.-K., & Kim, S.-H. (2018). A Study on the Support Policy for Digital Transformation of Small Businesses Journal of Distribution Science 16(2), 89-99. https://doi.org/10.15722/jds.16.2.201802.89

Liu, K., Nakata, K., Li, W., & Baranauskas, C. (2018, December 19, 2018). Digitalisation Innovation and Transformation. 18th IFIP WG, . 18th IFIP WG 8.1 International Conference on Informatics and Semiotics in Organisations, ICISO 2018 and Communication Technology, UK.

Lowik, S., Kraaijenbrink, J., & Groen, A. J. (2017). Antecedents and effects of individual absorptive capacity: a micro-foundational perspective on open innovation. Journal of Knowledge Management, 21(6). https://doi.org/10.1108/JKM-09-2016-0410

Magnusson, J., Elliot, V., & Hagberg, J. (2021). Digital transformation: why companies resist what they need for sustained performance. Journal of Business Strategy, Vol. ahead-of-print No. ahead-of-print. . https://doi.org/10.1108/JBS-02-2021-0018

Mahmood, T., & Mubarik, M. S. (2020). Balancing innovation and exploitation in the fourth industrial revolution: Role of intellectual capital and technology absorptive capacity. Technological Forecasting and Social Change, 160(Nov. 2020). https://doi.org/10.1016/j.techfore.2020.120248

Maksum, I. R., Rahayu, A. Y., & Kusumawardhani, D. (2020). A Social Enterprise Approach to Empowering Micro, Small and Medium Enterprises (SMEs) in Indonesia. Journal of Open Innovation: Technology, Market and Complexity, 6(50), 1-17. https://doi.org/10.3390/joitmc6030050

Mandviwalla, M., & Flanagan, R. (2021). Small business digital transformation in the context of the pandemic European Journal of Information Systems, 30(4), 359-375. https://doi.org/10.1080/0960085X.2021.1891004

Manríquez, M. R., Rendón, L. P., Rama, M. d. l. C. d. R., & Fernández, M. D. S. (2022). Entrepreneurship and technological innovation: The micro-entrepreneur in Mexico. Contaduría y Administración, 67(3), 54-84. https://doi.org/10.22201/fca.24488410e.2022.4561

Müller, J. M., Buliga, O., & Voigt, K.-I. (2021). The role of absorptive capacity and innovation strategy in the design of industry 4.0 business Models-A comparison between SMEs and large enterprises. European Management Journal, 49(3), 333-343. https://doi.org/10.1016/j.emj.2020.01.002

Mulyana, M., Nurhayati, T., & Putri, E. R. P. (2023). Improvement of marketing performance: Role of market sensing, digital marketing, and value creation ambidexterity. Contaduría y Administración, 69(2), 235-259. https://doi.org/10.22201/fca.24488410e.2024.5017

Muscio, A. (2017). The Impact of Absorptive Capacity on SMEs' Collaboration. Economics of Innovation and New Technology, 16(8), 653-668. https://doi.org/10.1080/10438590600983994

Nambisan, S., Lyytinen, K., Majchrzak, A., & Song, M. (2017). Digital innovation management: reinventing innovation management research in a digital world. MIS Quarterly, 41(1), 223-238.

Nuryakin, Aryanto, V. D. W., & Setiawan, M. B. (2018). Mediating effect of value creation in the relationship between relational capabilities on business performance. Contaduría y Administración 63(1), 1-21. https://doi.org/10.22201/fca.24488410e.2018.1178

OECD. (2017). The Digital Transformation of SMEs. OECD.

Paredesa, S. S., Mozoa, V. N., Suárezb, J. C., & Cortésa, C. H. (2018). Comparative study of innovation factors in the small and medium-sized textile manufacturing enterprise. Contaduría y Administración 63(3), 1-24. https://doi.org/10.22201/fca.24488410e.2018.1268

Parida, V., Sj¨odin, D., & Reim, W. (2019). Reviewing literature on digitalization, business model innovation, and sustainable industry: Past achievements and future promises. Sustainability, 11(2), 391. https://doi.org/10.3390/su11020391

Proksch, D., Rosin, A. F., Stubner, S., & Pinkwart, A. (2021). The influence of a digital strategy on the digitalization of new ventures: The mediating effect of digital capabilities and a digital culture. Journal of Small Business Management, 59. https://doi.org/10.1080/00472778.2021.1883036

Quintero-Quintero, W., Blanco-Ariza, A. B., & Garzón-Castrillón, M. A. (2021). Intellectual Capital: A Review and Bibliometric Analysis. 9(46), 1-23. https://doi.org/10.3390/publications9040046

Rachinger, M., Rauter, R., Müller, C., Vorraber, W., & Schirgi, E. (2018). Digitalization and its influence on business model innovation Journal of Manufacturing Technology Management, 30(8), 1143–1160. https://doi.org/10.1108/JMTM-01-2018-0020

Ribeiro-Navarrete, S., Botella-Carrubi, D., Palacios-Marqu´es, D., & Orero-Blat, M. (2021). The effect of digitalization on business performance: An applied study of KIBS. Journal of Business Research, 126(March 2021), 319-326. https://doi.org/10.1016/j.jbusres.2020.12.065

Sancho-Zamora, R., Gutiérrez-Broncano, S., Hernández-Perlines, F., & Peña-García, I. (2021). A Multidimensional Study of Absorptive Capacity and Innovation Capacity and Their Impact on Business Performance. Frontiers in Psychology, 12(75). https://doi.org/10.3389/fpsyg.2021.751997

Schallmo, D., Williams, S. A., & Boardman, L. (2017). Digital Transformation Of Business Models – Best Practise, Enablers, and Roadmap. International Journal of Innovation Management, 21(8), 1-17. https://doi.org/10.1142/S136391961740014X

Scott, S., Hughes, P., Hodgkinson, I., & Kraus, S. (2019). Technology adoption factors in the digitization of popular culture: Analyzing the online gambling market. Technological Forecasting and Social Change, 148. https://doi.org/10.1016/j.techfore.2019.119717

Serapicos, A. J. C., Leite, J. M., & Fernandes, P. O. (2019). Agency theory approach of the relationship between performance, compensation and value creation in the companies listed on Euronext Lisbon. Contaduría y Administración 64(3), 1-19. https://doi.org/10.22201/fca.24488410e.2018.1693

Serna, M. d. C. M., Martínez, J. E. V., & Domenech, V. E. (2018). The influence of organizational commitment and learning orientation on innovation in SMEs. Contaduría y Administración 63(3), 1-19. https://doi.org/10.22201/fca.24488410e.2018.1411

Shah, S. Z. a., & Ahmad, M. (2019). Entrepreneurial orientation and performance of small and medium-sized enterprises: Mediating effects of differentiation strategy. Competitiveness Review, 29(5), 551–572. https://doi.org/10.1108/CR-06-2018-0038

Srhoj, S., Lapinski, M., & Walde, J. (2020). Impact evaluation of business development grants on SME performance. Small Business Economics. https://doi.org/10.1007/s11187-020-00348-6

Sturgeon, T. J. (2019). Upgrading strategies for the digital economy. Global Strategy Journal, 11(7), 34-57. https://doi.org/10.1002/gsj.1364

Sugiyono. (2021). Qualitative Quantitative Research Methods and R & D (Metode Penelitian Kuantitatif Kualitatif dan R & D; in Indonesia). Alfabeta.

Susanto, A., & Meiryani. (2019). Antecedents of Environmental Management Accounting and Environmental Performance: Evidence from Indonesian Small and Medium Enterprises. International Journal of Energy Economics and Policy, 9(6), 401-407.

Tagscherer, F., & Carbon, C.-C. (2023). Leadership for successful digitalization: A literature review oncompanies' internal and external aspects of digitalization. Sustainable Technology and Entrepreneurship, 2(2). https://doi.org/10.1016/j.stae.2023.100039

Tarver, E. (2023). What Is a Balanced Scorecard (BSC), How Is It Used in Business? Retrieved November 10, 2023, from https://www.investopedia.com/terms/b/balancedscorecard.asp

Teubner, R. A., & Stockhinger, J. (2020). Literature review: Understanding information systems strategy in the digital age. The Journal of Strategic Information Systems, 29(4), 101642. https://doi.org/10.1016/j.jsis.2020.101642

Tronvoll, B., Sklyar, A., Sörhammar, D., & Kowalkowski, C. (2020). Transformational shifts through digital servitization. Industrial Marketing Management, 89(2020), 293–305. https://doi.org/https://doi.org/10.1016/j.indmarman.2020.02.005

UU_No_20, U. N. (2008). Law No. 20 of 2008 concerning Micro, Small and Medium Enterprises (Undang-Undang No. 20 tahun 2008 tentang Usaha Mikro, Kecil dan Menengah. in Indonesian). Jakarta: Indonesian Government

Vial, G. (2019). Understanding digital transformation: A review and a research agenda. The Journal of Strategic Information Systems, 28(2), 118-144. https://doi.org/10.1016/j.jsis.2019.01.003

Wang, F. (2020). Digital marketing capabilities in international firms: a relational perspective. International Marketing Review, 37(3), 559–577. https://doi.org/10.1108/IMR-04-2018-0128

Warner, K. S., & Wäger, M. (2019). Building dynamic capabilities for digital transformation: An ongoing process of strategic renewal. . Long Range Planning 52(3), 326–349.

Wirajing, M. A. K., Nchofoung, T. N., & Etape, F. M. (2023). Revisiting the human capital–economic growth nexus in Africa. SN Business & Economics, 3(7), 115. https://doi.org/10.1007/s43546-023-00494-5

Zhao, S., Jiang, Y., & Hong, X. P. J. (2021). Knowledge sharing direction and innovation performance in organizations: Do absorptive capacity and individual creativity matter? European Journal of Innovation Management, 24(2), 371-394. https://doi.org/10.1108/EJIM-09-2019-0244

Zouari, G., & Abdelhedi, M. (2021). Customer satisfaction in the digital era: evidence from Islamic banking. Journal of Innovation and Entrepreneurship, 10(9), 1-18. https://doi.org/10.1186/s13731-021-00151-x