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BARRIERS TO DIGITAL PLATFORM BUSINESS ADOPTION: A SYSTEMATIC LITERATURE REVIEW

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Abstract:

The digital revolution is rapidly reshaping global business operations and environments, with digital platform business models emerging as a powerful force for promoting innovation and economic interaction in this changing ecosystem. However, Malaysia's industrial sector displays a complex situation in which certain industries demonstrate a slower adoption rate, and this phenomenon varies across different industries. This study is thus conducted to examine the barriers to adopting the digital platform business model and recommend appropriate actions to policymakers. To achieve this objective, a Systematic Literature Review (SLR) was conducted that analyses and synthesizes the existing studies relevant to the issue investigated. Three categories of barriers emerged from the SLR: personal, technological, and organizational. This study provides insights for overcoming adoption barriers and enhancing understanding of digital platform business acceptance. The implications highlight the need for user-centric digital platform design and industry-specific adoption strategies, emphasizing technology simplification and alignment with industry norms.

Keywords:

Diffusion of Innovation, Digital Platform Business, Barriers, Technology Adoption, Literature Review

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Introduction

Digital platform businesses have revolutionized traditional business processes by enabling seamless interactions between producers and consumers (Rösch & Baccarella, 2022; Van Alstyne & Parker, 2017), reshaping the dynamics of value creation and delivery (Banerjee & Majumdar, 2020; Petrova et al., 2022; Trabucchi et al., 2021). Worldwide, the adoption of digital platform business has been encouraging. For example, in Germany, approximately 35% of the top 20 revenue-generating companies in industrial machinery, plant engineering, agriculture, agrochemicals, healthcare, and life sciences sectors have adopted digital platform models (Ziegler, 2022). It has been forecasted that over 30% of the global economy will be based on digital platforms (Schallmo & Hasler, 2021).

Digital platform businesses are characterized by their ability to facilitate interactions between multiple participants, such as buyers, sellers, and service providers. These interactions can range from short-term transactions (such as buying and selling activities) to long-term collaborations. Platforms themselves do not typically produce goods or services but rather create and facilitate connections among users, generating value through network effects (Mogno & Nuccio, 2023; Zhang & Ye, 2023). Although the impact of digital platforms business is significant, their adoption varies significantly across Malaysian's industrial sectors and presents a complex picture, influenced by barriers such as infrastructure gaps, regulatory challenges, and sector-specific factors (MDEC, 2022; Brecht et al., 2021; Yee, 2019). Other challenges include a lack of digital skills, limited access to financing, and cybersecurity concerns (Malaysia Digital Economy Blueprint, 2021).

In 2022, MDEC launched the National Business Digital Adoption Index (BDAI) to measure the rate of digital adoption within Malaysia's business sector. The findings show that larger companies tend to have more advanced digital capabilities, mostly because they have invested more and have bigger budgets. Looking at different industries, manufacturing and services leading in digital technology adoption across all sectors in Malaysia. However, the gap between these industries and others is not very large, as no single industry dominates. These two sectors are slightly ahead in using digital tools, processes, and data, mainly due to the growing adoption of automation and digital platforms in their operations. Encouragingly, four out of every five businesses also leverage some form of automation in their business operations, although the agriculture industry continues to show the lowest rate of automation. Based on the location, companies in the central part of Malaysia are doing better than others, with strong performance in digital investments, enablers, and technology. Businesses in this region also have a slight advantage in using business applications and modernized processes. On the other hand, the East Coast Peninsular is lagging, facing challenges with lower adoption of technology. Whereas, in terms of skills and talent, only 9% of Malaysian businesses have rolled out company-wide digital training, which points to a significant opportunity for improvement.

Therefore, understanding the factors that cause divergence in digital platform business adoption rates is crucial for enabling effective digitalization strategies in Malaysia. Considering the complex barriers to digital platform adoption in Malaysia, this study aims to deepen understanding by identifying the key barriers to digital platform business adoption faced by companies, drawing insights from previous research.

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To achieve this objective, we have conducted a Systematic Literature Review (SLR), which enables a thorough, unbiased identification, evaluation, and synthesis of existing studies (Adams et al., 2017; Williams et al., 2021) on digital platform business adoption across various industries. Thus, our study also establishes a foundation for future research into digital platform adoption, providing valuable insights for overcoming barriers in the Malaysian context. Consequently, the next section explores the foundations of this research, specifically the Diffusion of Innovation (DOI) theory. It explores its relevance to understanding the factors that influence the adoption of digital platform businesses within the Malaysian context.

Theoretical Foundations

Adoption is recognized when an actor (individual or organization) does something differently than they had previously since the actor believes the idea, behavior, or product is new or innovative (Kang & Ramizo, 2022). However, the adoption of innovation does not happen simultaneously within the community or social systems. Instead, some social system members are usually more apt to adopt the innovation than others (Salimon et al., 2023). Over time, innovation gains momentum and spreads (diffuses) through a specific community. This Diffusion of Innovation (DOI) is explained by the DOI theory (Rogers, 1962), one of the oldest social science theories. For this study, we analyzed DOI to identify the progression and significant elements of innovation adoption that could have influenced the adoption of digital platform business models by organizations.

DOI theory (Rogers, 1962) identifies five main factors that influence the adoption of innovation. These factors include relative advantage, compatibility, complexity, trialability, and observability. First, relative advantage refers to the extent to which an innovation is perceived as better than the existing idea, process, or product. Second, compatibility refers to the consistency of innovation with the values, needs, and environment of the potential adopters. Third, the complexity of the innovation determines the difficulty in adopting it. Fourth is trialability, or the extent to which the innovation can be tried before adoption is committed. Fifth, the observability of the results from the innovation adoption. Since digital platform business models are not new, we posit that organizations have been able to observe the relative advantages and assess the compatibility of these models with their existing systems and the complexity of adoption. Additionally, certain digital platform providers also provide their services on a trial basis, allowing organizations to experiment with the digital platform before full adoption. Out of the five factors, we posited that the complexity of adoption could be the main digital platform business model adoption barrier among organizations. As organizations develop processes and procedures that match the existing support technology, adopting new technology will require new investment and changes to the existing processes and procedures. Innovations that require more adjustments result in higher implementation costs and are more difficult to integrate, making innovation-system fit either a barrier or enabler of platform business model adoption.

As Rogers (1962) described, the innovation-decision process involves five stages: knowledge, persuasion, decision, implementation, and confirmation. At the knowledge stage, the actor becomes aware of the innovation and develops an understanding. During the persuasion stage, the actor develops an attitude towards the innovation, a belief that the innovation is either beneficial or not for his use. At this phase, the relative advantage of the innovation plays a vital role. Correspondingly, positive persuasion will evolve to the decision stage, where the actor decides whether to adopt the innovation. In particular, the actor may try out the innovation or

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observe the experience of others. The actor also may form an opinion about the difficulty of adopting the innovation prior to making the decision. Hence, complexity, trialability, and observability are in the decision stage. Furthermore, the implementation stage occurs after the actor adopts the innovation. At this stage, the actor starts using the innovation, continues learning about it, and overcomes problems. The final stage is confirmation, where the actor reinforces their decision based on collected information. Adoption may be abandoned if a negative confirmation occurs. Subsequently, actors who decide whether to adopt or reject an innovation tend to exchange information with members of their social community (MacVough & Schiavone, 2010), contributing to either innovation diffusion or impediment. However, for organizations to abandon an innovation that they have adopted is costly. Prior to making the decision, organizations would have entirely tested the innovation and learned about its utilization. The more complex an innovation is, the longer it takes for an organization to come to the decision stage. Again, the issue of complexity is of significant consideration and may pose the main adoption barrier.

The DOI theory can be applied to support the adoption of innovation in various fields, including communication, agriculture, and public health, by understanding target social groups and the factors influencing their adoption rates (Dearing & Cox, 2018; Hasselwander et al., 2022; Sayginer & Ercan, 2020). Specific characteristics of the actors determine the adoption rate, which can either help or hinder innovation. The actors were classified into three main groups: (i) innovators, (ii) early adopters, (iii) late majority, and (iv) laggards (LaMorte, 2022). Innovators are risk-takers and tend to be the first to develop and engage in new ideas. In particular, early adopters are leaders who are aware of the need to change, openly embrace opportunities for change, and are comfortable with adopting innovations. Note that the early majority are seldom leaders, and they need to see evidence of success prior to adoption. In contrast, late majorities are sceptical of change and will only adopt an innovation after witnessing its adoption by the majority. Meanwhile, laggards are very conservative and often bound by tradition, making them the last to adopt an innovation, mainly since they have no other option.

Innovation adoption by organizations is far more complex than adoption by individual actors since organizations comprise their members and their processes, procedures, norms, and the external environment in which they operate (Greenhalgh et al., 2004). The innovation adoption rates of organizations are determined by tension for change, innovation-system fit, and assessment of implications. Note that tension for change can exist within the environment where organizations operate. The adoption of the digital platform business model by suppliers and/or customers creates tension for organizations within the supply chain to adopt the digital platform business model to ensure seamless transactions and avoid a break in the chain (Mini & Widjaja, 2019). This tension for change motivates organizations to adopt innovation (Arias-Pérez et al., 2023).

Additionally, the external environment, such as the industry, community, or economy, also creates tension in organizations' adoption of innovation (Lukianenko & Nyameshchuk, 2020; Shapovalov, 2023). We thus posited that more traditional industries face less tension for change as the whole supply chain operates in an environment that is less dependent on technological innovation. Five industries have been found to plateau in terms of technological innovation, specifically (i) technology, (ii) banking, finance, and insurance, (iii) auto and mobility, (iv) utilities, as well as (v) pharma (Salleh et al., 2023).

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However, while the DOI theory provides a valuable framework for understanding innovation adoption, its application to digital platform business adoption requires caution. Lyytinen and Damsgaard (2001) have outlined the basic foundations of DOI theory that need careful improvement in the context of networked technologies. Firstly, the theory does not adequately explain collective adoption behaviors. For digital platform business to be successful, collective adoption by all resource providers is necessary. Hence, factors such as the nature of technology, institutional and industrial policies and strategies, and learning inertia should be properly analyzed when adopting the digital platform business. Accordingly, the authors recommended considering issues when analyzing complex networked technologies. In particular, three are relevant to digital platform businesses: understanding the role of market-making and institutional structures, critical processes and all key players, and mappings of factors between different layers and locales. However, the theory does not consider an actor's resources or support (LaMorte, 2022). Furthermore, DOI theory traditionally focuses on the innovation itself, often neglecting the broader organizational and environmental factors that influence adoption (Almaiah et al., 2022; Sayginer & Ercan, 2020). Elements that are ignored by DOI include cultural resistance (Khattak, 2022) and competitive landscape (Li et al., 2021). Hiran and Henten (2020) and Pateli et al. (2020) recommended that extending DOI to include these factors could provide a more nuanced understanding of digital platform business adoption.

Based on the preceding discussion, it is concluded that organizations' adoption of digital platform businesses is less straightforward. Barriers could be in the form of the existing technology supporting the organization, the type of industry, and factors not addressed in DOI theory. These factors include governing policies, learning inertia, culture, and the competitive landscape. Hence, the SLR was conducted with the specific aim of examining whether past literature has addressed these factors in the investigation of platform business adoption.

Materials And Methods

Four distinct processes comprise the systematic review process: identification, screening, eligibility, and inclusion (Paul & Criado, 2020; Williams et al., 2021). The initial stage of the process entails identifying keywords and determining analogous phrases by utilizing various resources such as thesaurus, dictionaries, and encyclopedias. Meanwhile, the screening phase assesses the appropriateness of publications, whereas the third phase, eligibility, entails evaluating the selected articles for suitability. Finally, in the inclusion phase, data extraction and analysis are conducted in the fourth phase. The technique for selecting articles in this study is depicted in Figure 1.

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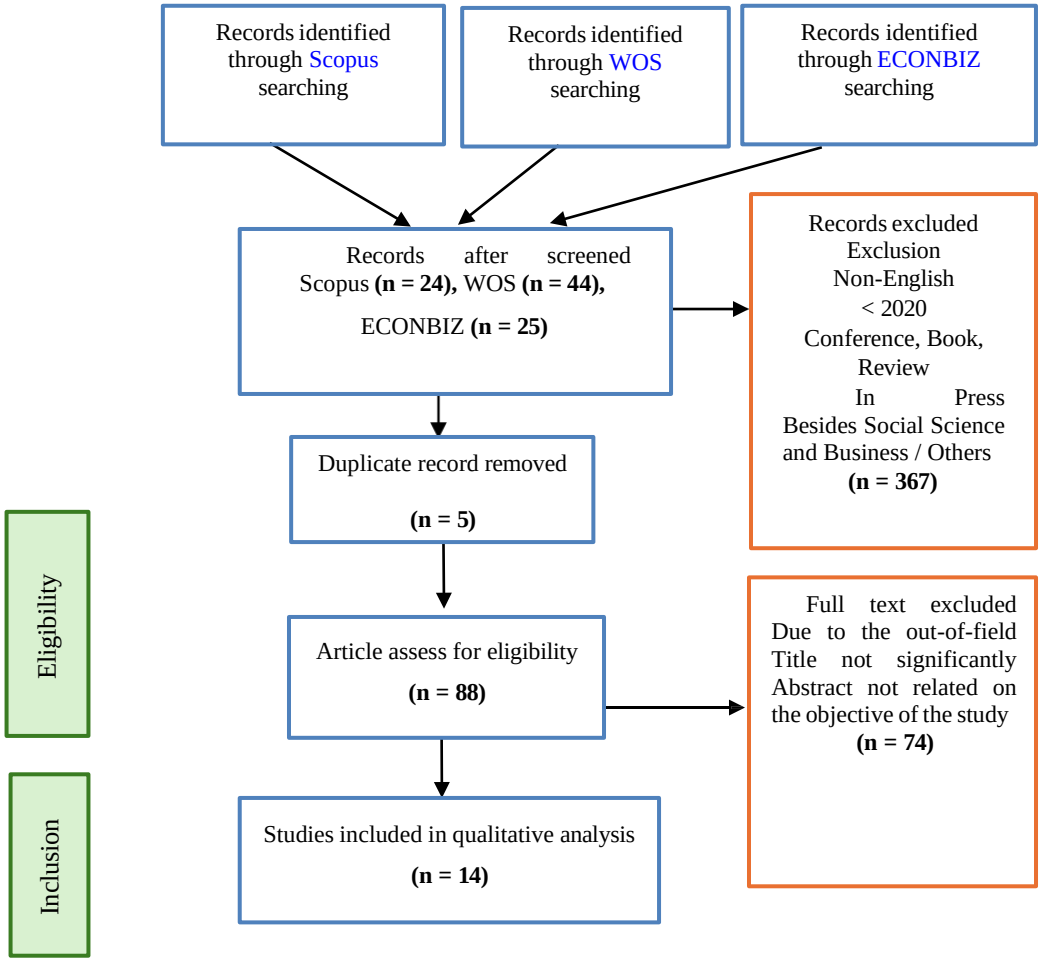

Figure 1. Flow Diagram Of The Research Study.

Source: Moher et al. (2009).

Identification

Three primary research databases have been selected: Scopus, Web of Science (WOS), and ECONBIZ. These databases were chosen due to their comprehensive coverage of high-quality academic literature and relevance to the field of digital platform adoption. Following the rules outlined in Table 1, search strings were constructed for each database after identifying all relevant phrases and keywords. The search process was confined within the time frame of 2020 to 2024 to determine barriers that still exist despite the advancement of technology and knowledge among the players. It was expected that COVID-19 would instigate new findings related to platform business. At this phase, a total of 367 published papers were successfully obtained. These papers were selected based on predefined inclusion criteria (Table 2) and the relevance of keywords related to digital platform adoption, as detailed in Table 1. The systematic approach ensured that the selected articles aligned with the study's objectives and contributed to a comprehensive understanding of the barriers to adopting digital platform business models.

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Table 1. The Search String.

SCOPUS	TITLE-ABS-KEY ("Platform Business" OR "Digital Platform" AND "Adoption" OR "Acceptance" AND "Barriers" OR "Challenges") AND (LIMIT-TO (EXACTKEYWORD, "Digital Platforms") OR LIMIT-TO (EXACTKEYWORD, "Digital Platforms") OR LIMIT-TO (EXACTKEYWORD, "Digital Transformation") OR LIMIT-TO (EXACTKEYWORD, "Technology Adoption")) AND (LIMIT-TO (DOCTYPE, "ar")) AND (LIMIT-TO (LANGUAGE, "English")) AND (LIMIT-TO (PUBYEAR, 2020) OR LIMIT-TO (PUBYEAR, 2021) OR LIMIT-TO (PUBYEAR, 2022) OR LIMIT-TO (PUBYEAR, 2023) OR LIMIT-TO (PUBYEAR, 2024)) AND (LIMIT-TO (SUBJAREA, "BUSI") OR LIMIT-TO (SUBJAREA, "SOCI")).
WOS	"Platform Business" OR "Digital Platform" AND "Adoption" OR "Acceptance" (All Fields) and Review Article (Document Types) and 2020 or 2021 or 2022 or 2023 or 2024 (Publication Years) and Hospitality Leisure Sport Tourism or Business or Social Sciences Interdisciplinary or Business Finance or Computer Science Artificial Intelligence (Web of Science Categories) and English (Languages) and All Open Access (Open Access) and Review Article (Document Types).
ECONBIZ	"Platform Business" OR "Digital Platform" AND "Adoption" OR "Acceptance".

Screening

This study employed two screening methods that determine article eligibility (Adams et al., 2017; Liberati et al., 2009). Table 1 presents how the search string was used to screen the articles. This selection procedure included just 2020-2024 scholarly papers with empirical study findings. Additionally, we have taken steps to ensure that the publications used in our study are in English and related to business and social sciences. According to the criteria, 274 items that did not meet the standards were excluded. The next step was to evaluate 93 publications using specific exclusion and inclusion criteria listed in Table 2. This study also utilized scholarly literature, particularly research articles, for guidance. However, the research did not include reviews, meta-synthesis, meta-analyses, volumes, book series, chapters, and conference proceedings. Note that the analysis rejected five additional documents due to duplication.

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Table 2. Inclusion and Exclusion Criteria.

Criterion	Inclusion	Exclusion
Language	English	Non-English
Timeline	Between 2020–2024	< 2019
Literature type	Journal (Article)	Book, Review
Publication Stage	Final	In Press
Subject Area	Social Science and Business	Others

Eligibility

After the screening procedure, 88 articles were discovered to be in the third stage, commonly known as eligibility. At this step, a thorough analysis was conducted, emphasizing the specific information in the article. An analysis was conducted on the publications' titles and abstracts and aims to verify their pertinence to this study's objectives and field of study. As a result, 74 publications were excluded from subsequent analysis, leaving only 14 studies that met the criteria for review (Figure 1).

Data Extraction And Analysis

In the context of research articles, the process of data extraction and analysis involves the identification of pertinent topics and sub-themes. The extraction process began with a thorough review of the selected 14 articles, as displayed in Figure 1, during which pertinent topics and sub-themes relevant to digital platform adoption barriers were identified. This included reviewing abstracts, introductions, and discussion sections to pinpoint statements or findings directly related to the research objectives. Once relevant data were identified, predefined themes and sub-themes based on the research objective. This facilitated the identification of trends, patterns, and recurring themes across the selected articles.

Results And Discussion

Existing studies are more focused on determining factors that encourage the use of platforms among consumers. Meanwhile, empirical studies that examine barriers to platform business adoption are minimal, especially adoption by organizations, indicating a void in the current studies. Based on the scant literature published post-COVID-19, it could be deduced that barriers to platform business adoption can be categorized into three main groups. First, personal barriers or factors within the consumers can prevent or discourage them from using digital platforms to conduct their transactions. Second, technological barriers exist due to limitations in the design and technology supporting the platforms. Moreover, the third factor is organizational barriers that prevent platform business adoption among organizations.

Personal Barriers

Personal barriers prevent consumers or end users from utilizing platforms to achieve their objectives. Table 3 summarizes these barriers. Five studies have identified characteristics of individual users that significantly influence their intention or decision to transact in a business platform. The first factor relates to users' attitudes and perceptions that impede their intention to transact in a platform environment. Accordingly, three dimensions are grouped under this factor: risk aversion/avoidance, perceived risk, and perceived security and trust. Note that highly risk-averse users or those perceiving high risks associated with platform business have less intention to use business platforms (Lim et al., 2023; Reith et al., 2020; Zhang & Srite,

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2021). Thus, using business platforms to conduct business is not risk-free. Risks of data breaches, fraudulent transactions, and financial loss are usually present in many platform business transactions. Notably, these possibilities are regarded very seriously among those with strong risk aversion. In addition, perceived security and trust in the platform are closely related to the risk element. This element is recognized in Reith et al. (2020), Tilahun et al. (2023), and Zhang and Srite (2021). Specifically, the security of platforms is among the most emphasized by many authors. Correspondingly, we posited that security measures enhance trust towards the platforms and mediate the relationship between attitude towards risk and intention to adopt platform business among consumers and end users. The second personal barrier is effort expectancy, or users' perceptions of the ease or difficulties of using a technology (Reith et al., 2020; Lim et al., 2023; Al-Abdullatif & Alsubaie, 2022). Users who view platforms as challenging are less likely to adopt platform businesses to conduct transactions. Certainly, effort expectancy depends on multiple factors, such as users' knowledge and experience in using platforms, as well as platform-related factors, such as user interface and the availability of user support.

On the other hand, the third personal barrier is norms and lifestyle. Subjective norms, or a user's perception of social expectations when adopting a platform business, form the fourth barrier. This element is determined in Tilahun et al. (2023) and Lim et al. (2023). According to the Theory of Planned Behavior (Ajzen, 1991), the subjective norm is influenced by an individual's normative beliefs fused with the individual's motivation to comply. The norms surrounding a user significantly influence whether the user will or will not use the platform to conduct transactions. Hence, subjective norms become a barrier, especially for new technology adoption, as users lack experience and are wary about the technology.

We identified three other lifestyle-related factors from the literature: motivation, habit, and collectivist culture, as evidenced by Al-Abdullatif and Alsubaie (2022) and Zhang and Srite (2021). A platform business that does not meet the lifestyle factor of its targeted users is less likely to be adopted. This barrier can only be understood by thoroughly understanding the users' lifestyles and preferences.

Technology Barriers

Studies that examine technological factors post-COVID-19 are scarce. Four studies, as provided in Table 4, have examined technology matters related to platform business, and these are conducted considering the personal barriers. Two factors are classified under technology barriers, namely usability and performance. Meanwhile, the usability factor comprises six elements, including ease of use, usefulness, reciprocity, suitability, and website design (Khan et al., 2023; Tilahun et al., 2023; Reith et al., 2020). At the same time, usability refers to the extent to which a user uses a platform to achieve his/her goals satisfactorily.

Business platforms that do not meet users' needs in terms of these elements are less likely to be adopted by the users. It could be deduced from these studies that platforms that are complicated in design and interface, have limited functions, lack reciprocity, and offer unsuitable products/services are less desirable to the users. Moreover, the functions of platforms can be limited due to the restricted number and roles of players in the platform itself, causing the platform's failure to offer what users need.

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The second technological barrier is performance-related, or how well a platform satisfies the needs of users. Based on past literature, performance goes beyond fulfilling users' needs. It also extends to the value received from the platforms. That is, platforms that fail to meet the performance expectancy of the users and lack price value and quality are less likely to be adopted by the users. Despite that, the quality element has not been adequately examined in past studies, making it an area that needs further study.

Table 4. Technology Barriers

Dimensions	Sources
Ease of use	Khan et al. (2023); Tilahun et al. (2023)
Usefulness	Khan et al. (2023); Tilahun et al. (2023)
Reciprocity	Khan et al. (2023)
Suitability	Reith et al. (2020)
Website design	Tilahun et al. (2023)
Performance expectancy	Reith et al. (2020)
Price value	Al-Abdullatif & Alsubaie (2022)
Perceived quality	Wąsowicz-Zaborek (2022)
Transaction quality	Wąsowicz-Zaborek (2022)

Organizational Barriers

Many past studies examining organizations' adoption of platform business were conducted qualitatively. Through qualitative studies, past researchers have identified a wealth of factors beyond any single developed theory. We identified five organizational factors influencing platform business adoption from seven published research, specifically organizational transformation, threats, network, technology, and resources. Table 5 summarizes the factors classified as organizational barriers as determined from the literature.

The first factor, organizational agility, represents the ability of organizations to go through changes to adopt platform business models. Organizations adopting platform businesses have changed their value creation, product lifecycle, and organizational environment. Şimşek et al. (2022) reported that overcoming traditional product lifecycle management is difficult for an organization. Moreover, organizations' existing business development methods are mostly tailored to traditional, linear business models (Brecht et al., 2021). These massive changes require participation at all levels, including the external stakeholders. Note that barriers exist when organizations cannot commit to and implement the changes required for a platform business.

Despite the advantages of platform business, organizations also recognize the relevant threats. Threats can cause losses to organizations and failure in platform business adoption. The threats include internal resistance, cannibalization, and adoption fatigue and costs. Notably, changes that result from the adoption of platform business challenge the status quo of personnel and require the implementation of new roles and responsibilities – creating discomfort and

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disagreement among employees that lead to internal resistance. If not managed carefully, this resistance will cause the failure of the platform business' adoption. Additionally, adopting a platform business can lead to cannibalization or potential cannibalization of existing businesses (Şimşek et al., 2022). Moreover, cannibalization exists when business units need to be eliminated due to platform business adoption.

As the success of platform businesses depends on the network created within the platform, the network is an issue that is recognized as the second barrier to adoption. The absence of support from long-standing customers, lack of new partnership capacity, and limited network size limit the usefulness of platform business to organizations. Thus, organizations must convince customers to embrace platform business and develop open communication channels (Buddle et al., 2024). Organizations also expect that platform business will enable them to expand their networks and nurture partnerships through platform interactions (Marzi et al., 2023). Therefore, platforms with minimal network size and potential expansion are deemed useless due to insufficient engagement (Peruchi et al., 2022).

Alternatively, Li et al. (2020) and Richards and Jarman (2021) recommended that unique aspects of network effects and ecosystem interactions be included in examining platform business adoption. The reliance on network effects by platform business models causes their value to increase as more users join (Parker et al., 2016). Essentially, each industry has its own network within the supply chain and can be very exclusive, affecting the adoption of platform business models. In terms of ecosystem interaction, the varying stakeholders within each industry make the interaction unique. Stakeholders such as producers, consumers, and third-party service providers (Orefice & Nyarko, 2021; Petrova et al., 2022) form complex interactions that can vary across industries. Furthermore, certain ecosystem interactions could be very open, while others could be very classified.

Adoption fatigue and adoption costs exist as adopters attempt to adopt a technology (Marzi et al., 2023). Organizational changes required for platform business adoption trigger such fatigue and costs beyond the platform's price. As fatigue increases, organizations may prefer to abandon their efforts altogether. The third barrier is technology-related. Platform quality, IT systems, platform governance, and platform features are the four elements of technology that relate to adoption by organizations. A platform business lacking in any of these elements is less likely to be adopted by organizations.

Resources form the fourth barrier. The lack of these elements can hinder organizations from adopting platform businesses, such as financial, infrastructure, skills, technology/IT suppliers, experience, competencies, and knowledge. Peruchi et al. (2022) asserted that organizations' knowledge of platform business is limited. At the same time, Jocevski et al. (2020) determined that platform providers have difficulties convincing participation due to the underlying payment infrastructure. The authors also discovered that limited knowledge among the retailers hinders their support of platform implementation.

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Table 5. Organizational Barriers

Factor	Dimensions	Sources
Organizational agility	Value creation	Şimşek et al. (2022); Buddle et al. (2024)
	Product lifecycle	Şimşek et al. (2022)
	Organizational environment (mindset, culture, way of working)	Şimşek et al. (2022)
Threats	Internal resistance	Buddle et al. (2024); Jocevski et al. (2020)
	Cannibalization	Şimşek et al. (2022)
	Adoption fatigue	Marzi et al. (2023)
	Adoption costs	Marzi et al. (2023)
Network	Long-standing customers' trust	Buddle et al. (2024)
	New partnership's capacity	Marzi et al. (2023)
	Network size	Peruchi et al. (2022)
Technology	Platform quality	Marzi et al. (2023)
	IT Systems	Jocevski et al. (2020)
	Platform governance	Marzi et al. (2023)
	Platform features (relative advantage, compatibility, complexity, trialability, observability,	Aamir et al. (2023)

Discussions

Digital business platform models represent an innovation that links all members within a supply chain. Despite its usefulness, its adoption varies across industries. Guided by the DOI theory, this SLR was carried out to determine barriers to organizations' adoption of digital business platforms. The barriers identified in the SLR, presented in Figure 2, outline the challenges faced by multiple platform business players, each requiring a unique strategic approach.

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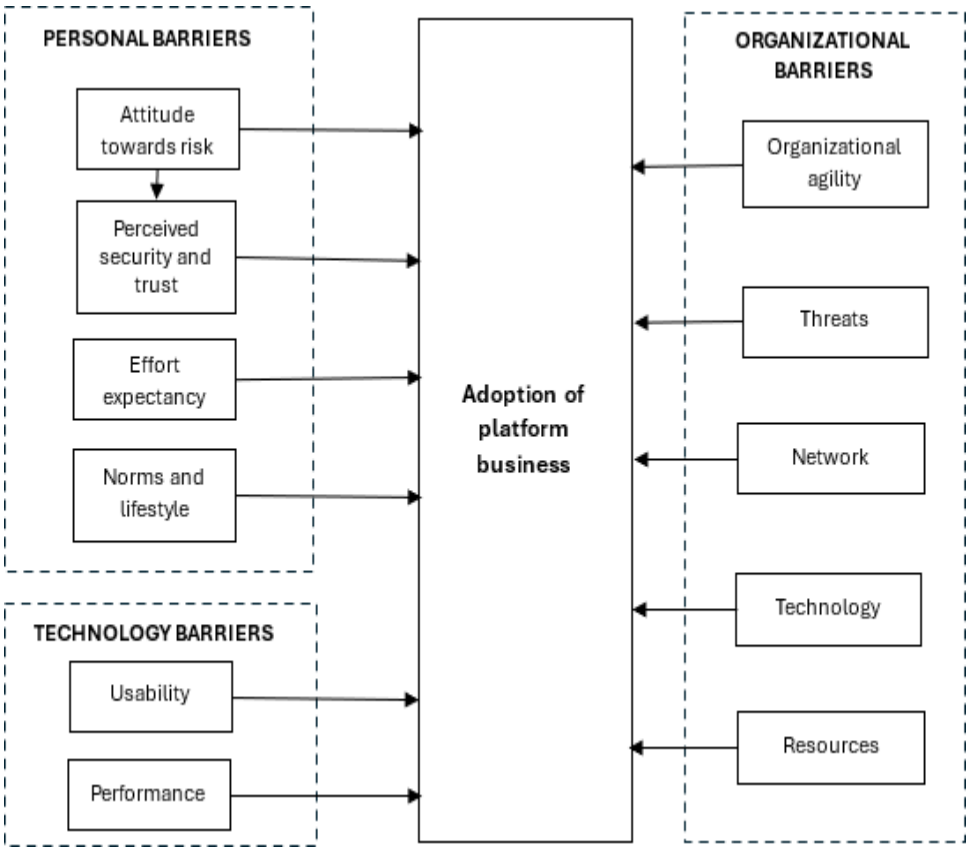
Figure 2. Summary Of Barriers To Platform Business Adoption



We determined that existing studies excessively focus on the consumer's perspective and neglect to examine the perspectives of other stakeholders within the supply chain, particularly the employees and the management. To a certain extent, consumers' views could also reflect the views of the organizational users. The three dimensions of personal barriers could well exist among the organizational users, which may hinder adoption. Concerns about risks and security, effort expectancy, and organizational culture are personal barriers that can hamper the organizational adoption of digital platform business models. DOI theory does not specifically address the issues related to security and culture, although these factors could fall under the relative advantages factor described by the theory. Effort expectancy, on the other hand, could be well associated with the complexity of the innovation being presented.

There is a dearth of research that investigates the perspectives of the enablers of the digital platform business. Nevertheless, past literature provides insights regarding the human factor in the adoption of digital platform business models. As platforms will not be successful without the consumers and the human enablers, their view shall take center stage. Therefore, a platform business model must appeal to users and ensure that issues related to security, effort expectancy, norms, and lifestyle are adequately addressed. Users and organizations need assurance relating to data security and risks. These personal factors are those not addressed by DOI theory.

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Technological barriers previously analyzed were mainly from the end user's perspective as well. Matters related to usability and performance form potential technological barriers to adoption. Technological barriers apply to both individual users and organizations. The usability factor has been researched extensively, even prior to the COVID-19 pandemic. However, post-pandemic, a heightened demand for the quality and reliability of digital platforms could be observed, necessitating further research that may be specific to certain industries or product/service types.

The organization barriers were mainly determined from qualitative studies. Although qualitative methods produce less generalizable results, qualitative studies provide a deeper understanding of organizational barriers. Five factors have been identified as organizational barriers, of which only one can be linked to DOI theory. The factors are organizational agility, threat, network, technology and resources. We posit that the most influential barrier among these is organizational agility or its lack thereof. Organizational agility has been described as an organization's ability to adapt to change and exploit opportunities (Anca-Ioana, 2019). This ability is dependent on organizational resources, including processes, routines, knowledge, and an entrepreneurial management team (Teece et al., 2016). The threat factor is seen as the anticipated drawbacks arising from digital business platform adoption, which include issues such as adoption costs, adoption fatigue, cannibalism and internal resistance. All these matters are internal to organizations. The threat factor indicates organizational caution towards new innovations.

The network factor represents matters external to the organization, specifically the network of customers and business partners. The network factor also determines the tension for change experienced by the organization. In a more traditional industry, it is expected that the tension for change is much lesser as network members have become complacent with the existing processes and procedures, resulting in lower adoption of innovation.

The next factor is technology, which has been described at length by the DOI theory. Issues of platform features, quality and governance, and information infrastructure are among the technological concerns for organizations. The last factor is organizational resources, which include financial, infrastructure, infostructure, and human capital. Clearly, without the required resources, organizations will not be able to carry out the necessary changes and adopt an innovation.

The SLR has uncovered that the barriers to digital platform business adoption are complex in nature and extend beyond technological issues. The barriers lie in every facet of the organization, including the internal users, management team, technology, external stakeholders, and organizational resources. It is also imperative to note that the adoption of the platform business model was also seen as a threat to existing business segments. Although platforms are inherently innovative, introducing new ways of doing business and interacting with customers (Daidj et al., 2022; Shenkoya, 2022; Su & Jin, 2022), there are barriers inherent in organizations that prevent their full adoption. Further studies are needed to examine each barrier exclusively and determine a practical solution for organizations.

Conclusion

This study underscores the need for user-centered platform design and industry-specific adaptation strategies to address adoption barriers effectively. Thus, acknowledging and

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tackling challenges related to system complexity and entrenched mindsets within organizations is essential for success. While technology-related barriers are significant, this review suggests that a broader focus on changing organizational mindsets, allocating sufficient resources, and addressing sustainability concerns may be more impactful in overcoming adoption challenges. Many of the barriers are inherent in the organizations rather than external or technological in nature. Hence, to eliminate the barriers and increase adoption of digital business platforms, it is imperative that a framework for innovation adoption is developed, tested and implemented. The framework should address all the concerns of the organization, assist organizations in identifying their strengths and agility factors, and provide guidelines for innovation adoption. We believe a committee shall champion the development of this framework, which will be comprised of industry representatives, professional bodies, the government, and researchers.

Training aimed towards increasing an organization's agility is also an important tool that can enhance adoption. Other than improving skills, these trainings can improve awareness, improve readiness towards acceptance, and correct misconceptions. The training shall prepare organizations to quickly adapt to various changes in the economy. Generally, half of the organizations (51%) say that they do not have a digital culture in place. However, they are open to developing it naturally as their business progresses (Salleh et al., 2023)

Despite the comprehensive scope of this review, there are some limitations to this study. Firstly, the conclusions were derived from limited literature. There is a lack of studies that specifically examine barriers to innovation adoption by organizations. Therefore, we have to deduce the findings based on the limited number of research papers and rely on research that studied users' perspectives. Secondly, the literature examined were studies carried out outside Malaysia, whose findings may not be applicable to the local context, considering the different cultures and economic environment. Nonetheless, we believe that the findings of this study provide a useful framework for future research.

Future research could enhance the current knowledge by examining organizational agility in relation to innovation adoption. Organizational factors, specifically agility, threats, networks, and resources, can be incorporated into the DOI theory to form a more holistic theory of innovation adoption among organizations. We also recommend that researchers look into ways to integrate users' perspectives into the innovation adoption framework by organizations. As of now, user perspectives are normally examined independently as consumers rather than organizational users.

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