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E-Business Risk Perception Differences in SMEs Influenced by Role Experience and Compliance Challenges

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Abstract – This study examines how e-business experience and organizational roles impact on the perception of dependency risks including external service provider risks, legal and compliance risks, and security risks among SMEs. Thus, the first research objective is to examine how and to what extent general and specific e-business experience influence the perceived risks and their priorities. In the present research, a mixed research approach and Kruskal-Wallis test were adopted to compare the risk perception of the respondents. We dissect the findings further by applying qualitative analysis on the impressions shared by the respondents. The findings show that e-business experience has direct effects on risk perception and the firms with less e-business experience perceive dependency risks as more severe, especially in terms of website developer, hardware, and software dependencies. On the other hand, larger and more experienced SMEs consider legal and compliance risks as more important especially where the cross-border transactions and data privacy issues are involved. Moreover, IT staff showed better appreciation of the reputational and employee risk factors more than the non-IT staff showing that technical knowledge is key to risk perception. Based on these results, this study posits that as SMEs gain e-business experience, their risk perceptions change and so do their understanding of external vulnerabilities and regulations.

Keywords – E-Business, Organizational Roles, Legal Compliance, Security Concerns, Risk Perception, Data Privacy, Reputational Risks.

I. INTRODUCTION

Smaller organizations are often younger enterprises that have a greater propensity for risk-taking and innovation compared to their bigger counterparts. Similarly, SMEs prefer to hire younger employees, who are presumably more efficient and eager to acquire new skills, hence enhancing the company's innovativeness. Nevertheless, SMEs often encounter market flaws in Europe. They often have challenges in obtaining financing or loans, especially during the first phases of the organization. These limited resources may also reduce their access to innovation or new technology. The capacity of small enterprises to innovate is significantly affected by the innovation system and environment in which they operate. The potential for innovation in small enterprises is significantly affected by the creativity of their suppliers. Moreover, small enterprises in critical industries, such as equipment, are significantly impacted by the innovativeness of their clientele. In both instances, personal relationships with suppliers and consumers, together with their near geographical proximity to the small business, enhance the efficacy of innovation.

Digital technologies enhance organizational relationships, and digital platforms serve as a significant source of competitive advantage in networked economies. Digitalization improves efficient communication across companies and makes organizational barriers more adaptable and porous. Furthermore, digital technologies enhance processes that link individuals and organizations, allowing for monitoring, communication, exchange, and feedback. Digital platforms and technologies are modalities of digital connection accessible to enterprises. Digital connection, including information

exchange, is seen as a crucial factor in accelerating the movement of commodities, alleviating risks, and reducing uncertainty in supply chains. Firms have access to several types of digital connection, including digital platforms and other technological innovations. Rajala and Hautala-Kankaanpää [1] concentrated on platform-based digital connection (PDC), defined as the use of digital technologies and processes in upstream and downstream supply chains for information sharing and knowledge dissemination.

Previous studies have contended that innovative or digital platforms are being developed and used across several departments within supply chains. Innovativeness is characterized by the extent of innovation integrated or the capacity to introduce radical innovations in technology, processes, or products. The transformative character of innovations demonstrates the emergence of disruptive knowledge, considered the core of innovation in scholarly discourse. The level of originality in the firm's advancements is a critical factor in examining innovativeness. Zhou, Yim, and Tse [2] distinguishes among global, market, and firm-specific innovation. The last category pertains to innovation or the acceptance and absorption of technology, while the previous two kinds exemplify more fundamental forms of innovative activity. The literature emphasizes global and market innovations; nonetheless, breakthroughs exclusive to firms, especially in the context of SMEs, should not be overlooked. This kind of innovation may advance SMEs towards the efficient technology frontier, enhancing their survival and economic prosperity.

The incorporation of externally developed technology may need significant alterations and adaptations, resulting in market developments. Two pertinent models elucidate the extent of technology adoption: Rogers' technology diffusion theory (1983) and Davis' technology acceptance model (1989) [3]. Technology dissemination is conducted by inventors, change agents, or entities invested in propagating new technology to promote behavioral change. Diffusion efforts related to digital technology have been extensive due to its relatively recent creation. Nonetheless, the use of digital technology by SME actors in Indonesia remains very low. The second hypothesis, the technological adoption model, elucidates this phenomenon. The Technology Acceptance Model (TAM) helps forecast the adoption of new technologies, including digital technologies.

The acceptance and adoption of new technology are influenced by its perceived utility and user-friendliness. This theory was developed on the basis of the Theory of Planned Behavior, which posits that behavioral intention is shaped by perceived social norms, and behavior control, and attitudes. Among these three drivers of conduct, perceived behavioral control is essential for SMEs, since they need the requisite skills to use digital technology. tiny and medium-sized enterprises (SMEs), particularly tiny firms, often possess constrained financial resources, straightforward organizational structures, elevated mortality rates, diminished capacity for information assimilation, inadequate personnel skills, restricted investment potential, and limited market reach.

This study aims to investigate how amount and type of e-business experience and organizational position in SMEs affect their risk perceptions. In particular, it analyses dependency risks with external service providers, legal and compliance issues, and security. This paper discusses how these risk perceptions vary between firms that have more or less e-business experience, making the point that risk awareness is dynamic as firms learn in e-business environments. The study also explores how such factors as technical skills, especially within Information Technology, influence the risk management priorities. The rest of the sections have been arranged in the following manner: Section II describes the overview and hypothesis of this research. Section III defines the data collection method, survey sampling and respondent characteristics, data analysis, qualitative analysis, as well as validity and reliability. Section IV and V provides a detailed discussion of the results obtained in this research paper. Section VI provides final remarks to the research as well as the limitations of this study.

II. BACKGROUD ANALYSIS AND HYPOTHESES

E-business is sometimes seen as synonymous with e-commerce; nevertheless, its actual meaning has a far wider scope. The Aberdeen Consulting Group characterizes e-business as the mechanization of all interactions among organizations, their remote workers, customers, suppliers, and trade partners. E-business involves the use of electronic technology to enhance operational procedures. All these definitions encompass a wide array of business procedures, including multi-organization produce design collaborations, e-produce advertisement and data dissemination, e-commerce transactions between customers or between governments and firms, multi-organizational supply chain collaborations, internal firm process re-engineering, and customer relationship management.

The e-business push at several firms started in the 1990s. The initial generation of e-business applications, centered on business-to-consumer (B2C) interactions, had rudimentary websites equipped with databases and forms for the online transaction of goods. The subsequent generation of e-business applications, emphasizing business-to-business (B2B) interactions, featured websites that were completely integrated with internal backend systems, including primary legacy applications, and external information systems of business partners to offer a comprehensive array of online services. The Internet provides a rapid and economical method for spreading knowledge. The unimpeded dissemination of material across many jurisdictions on the Internet may engender several problems. Traditionally, several limitations govern the dissemination of information; nevertheless, the problem is to adapt these criteria to manage online material. The legal challenges facing e-business are multifaceted and largely reliant on the interpretation and relevance of legislation. Individuals with minor e-business expertise are often less knowledgeable on intricacies of electronic business tax and legal landscape. Their ignorance of, and acquaintance to, legal dangers might diminish their assessments to risks. In light of these facts, we formulated the following hypothesis:

H1: Managers and owners of nascent SMEs regard e-business risks as lower and advantages as greater compared to those in firms with more extensive e-business expertise.

Yeo and Qiu [4] verified that organizations in the technology sector encounter irrevocable investment valuation requirements in an unpredictable business environment. Management of such organizations must assess the efficacy and quantity of accessible information on technological development. Strategic technology investment choices are often postponed in anticipation of more information about investment justification. However, the market exerts pressure on management from the other direction; delaying for more information means depleting time and potential income that cannot be recouped. In this context, technological investment risk pertains to the dangers of investing prematurely and the hazards of investing too late. The management dilemma for the corporation is balancing the potential increase in company value against the risk of diminished cash flows due to postponed investments during market uncertainty.

The recent fluctuations in the e-commerce sector have heightened the need to comprehend the correlation between IT expenditure, e-business, and organizational effectiveness. In light of the recent underperformance of IT companies and the collapse of the dot-com bubble, there is a growing tendency to minimize the impact of IT and e-business, as shown by recent research claiming that IT investments do not positively influence economic productivity. This result might significantly influence companies' investment choices in emerging generations of IT and e-business. In light of these facts, we formulated the following hypothesis:

H2: The owner's or manager's judgment on technology investment is shaped by the expertise of key personnel in e-business.

A conclusive assumption was formulated to examine the influence of the SME's operational setting on risks assessment. The objective was to evaluate the sector-based characteristics of small enterprises. Numerous writers (e.g., Kessler et al. [5]) assert that key sources of operational risks adversely impacting SME company growth include obsolete manufacturing equipment, absent technology, and a lack of innovation capability. Outdated industrial equipment or the absence of innovative technology significantly impacts the viability of SMEs. Johnson [6] assert that emerging trends and technical advancements, together with the interdependence of economies and markets, compel firms to perpetually address the innovation of production equipment, technologies, and processes. Presently, concepts such as intelligent business, intelligent logistics, transport systems, and the overarching notion of Industry 4.0 are gaining prominence.

Ghobakhloo and Ching [7] assert that SMEs must adapt to contemporary trends in manufacturing technology and include intelligent, self-learning systems into their production processes. Enterprises sometimes lack technology, necessitating rental, which incurs further manufacturing expenses. Enterprises have substantial challenges in innovation due to people influence and financial and economic risks, resulting in diminished enthusiasm in innovation among SMEs. They see the expenditures on research and development of new items as superfluous; likewise, the owners' pronounced conservative stance results in an unwillingness to provide new services, causing them to fall behind the competition. This is later shown in the financial stability and competitiveness of the firm. Small and medium-sized firms are hesitant to invest due to the potential for increased expenses, which would therefore elevate the prices of their goods or services, so substantially undermining their competitive edge. Innovation profoundly influences an enterprise's competitiveness via enhancing productivity. The contextual surroundings may affect risk, leading to the development of H3:

H3: Risks assessment of enterprise management or owners regarding technological investments is affected by the core sector.

III. DATA AND METHODS

Data Collection

This research employs both primary and secondary data to analyse risk perception of SMEs regarding e-business. The primary data was gathered through an online questionnaire distributed to the owners, managers, IT personnel, employees of SME’s and other related stakeholders of a cross-section of sectors. To ensure coverage of a wide range of views on e-business risks, the survey was conducted on SMEs with e-business experience of less than one year, SMEs with e-business experience of not more than five years and SMEs that have been engaging in e-business for more than five years. The questions developed were aimed at capturing risk perception in several areas; dependency risks with website developers and hardware and software vendors, compliance risks with local and international laws. The respondents were also asked to rate the risks which they perceived with security, reputation, employees and other operational issues.

Likert-type items and qualitative questions were used in the survey instrument as a means of providing a better understanding of risk perception based on the level of e-business experience or organizational position. The scale used in this research was Likert scale with values varying from 1 to 5 to indicate the level of agreement/ disagreement with the various risk related statements. Further, the respondents were asked to provide demographic information concerning their roles in their companies, the size, age, and industry sector of the SMEs. Since the study was based on a survey of small businesses involved in e-business, secondary data in the form of reports, case studies, and regulatory documents were used to supplement earlier studies on e-business and SME risk management.

Survey Sampling and Respondent Characteristics

To this end, the study used a stratified sampling technique in an attempt to guarantee the sample a cross section of SMEs across industrial sectors, size, and e-business experience. The questionnaire was disseminated by followings the industry associations, professional organizations, social media groups related to SMEs to have diversified participants. Out of 2500

questionnaires distributed to the SMEs, 768 usable responses were received, giving a response rate of approximately 30.7%. The respondents were classified into three main categories: The largest proportion of respondents was the owners and managing directors (41%), followed by IT managers and specialists (35%), and other organizational positions (24%) including operations and marketing managers. The surveyed firms included micro-businesses, using less than 10 workers, through to medium enterprises, with up to 250 workers and these depend on e-business in their operations in varying intensity.

Demographic information of respondents gave a clear picture of how risk perception differs according to the organizational position and e-business involvement. Fifty-five percent of the respondents had less than one year of e-business experience, 58 percent had between one to three years of e business experience, and 44 percent had over three years of e-business experience. This distribution enabled the study to understand how experience in e-business influences risk perception with reference to dependency risks on external service providers and legal compliance risks. Further, information on the level of awareness of e-business regulations, like the e-commerce directives of the European Union, which form part of legal and compliance risk considerations, was obtained from the survey.

Data Analysis

We analyzed the collected data using both inferential and descriptive statistics. In the present study, frequencies and percentages were applied to determine the distribution of risks perceptions among the various respondent category. This gave an initial idea in terms of distribution of risk perceptions across the organizational role, experience and size of the firm. Hypotheses derived from the study concerning e-business experience, organizational roles and risk perceptions were tested using inferential statistics. Multiple Analyses of Variance (MANOVA) were used to test the hypotheses with the three groups of participants (owners/managing directors, IT managers/specialists, and others) with regards to risk perception. We chose the Kruskal-Wallis test because the data is not normally distributed as is assumed in a parametric test like the ANOVA test and hence the test was appropriate for comparing the medians of the independent groups.

To compare the mean perceptions of the respondents for the given categories of dependency risks, legal and compliance risks and employee related risks the Kruskal-Wallis test was employed to identify whether there were significant differences in the perceptions of respondents in the different categories. Furthermore, to discover more about a number of particular contrasts between several groups of respondents, a post-hoc evaluation as Mann-Whitney U test for pairwise comparisons was applied. However, as the firm characteristics, including firm size and firm age, may affect risk perceptions, a regression analysis was also conducted. This was made possible aimed at controlling the above factors and thereby capturing the exercise the impact of e-business experience and organizational role on risk perception. To estimate the regression model, the following independent variables were used: number of employees, years of operation, and the sector of the firm; the respondent's position and his/her experiences in electronic-business. The dependent variable was therefore the mean risk perception score which was computed by adding up the risk perception scores from the various risk categories.

Qualitative Analysis

Besides the quantitative analysis of the results, the responses given by the participants to the open-ended questions were analyzed qualitatively using content analysis method to determine the emerging themes and insights regarding e-business risk management. Using qualitative data meant that the context was provided and some of the statistical findings were explained. For example, the majority of Novice e-business companies' respondents stated that they got worried because they rely on external service providers due to their lack of internal technical skills and equipment as a major problem. More expert e-business users on the other hand, cited legal and compliance issues such as data privacy and cross border issues as the most important issues. The analysis of data collected in this study was done using qualitative research that employs the inductive research method. The responses were then analyzed based on the thematic areas including dependency risks, legal/compliance, security, and employees. These themes were then related back to the quantitative data to offer a better understanding of how risk perceptions are influenced by e-business experience and organization roles. The thematic analysis also proved useful in addressing any inconsistencies or conflicting findings within the quantitative data, in explaining why subgroups with moderate levels of e-business expertise may be likely to express atypical risk perceptions.

Validity and Reliability

As a means of enhancing data validity and reliability, some measures were taken before, while, and after data collection and analysis. The survey instrument was pilot tested to a small sample of SMEs to check the validity of the questions that were posed. This way of using both primary data and secondary data meant that data was collected from several sources, and hence validity of the results obtained was guaranteed. The internal consistency of the survey was evaluated with the Cronbach's alpha to test internal consistency of the obtained Likert-scale items. The Cronbach alpha coefficient was.78 and it can be viewed that the survey instrument was sufficiently reliable to be employed for the study. In addition, measures were employed in an effort to reduce the sources of bias in the data. For instance, to ensure that the risk perception data were not skewed, the respondents were assured of anonymity to enable them present true data since they would not be held accountable for their actions. This made the exercise easier and also enabled the use of the scaled-up factor in an effort to make the sample size more representative in size, industry and the experience in e-business of SMEs. Although the study was conducted on SMEs in the European Union, the conclusions reached may be applicable to SMEs in other parts of the

world that experience similar e-business issues, especially in relation to dependence on third-party service providers and compliance with international standards.

IV. RESULTS

The disparity in risks perception across the categories was examined via Kruskal–Wallis tests, which indicated a statistically relevant correlation among all four categories concerning dependence risks associated with website developers, hardware and software manufacturers, as well as legal risk pertaining to acquiescence with domestic and international regulations. The relevance of both was below the approved threshold of 0.05. No other notable relationships were identified. The overall findings are indicated in **Table 1** below.

Table 1. E-Business Experience Using Kruskal–Wallis Tests

Variable	Chi-square	df	Asymp. Sig.
Non-acquiescence to foreign and local regulations	8.19	3	0.04
Dependency risks on hardware and software vendors, and website developers	9.54	3	0.02

There exists a pseudo-lineal link between the experience/age of a firm and its risk perceptions regarding the risk variable-dependency. Participants with limited experience with e-business, normally under one year, regard the risk of reliance on hardware and software vendors, and website developers as more significant (with a total mean of 2.9) compared to those with extensive experience in e-business (with a mean of 4.001). Furthermore, they assessed the threat of non-acquiescence with localized and international regulations as less severe (with a mean of 5.28) than their more experienced counterparts (mean 4.83). The linear correlation across the subcategories is somewhat skewed by the average risk values reported by participants in 1 to 3 years of experience category for unclear reasons. A linear connection also arises when analyzing the legal concerns associated with e-business activities. Participants with less e-business knowledge often assessed this risk as minimal compared to those with more e-business expertise (see **Fig. 1**).

Fig 1. Mean Values of E-Business Experience Vs. Compliance Risks and Dependencies

Experienced SMEs with less e-business expertise are often less knowledgeable about procedural and non-procedural intricacies of electronic business hazards. This is partially attributable to a constrained understanding of electronic business and the necessity to seek assistance from others. This study shows that business education and the acquisition of innovations about electronic business present challenges for SMEs. The ability to establish informal systems and accessible formal systems may alleviate dangers related to dependence hazards. The views of legal and compliance concerns linked to the implementation of e-business starkly vary with those regarding dependence issues. Less experienced organizations see legal risks and acquiescence risks as lower compared to those with increased electronic business expertise. This answer once again illustrates personal exposure and understanding of hazards derived from exposure.

Legal and acquiescence problems related to electronic business settings have been hitherto addressed. The EU Directive on e-commerce includes stipulations for information obligations pertaining to the identification of service providers and commercial communications, such as advertising and direct marketing. The concern is to the manner in which this information is presented. Experience indicates that the presentation and accessibility of information are vital for consumer protection. If information is disseminated over several websites and is not readily printable or exists in various forms, it will not be accessible. Erharuyi and Fairbairn [8] recommends the development of technology solutions for presenting to guarantee that information is readily accessible and easily locatable. They identified the presence of 'grey regions' in electronic business contexts arising from complex legal domains (such as intellectual property, licensing, copyright, digital contracts, etc.).

Our results align with previous research. The experience of e-business has shaped perceptions about online business risk. Established enterprises exhibited more prudence, assessing and prioritizing compliance and legal risks more significantly. We obtain substantial evidence for H1. Managers and owners with less e-business experience consider e-business risks as

lower and rewards as higher compared to those in companies with improved e-business expertise, particularly regarding regulatory and legal issues. This may result from reputable SMEs with a brand image and devoted client base to safeguard.

A significant element is the danger inherent with internet commerce overall. Jüttner [9] provide an examination of e-business risk management within a comprehensive framework that explores the integration of activities among enterprises concerning suppliers and consumers at the organizational level. A knowledge of the strategic dimensions of business philosophy will inform the development of a conceptual framework for e-business risk management. The primary focus is on the attributes of a firm's integrated supply chain functionalities and their correlations with information technology (IT), business models, critical e-business processes, interlinked e-business services, and the significance of partnerships, trust, and adaptability in supply chain management to achieve competitive advantage.

Adopting new digital technology poses inherent risks for SMEs. The exclusive use of enterprise resource planning (ERP) systems for digitalization incurs substantial expenses relative to advantages and is visualized as an ineffective digitalization approach for SMEs [10]. Consequently, firms are progressively allocating resources to and using digital platforms to enhance operational efficiency, foster interorganizational cooperation, and elevate client happiness. Digitalized platforms are essential in interconnected and data-intensive enterprises that use information exchange, collaboration, and collaborative action. Digital platforms provide SMEs a cost-effective method for digitalization, in contrast to investing in intricate IT systems. Moreover, digital platforms serve as repositories of external information, which might be essential for attaining competitive rivalry using digital technology.

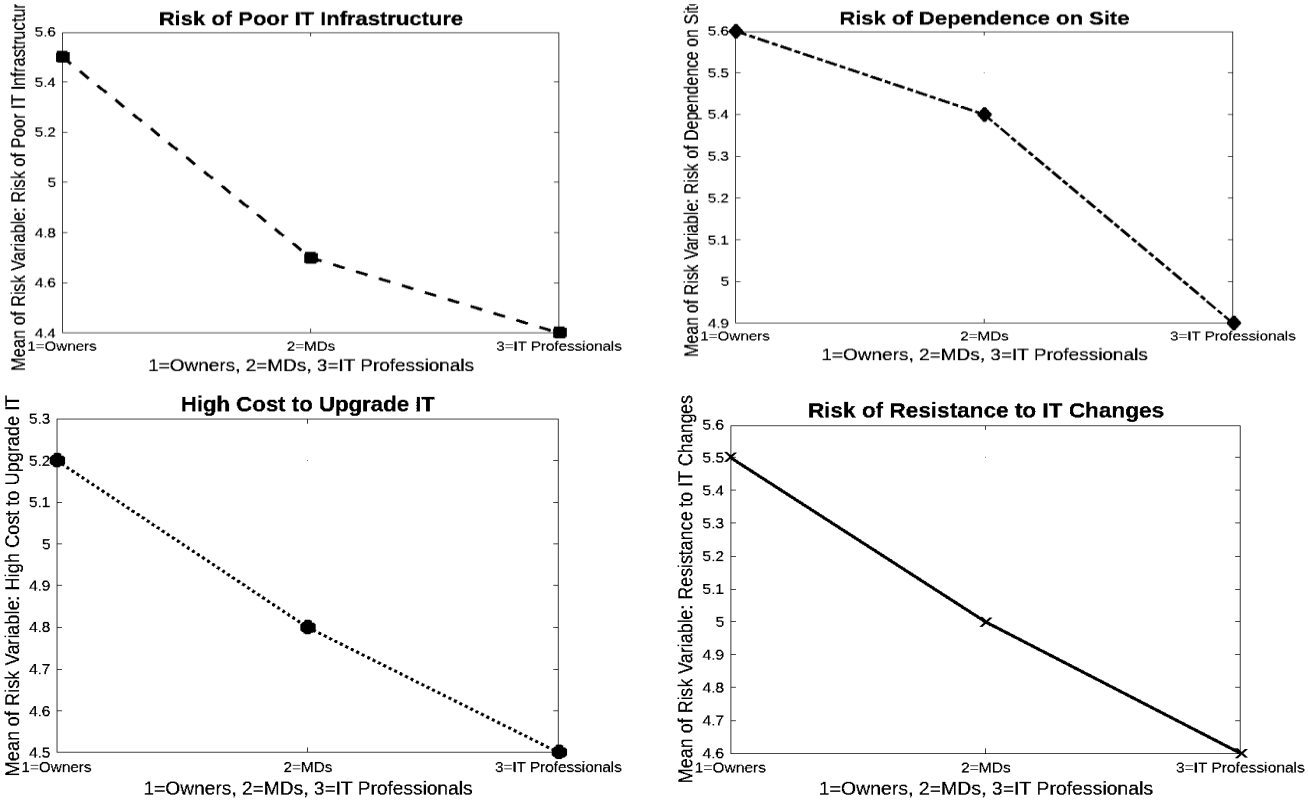

Fig 2. Mean Scores of Organizational Role Vs Workers Related Risks

Previously, we hypothesized that the perception to risks was affected by functions and roles. We picked seventeen distinct occupational jobs, including IT managers and managing directors/owners, for examination. The examination of reported risk perception mostly reflects our previous findings, particularly on the impact of knowledge and experience of e-business issues on risks perception. Many of the occupational categories grouped security risks as high risk, whereas dangers associated with reliance, leadership, knowledge, and reputation were classified as medium risk. Employee-related risks and compliance risks were at the lowest level within the risk spectrum. IT workers priorities employer-related issues more significantly while attributing less importance to knowledge concerns. Kruskal-Wallis (KW) tests provide a non-parametric statistical method used to evaluate differences across three or more independent groups about 1, non-normal distributed and continuous variable. Information and data that are not distributed in this manner (such as rank or ordinal data) are appropriate for the KW. The single-way ANOVA, a parametric test, is applicable to a normal distributed and continuous variable. The test provides an extension of Mann-Whitney U (M-WU) test for two groups. The KW test is defined as a general variant of the M-WU test and serves as the nonparametric equivalent of the single-way ANOVA. A KW test was conducted to see whether organizational positions affected the perceptions of risks. A statistically significant connection was identified between the groups concerning three employee-related risk factors and one reputational risk variable.

Table 2. KW Test on Organizational Roles

Risk Variables	Chi-square	df	Asymp. Sig.
Damages to status because of poor consumer fulfillment and satisfaction	24.89	8	0.002
Damages to data resources by present workers	32.31	8	0.000
Damages to data assets by previous workers	35.10	8	0.000
Security-based incident because of inadequate trainings	22.82	8	0.004

The findings are indicated in **Table 2** and **Fig. 2** and **Fig. 3**. The findings indicated that IT experts, including executives, department heads, technicians, and directors, priorities the perceived risk of reputational harm more than other categories. The typical means was from 2.00 to 2.50 for those in IT positions, while those without IT responsibilities had values of 3.5 to 4.8.

Table 3. KW Test on Responsibilities and Roles

Risk Variables	Chi-square	df	Asymp. Sig.
Damages to status because of poor consumer fulfillment and satisfaction	22.58	3	0.000
Damages to data resources by present workers	28.28	3	0.000
Damages to data resources by previous workers	27.68	3	0.000
Security-based incident as a result of inadequate trainings	18.16	3	0.000
Non-compliance to foreign and local laws	8.58	3	0.036

A significant distinction between those in IT operational jobs and the ones in other positions is that the former visualize privacy concerns from previous workers and insufficient employee trainings as critical risks factors. The dynamics of risks perception among various occupational roles and responsibilities were examined by contrasting technological and non-technological workers. About 3 subcategories were established: 1 including IT experts and 2 pertaining to proprietors/owners and executives. The KW test indicated statistically relevant variations across the three categories for 5 risks variables; 3 associated with employee-based risks and 1 each pertaining to regulatory threats and reputation. The findings are indicated in **Table 3**.

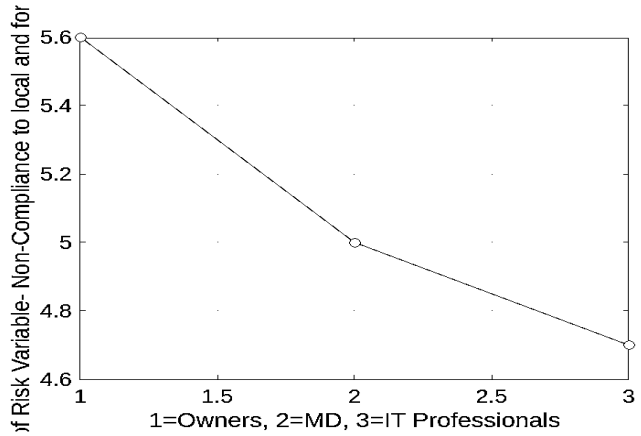

Fig 3. The Means of Workers Related Risks Vs Firm Roles

Fig 2 and **Fig 3** illustrate the risk ratings and mean values for individuals occupying various functional jobs. The aforementioned study just differentiated between IT experts and other owners and senior managers. In SMEs, these "jobs" are often less distinct than in a bigger firm. This incorporates an extra layer of complication to understanding the ramifications of our results. For SMEs to properly capitalize on electronic business, some management tasks might need to be established, integrated, or eliminated. This may lead to direct loss of control by owners, therefore modifying the level of trust assigned to, and expected from, workers. In this research, we assert that a greater level of confidence will be accorded to individuals with specific experience in e-business. While SMEs might possess e-business competency that are less sophisticated and intricate than those of bigger firms, trust between the management and workers is particularly crucial in SMEs.

Our findings indicate that the characteristics of the organization's unique business ecosystem may significantly influence the manner in which the perception of workers concerning how e-business dangers are managed. As organizations expand, complexity escalates, necessitating more expertise and resources to manage this complexity, which may subsequently enhance trust. This might define the variably perceived risks among SMEs of varying dimensions. Our findings provide limited support for H2. The process of technological investments decision-making used by the manager/director is shaped by the expertise of essential personnel. An interpretation of the ramifications for particular SMEs poses challenges.

V. DISCUSSION

Upon analyzing the literature on the strategies and technological roles in SME sustainability, we uncovered several studies focused on the development of new business models, communication tactics, and the use of digital marketing. Untaru and Han [11] investigated the impact of gender, age, education, and income level on company strategy. They determined that shops had to formulate distinct communication strategies for various client groupings, aligned with these targeted demographic profiles, with the expectation that this approach might enhance protection measures against COVID-19 and mitigate excessive losses. Hossain, Akhter, and Sultana [12] investigated 456 distressed SMEs to analyze the survival strategies used during COVID-19. They discovered that the majority of SMEs postponed investments, curtailed labor costs and other expenditures, and renegotiated the conditions of contracts and loans. Hussain et al. [13] investigated the survival strategies employed by Malaysian SMEs in reaction to MCO (movement control order) and recognized changes in marketing and financial approaches. Digital marketing positively impacts the success of SMEs.

This article, while not definitive, promotes a wider understanding of the nuances of risk judgments within the dynamic, complicated, and often surreptitiously interconnected realm of electronic business. It does not conclude the argument; rather, it serves as a catalyst for more discussion. This research offers four significant contributions to enhancing our comprehension of technology risks in SMEs by employing a psychometric technique to analyze manager/owner attitudes about e-business and online risk. Its initial contribution is to broaden technically-oriented research on knowledge use inside SMEs, exemplified by Adeboye [14]. They underscore the significance of risk perception in shaping technology investment choices. It was determined that SMEs visualize security-based concerns as their foremost danger, followed by worms and viruses, and credit card theft. Risks associated with employees, competition, and taxation were classified in the low-risk group.

Another contribution demonstrates that conveyed risk perception is significantly affected by the participant's qualities. For instance, managers/proprietors in SMEs with a brief term of incorporations (and therefore low experience in employing e-business) visualize e-business risks as lower and the advantages as greater compared to those in firms with extensive e-business expertise. The respondent's job affects the stated risk evaluations. IT professionals prioritize employee-related concerns more significantly, while attributing less importance to knowledge risks compared to other managers. This study improves upon prior efforts to provide a posteriori risk categorization system for SME. Its more hands-on use is in offering a compilation of risks factors to assist SMEs executives and owners in deliberating the decision technology investment. It also offers a standard for managers and owners to contrast their risk perceptions with those of others in analogous company environments, specifically with comparable dimension and duration of operational experience.

Another contribution pertains to public policies. The primary lesson is that e development programs and -business training for SMEs must first concentrate on risks linked to the use or non-utilization of technology. Secondly, development programs and trainings for SMEs must be more effectively divided, since risk perceptions differ based on experience, growth trajectories, and roles within the organization. Currently, segmentation occurs mostly within distinct sectors; nonetheless, this is the only variable exhibiting little variety. We emphasize three domains for more advancement. This research was conducted at a time of significant austerity, which may have affected the findings. A foundational study by Zahra and Garvis [15] highlighted that the management attributes conducive to productivity in small enterprises significantly differed between what they termed “benign and hostile environments.”

A similar investigation under more favorable conditions is therefore necessary. Managerial traits pertain to activities derived from viable company concepts and ambitions. Novel firms emerge from the delivery of innovative services and goods, the allocation of necessary resources, and the recruitment of personnel. The comprehension of managerial actions and their correlation to successful new venture establishment is a pivotal study focus within the entrepreneurship field. The significance of the entrepreneur in venture development is highlighted by Müller et al. [16]: “The pervasive impact of founders on their companies and their dominance in decision-making enables it to assume a higher equivalence degree between individuals and the firm’s levels of analysis.” Comprehending the relationship between managerial activities and venture results is complex, since it involves not only the goals and actions of entrepreneurs but also the alignment between these efforts and the surrounding environment.

Secondly, based on our study, we see the advantages of using the psychometric approach in conjunction with more quantitative and technological methodologies to aid SMEs in making more informed choices. Our concluding recommendation recognizes that electronic business is a worldwide technology, which connects various organizations and national populaces. Numerical preeminence of SMEs in global economies, each presumably grappling with varying degrees of difficulty, is evident in their efforts to evaluate the dangers and advantages of electronic business. Risk perception and the formulation of investment choices constitute a significant global concern for small businesses. The literature now addresses the quest for dependable methodologies for investment decision-making, since conventional mainstream strategies, such as payback and DCF (discounted cash flow), are deemed inadequate in particular circumstances. These scenarios include the assessment of investments in R&D and technical advancements, mostly due to the intangible character of the associated rewards, as well as managing environmental concerns.

In this context, DCF is inadequate and may result in judgments that undermine the firm's value. As a result, management is compelled to choose initiatives based on intuition, experience, and heuristic approaches. This topic is becoming significant not just for academics and managers but also for corporate stakeholders. It is also contended that these conventional approaches are predicated on Neo-Classical hypotheses, asserting that the company’s purpose is profit maximization and that it functions inside a fully competitive market [17]. These investment decision methodologies presuppose the existence

of capital projects for evaluation; that project cash flows seek to optimize the wealth of the owners; that management tend to consistently act in the best interests of the owner; that futuristic cash flows could be estimated or isolated; and that cash flows are discounted at the capital's opportunity costs. This kind of writing seldom addresses the generation of initiatives and the rationale for their consideration.

Furthermore, small enterprises may not function under same circumstances as giant corporations, which may have significant ramifications for financial management. Initially, the operational and financial environments of small firms are more volatile [18]. Secondly, the decision-making process regarding investments in small enterprises may be more significantly affected by behavioral aspects, emphasizing real business actions, alongside organizational viewpoints that include the impact of firm characteristics. These methodologies are designated as the behavioral/organizational models of the company. The behavioral model of the company posits that a business constitutes an alliance of individuals with diverse needs, shifting focal points, and a constrained capacity to address all organizational issues concurrently. Organizational theory extends the behavioral theory of the business, emphasizing the examination of processes inside an organization and the decision-making mechanisms used within.

VI. CONCLUSION AND LIMITATIONS

Our research provides a better understanding of e-business experience and organizational roles in determining the risk perceptions of SMEs when it comes to depending on third-party service providers, legal and compliance issues, and security concerns. Concerning the legal and regulatory risks, it is found that the firms with prior e-business experience are more inclined to those risks as compared to the firms with less exposure to e-business environment. However, the firms with little experience show more concern towards the dependency risks such as website developers, hardware and software providers. Moreover, the study of occupational roles shows that IT specialists, as compared to non-IT employees, are more sensitive to reputational and employee risks, particularly related to former employees and staff training. This study raises questions about how risk awareness is incorporated into the strategic thinking of organizations since it is evident that even firms with little or no experience of e-business practice exhibit different ways of handling external dependencies and the need to be more compliant with the regulations. The study also elaborates the dynamic nature of risk perception, the fact is that, as firms engage more with digital technologies, they are likely to develop a better understanding of the risks associated with engaging in e-business, which can be used in managing risk in the ever-changing environments.

However, some limitations can be noted in relation to the present study, even though it is based on strong data collection and analysis frameworks. The limitation is that analysis is based on self-report measures, which are subject to such bias as social desirability or recall bias. In addition, the survey data has temporal limitations because the study is cross-sectional and thus only gives a single picture of the risk perceptions and not over time. Data collected cross-sectionally would offer more understanding of how risk perceptions change as a result of accruing e-business experience by the SMEs. A limitation is that all SMEs under investigation operate in the European Union, which may somewhat affect the generalization of the findings to other zones characterized by different regulatory environment and market conditions. However, the study contributes to the understanding of the impact of e-business experience and organizational roles on risk perception in SMEs and has significant managerial implications for risk management of e-business and regulatory compliance policies and actions. There, the following suggestions can be pointed out as the future research directions that can help to overcome the limitations of the present study: Future research could consider extending the geographical coverage and using longitudinal data to analyze the dynamics of risk perception.

CRediT Author Statement

The author reviewed the results and approved the final version of the manuscript.

Data Availability

The datasets generated during the current study are available from the corresponding author upon reasonable request.

Conflicts of Interests

The authors declare that they have no conflicts of interest regarding the publication of this paper.

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