

The Role of Technology, Innovation, Organizational Culture, and Work Environment on Adopting Digitalization for Malaysian SMEs through Individual Motivation as a Mediator

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Abstract

The paper tested the proposed questionnaire using a sample size of 35 respondents. The test includes internal consistency validity, validation of all constructs, and Pearson's correlation. This paper discusses integrating innovative practices within SMEs to improve performance and customer satisfaction. The demography shows that the manager's position is the highest among respondents (42.9%), service companies (51.4%), and age (36-50 years) at 48.6%. The minimum reliability (0.115) appeared between the epidemic (ENE) and the value creation (INV), suggesting low correlation. The highest correlation (0.738) appears between individual motivation (INM) and implementation (INI). Pearson correlation was estimated at either 5% or 1%. The lowest R² value is recorded between epidemic (ENE) and the value creation (INV) (0.115), while the highest correlation (0.738) appears between individual motivation (INM) and implementation (INI). In addition, the values of Cronbach alpha range between 0.841 (SDB) and 0.898 (ENE). For the total correlation between variables, R² ranges between 0.164 (ENE) and the highest value, 0.739 (INI), suggesting that the epidemic is not well correlated, more likely because the data collection took place way after the Coronavirus. Also, Cronbach alpha is high for INI, discussing implementing digital systems. All correlations between domains and total scores were tested under a 5% significance. A supportive organizational culture that encourages experimentation and embraces change is vital for successful digitalization; however, resistance to change can hinder progress. Meanwhile, leadership is

critical in fostering a culture that prioritizes digital initiatives, influencing employee motivation and engagement. Cronbach alpha (0.843) is higher than the 0.6 threshold for the questionnaire elements. Hence, work on the broader scale of testing and analysis could proceed.

Keywords: SMES, Digitalization, Environment, Individual motivation

Introduction

The term 'pilot studies' means mini versions of a full-scale study (also called feasibility studies) and the specific pre-testing of a particular research instrument such as a questionnaire or interview schedule. Determining the feasibility of the research design could be approached by conducting a pilot study before starting (Blatch-Jones et al., 2018). The pilot study results guide researchers in testing the methodology before implementing a large-scale investigation. Pilot studies might be performed using qualitative, quantitative, or both (Malmqvist et al., 2019). Scientific research does not always go as planned; therefore, it should optimise the process to minimise unforeseen events without possible risk (Pellerin & Perrier, 2019). The risk is disastrous and expensive mistakes that could have been discovered and corrected in a pilot study. Pilot work gives not only a chance to determine whether the project is feasible but also an opportunity to publish the corresponding results. Pilot studies should be guided by an ethical and scientific obligation to get the required information to assist other researchers in maximising their resources. This pilot study focuses on the role of technology, innovation, organisational culture, and work environment in adopting digitalisation for Malaysian SMEs through individual motivation as a mediator.

Companies are shifting from conventional to digital business. For organisations seeking fresh approaches to operate, digitisation has evolved into a portal for cross-border commerce (Koe & Sakir, 2020). Established in Malaysia in 2017, e-commerce helps Malaysian SMEs to engage in international trade (Kartiwi et al., 2018). Overcoming several technological and psychological obstacles is necessary to change the digital world, including the one related to personal motivation (Imran et al., 2020). Experts in both administrative and personnel spheres are needed to use the new digital platform. Technology and professionals are, therefore, paired to implement digital technology. The fast development of digital technology in recent years is the reason for such a strong link between consumers and companies (Bibri et al., 2021). When digital technology is under consideration for adoption and integration, bureaucratic systems and prioritising strict ties have to be reinterpreted. Understanding how digital technology operations will help one spot and understand the most crucial contextual factors, do more research to see what the digital era will look like, and apply this technology to find the implementation in more successful companies (Volberda et al., 2021). Giving SMEs access to digital tools and resources that could increase personal motivation would speed the acceptance of digital technologies and strengthen their competitiveness in Malaysia (Kumar & Ayedee, 2021).

Since digital technology is the most quickly impacting technology, about 59% of people worldwide have interacted with it (Haleem et al., 2022). The affordable cost of social media also contributes to enabling digitalisation expansion (Lister, 2017). However, Hanaysha (2018) has proven that marketing may improve consumer knowledge and negatively and positively affect companies.

Strong leadership is needed to keep the change towards the digital platform in progress (Sow & Aborbie, 2018). Still, most leaders lacked the required experience and were reluctant to proceed any more (Mestry, 2017). Staying to the conventional approach could be challenging for companies. Thus, it is advised that the transition calls for a significant impact even if disagreement affects business performance (Allio, 2015). By Using large-scale digital transformations (Sow & Aborbie, 2018). One of these disagreements is to either totally eliminate or significantly reduce their anxiety about performing small-scale digital changes.

Li et al. (2018) find varied rates of SMEs embracing digitalisation. However, as digital technology developed, SMEs were offered hitherto unheard-of chances to create their IT infrastructure on non-proprietary technologies and open-access platforms (Audretsch et al., 2015). SMEs are limited in scope; therefore, they have more freedom and good attitudes towards digitalisation and the capacity to spur innovation (Beliaeva et al., 2019). Digitalisation can manifest as digital entrepreneurship, strategies, processes, and education (Eller et al., 2020). In addition, the same writers claim that digital transformation "is the most pervasive and complex phase," which seems to be absent for many companies as handling such a complicated level is challenging (Eller et al., 2020; Azevedo & Almeida, 2021). These opposing problems motivate the preparedness to apply digital technologies.

As "Industry 4.0" emerged in 2011, digital technology became the twenty-first-century standard. The world has seen significant changes between the first industry in the 18th century and the present. Technology, modernisation, depletion of natural resources, sustainability, and the environment have become progressively vital and demand close attention (Ghobakhloo, 2020). Preserving the earth's environmental systems, the balance of natural resource use and replenishment, and ecological integrity define environmental and social sustainability. Socioeconomic sustainability must be ensured in the digitalisation era to rescue the planet and preserve life on Earth. By using digital technologies, which impose new demands on companies and their staff while offering new opportunities, the sociotechnical change linked with digital transformation influences all companies (Ritala et al., 2021). Examining the Industry 4.0 foundations helps researchers and stakeholders to see how computers, creative materials, intelligent machines, communication, and environmental interaction are becoming daily activities occupying economic advances.

Ukko et al. (2019) claim that the performance of digital technology depends on the preparedness of managers to engage the potentiality of new technologies and support their implementation. Furthermore, exceptional management skills enabled effective strategy changes, like a digital transformation, which improved corporate performance.

Adopting digital technology would help companies to gain competitive advantages in today's dynamic market. Many companies have shown early on the benefits of leveraging digital technologies (Wong et al., 2020). This positive connotation might have one explanation: it gives entrepreneurs and inventors chances to seize and increase their aim towards profitable businesses. One of these changes was the COVID-19 epidemic, which, using internet transactions, turned many companies into digital ones. Sadly, digital transformation requires a sizeable financial outlay without any promise of return (Chen et al., 2021). This outcome would suggest that companies apply technology to generate innovation in business models, goods, services, and operations. Organisations should not be discouraged from maintaining

their "competitive necessity" by the challenging digital transition. Still, SMEs need to be more used in digital technology adoption. Small firms have more challenges with digital innovation than big organisations due to their limited resources and capability. Although it shares certain traits with the industrial sector, the service sector stands out from others (Chen et al., 2021).

Research Objectives

The following are the research objectives:

1. To examine the relationship between technological factors and successful digitalization in Malaysian SMEs.
2. To examine the relationship between organizational innovation factors and successful digitalization in Malaysian SMEs.
3. To determine the relationship between organizational culture and successful digitalization in Malaysian SMEs.
4. To assess the relationship between environmental factors and successful digitalization in Malaysian SMEs.
5. To investigate the mediating effect, of stakeholders' individual motivation on the relationship between technological factors and the successful digitalization in Malaysian SMEs.

Literature Review

Digitalization

Digitalization is a relatively recent idea in the industrial sectors, where digital business or digital transformation ranks the highest among the top three business concerns (Gartner, 2018). While the traditional ways of sales are dying, more and more goods and services are being presented to consumers across digital channels for their convenience. This result is expected as it depends on automation enabling effective production, inventory control, and sales management. Furthermore, helping businesses make and guide them on the right path for growth is data collecting, storage, and processing. Any business should give top attention to digitalization at all feasible levels for various reasons. Furthermore, several players in digital technology have surfaced in the digital industry to satisfy the digitalization demands of the end consumers and businesses (Mentsiev et al., 2020).

Daily expanding digital activity of companies worldwide significantly affects the economy, including GDP per capita, employment, labour productivity, and others. Therefore, for the government to track investments, calculate performance, and create laws and rules, it is vital to assess how digital technologies and businesses affect the economy. However, measuring the effects of digital technology on the economy is more complicated than it might seem (Malecki & Moriset, 2007).

Although we live surrounded by digital technology, its influence on the economy must be clarified. Physical products rule most industrial sectors, including food, agriculture, and automotive. Therefore, it is simpler to follow their effects on the economy. Conversely, a rather significant fraction of the digital industry is not tangible. Instead, it is built on information, intangibles, and services and helps other industrial sectors by raising their efficiency. Institutions, agencies, companies, and professionals are trying to create systems for gauging the financial influence of digital technology (Malecki & Moriset, 2007).

Businesses and Digitalisation

Globally, comprehensive digitalisation in all spheres is the target. The public worries about such radical and fundamental changes highlight the possible loss of employment by digitalisation. Those who understood this terrible outcome strengthened the case that digitalisation may provide millions of jobs in many sectors in various ways. Suppose they are ready to cohabitate in a digitalised society. In that case, people must appreciate the advantages of these developments and welcome the accompanying results, such as smart homes, vehicles, marketing, and education. Individuals will start Internet companies, work from home, and save money. Economically, digitisation could save government expenditures on education, construction, transportation, and security while enhancing global economic development and stability through digitalisation. All companies must quickly implement a digital strategy to reach this stage.

Robots, computers, and technology must coexist with strong and practical human aspects to completely digitise life. One must understand the significance of constantly exploring artificial intelligence using building machines and language interpretation. Establishing new specialisations in artificial intelligence, machine language, space science, satellite engineering, programming languages, and technology research at all universities will produce a new workforce capable of understanding future needs and innovations and manipulating societal shortages (Syed et al., 2020).

Innovation Implications

Innovation has brought small and large corporate operations experiencing endogenous economic growth (Adak, 2015). Between 2005 and 2007, Dabla-Norris et al. (2010) examined expenditures on new technologies and Research and Development (R&D) funding in developed and underdeveloped countries. Researchers found that firm performance would raise production depending on technological innovation and qualified staff. Innovation in workplaces or commercial operations uses fresh or enhanced processes, products, commodities or services, organizational strategies, or marketing techniques (Nandal et al., 2020). However, competitiveness describes the strategies, elements, and tools of institutions that define their degree of output. Therefore, nations that want to flourish in a competitive and globalized world economy depend on technical innovation and improved competitive tactics (Şener & Saridoğan, 2011).

Adopting technology in institutions and companies already in use in other nations is favourably influenced by the stock of human capital based on knowledge, skills, and attitude, improving national economic growth (Salam et al., 2019). Empirical research shows that technology is developed and adopted in nations with developed economies, then in those with less advanced economies. However, based on these countries' economic systems, any technology employed in developed countries needs to be more fit, to a certain extent, for less developed ones (Anwar & Ali Shah, 2020). A nation's economic development is paved by political issues, including policy development and decisions on the distribution of funds and human resources for using technology in institutions and companies (Redmond & Nasir, 2020). Modern economies' utilization of technology depends on an educated workforce and advanced technology.

Knowledge

Digitalization depends on knowledge as it offers the basis for understanding, using, and controlling digital technologies and systems —knowledge results in incorporating digitalization using several digital technologies and methods. Organizations and people who want to properly embrace, deploy, and use these technologies in their operations must first know their features, purposes, and possible uses. Knowledge might inspire creativity and wise judgments made. Knowledge offers the required understanding, abilities, and insights to properly negotiate and use digital technologies, procedures, and possibilities. In today's digitalised world, it is a fundamental facilitator of effective digital transformation, innovation, and competitiveness (Hellemans et al., 2022).

Infrastructure

Infrastructure readiness has become significant in forecasting actions to assess local and international business construct. Robust infrastructure readiness increases firm business digitalisation because of firm contentment (Shaw et al., 2020). Enterprises estimate their infrastructure preparedness by administering classified information to retain benefits and seek payment to develop resources, as complete knowledge generates a high-profit margin and reduces internal ambiguity (Sun et al., 2020).

Several aspects can help ease information sharing, collaborative decision-making, and joint action, which are essential for gaining market share on the international stage, relying on networks, conventions, and confidence (Crick et al., 2020). Accordingly, Jafari-Sadeghi et al. (2021) expected that the development of digital culture depends on infrastructure readiness. Enterprises with a high level of infrastructure readiness may pass networking maintenance costs to other firms that are perceived to be losing money (Sepashvili, 2020).

The negative linkage between the expansion of well-built ties and the development of the firm is noticed by Corbo et al. (2018). Ghanbari and Abdolmaleki (2020) indicated that connectivity in small and medium businesses, which leads to congestion and broader varieties of infrastructure readiness, negatively affects decision efficiency.

Value Creation

Digitalization is a necessary tool for increasing and enabling value creation within companies. Hence, value creation and digitalization are intrinsically related concepts. Digitalization gives businesses tools, technologies, and platforms to create value in various ways (Autio et al., 2021). Value creation guarantees automation, process simplification, and operation optimization, thus improving production and efficiency. Using digital technology speeds up operations, reduces human labour, and gets rid of queues.

Furthermore, value creation enhances customer connections using tailored, simple, seamless interactions. Several communication channels could improve collaboration and connection inside and outside companies, promoting cross-functional teamwork, innovation, and co-creation, generating shared information and views and thereby increasing value creation. Digitalization, therefore, helps companies create value through higher efficiency, improved customer experiences, innovation, data-driven decision-making, cooperation, market development, and flexible adaptability (Alghamdi & Durugbo, 2023).

Organizational Culture

Firm size, the centralization, formalization, and complexity of its management structure, the quality of its human resources, and the internal resource availability define the "organizational culture" in several descriptive terms. The organizational setting describes the company's traits, including employee linkage systems, intra-firm communication channels, company size, and accessible resources. In some respects, this background shapes choices about adoption and execution (Tushman & Nadler, 1986). Successful use of digital technologies in Malaysian SMEs depends on an organizational culture. A good organizational culture might inspire and encourage staff members to include digital technologies in their work. Important components of organizational culture include openness, cooperation, continuity, flexibility, and customer-centricity. Digital Technology adoption is more likely supported by a change- and innovation-friendly organizational culture (Cichosz et al., 2020). Encouragement of lifelong learning and growth in a business culture might boost employee engagement and inspire the use of digital technologies. Developing creative Strategies for SMBs to interact with and serve consumers depends on customer orientation. An organizational culture focused on customers might inspire staff members to use digital technology to enhance the customer experience.

Leadership

In the digital age, leadership is the capacity to guide and motivate people and companies to use digital technology, embrace digital transformation, and negotiate the opportunities and difficulties of the digital age. Digital leaders must see how digital technology could change their sector and company (Schiuma et al., 2022). Digital executives must also be well knowledgeable about digital technology, trends, and their possible effects on the company. Digital leaders must be flexible and nimble to negotiate the fast-shifting digital terrain. Developing and empowering their digital workforce will help digital leaders spot and nurture digital talent, offer training and upskilling opportunities, and foster creativity, teamwork, and a risk-taking atmosphere. Consequently, in a digital world, leadership calls for a mix of technology understanding, strategic thinking, flexibility, cooperation, data-driven decision-making, and a customer-centric approach (Sheninger, 2019).

Communication

Communication is important in various human lives and society because it is seen in exchanging ideas, thoughts, and information between individuals, groups, or organizations. Communication forms the foundation of personal, professional, or social relationships. It also facilitates group or organization towards teamwork, coordination, and achieving common goals. Communication helps in expressing the needs, desires, and aspirations of others. Effective communication empowers individuals to voice their concerns, negotiate, and assert their rights and preferences. Personal and professional growth can be achieved easily through communication, which yields leadership and builds strong networks. It contributes to self-confidence, self-expression, and connecting with others (Trenerry et al., 2021).

Socio-Culture

Culture includes the meanings given to physical items and the symbolic and expressive aspects of social life —including language, ideas, beliefs, values, and identity. It permeates every facet of human life, including social networks, organizational systems, and political structures (Aissani et al., 2024). Tightly entwined in social systems, sociocultural elements can

be maintained analytically separately. Within a cultural communication system, humans, domestic animals, and artefacts are considered hybrids; colonization is the constitutive activity. Using the interaction of energy, materials, and culturally driven human behaviour, these hybrid elements and the metabolic fluxes necessary to sustain them define the social system's influence on the environment (Williams, 2004).

Environment

The environment immediately affects the constituents surrounding humans, like the air, water, and health, therefore influencing both natural systems and human society. Harmful chemicals that could cause health problems and diseases are pollution, toxins, and exposure. Human health and safety also rely on geographical characteristics, natural disasters, and climate conditions. Furthermore, the surroundings influence the ecology as oceans, marshes, and forests modify their surroundings. Economic systems depend a lot on the surroundings. Many sectors use natural resources, including minerals, energy, lumber, and metals. The sectors of agriculture, fishing, and forestry most depend on the surroundings. Climate change, resource depletion, or environmental damage can have significant financial repercussions on sectors, livelihoods, and general economic stability. The surroundings shape human behaviour and adaptation techniques. Sustainable development, conservation initiatives, and tackling world problems such as climate change and biodiversity loss depend on an awareness of the effects of the surroundings (Hillary, 2017).

The digitalization of society has fundamentally changed our perspective, reaction to, and control of epidemics. Digitalization has enabled the quick spread of knowledge about pandemics, including Coronavirus. Through several digital Means like social media, websites, and mobile apps, knowledge regarding outbreak updates, preventative actions, and treatment choices may swiftly reach a broad audience. Although digitalization has many benefits for epidemic control, issues such as guaranteeing data privacy and security, correcting inequalities in digital access, and fighting false information must also be taken seriously. While attending to ethical and social issues, it is imperative to strike a balance between using digital technology for epidemic response (Golinelli et al., 2020).

Successful Digitalization

Globalization has lately raised the need for companies to adapt, which means integrating properly to survive and grow in competitive marketplaces. Effective integration requires digital processes and cooperation tools (Chang et al., 2019). As such, the relevance of digital transformation (DT) has grown. Studies show that since this problem affects more than technological developments, DT should be incorporated into present corporate viewpoints (Bouncken et al., 2021). Using and investigating what it offers can help one improve organizational agility concurrently, achieving successful firm transformation (Rafi et al., 2021). Innovative, agile companies integrate transformation needs in their strategy in response to becoming risk-resistant, thereby preserving their positions in competitive markets (Bondar et al., 2017). The relevance of the DT implementation to digital economy competitiveness (Zhang et al., 2022) is shown. Digitalization also provides innovations that "impact" DT (Hess et al., 2020), cost savings, and efficiency improvements. Scholars from several disciplines have helped to investigate DT and its benefits and drawbacks (Burton-Jones et al., 2020).

Individual Motivation (Mediator)

Under the contingency theory framework, individual motivation is a process that modifies the effect of the autonomy factors on a company's international performance (Van der Borgh et al., 2019). Arslan (2019) considered individual motivation an exogenous variable with mediating effects, while others examined motivation as the independent variable (Lornudd et al., 2015). Individuals have a broad and flexible mediating impact as they influence and motivate followers' standards and aspirations to be higher above their self-interests (Van Beverhoudt, 2021). When crowned organizations use these individual incentives, they generally reflect background elements that either enhance or limit individual motivation's presenting impact, reinforcing the link between the cost of digitalization and business (Engelen et al., 2020).

Although it has not yet been completely understood, the value of infrastructure preparedness has lately been very evident in individual motivation expansion studies (Von Krogh & Geilinger, 2019). Harmonizing the human resources approach, the younger relational infrastructure readiness approach admits that, whether or not managerial members have appropriate leadership roles, individual motivation is a continuous, relational, and socially embedded process that connects all managerial members (Birasnav et al., 2019). This point of view, therefore, takes into account not only the brain but also communication with circumstances, which play a role in efficient individual motivation (Zhang et al., 2022). Individual motivation is, therefore, a crucial factor as it enables people to participate in different environmental and situational activities of learning and creativity. The individual is related to the competence that transforms specialists in motivating social and psychological processes, inducing a global perspective (Goldsmith et al., 2003).

Theories

Several fundamental ideas guide the technology adoption research in Malaysian SMEs, especially concerning individual motivation. These ideas offer a structure for understanding the effective integration of digital technology under the impact of both human and organizational aspects. The first theory is the Technology Acceptance Model (TAM). TAM stresses that the main determinants of technology acceptance are perceived utility and ease of use. Regarding Malaysian SMEs, these impressions might greatly influence their drive to embrace new technology (Salimon et al., 2023). Incorporating further constructions like resulting demonstrability and computer self-efficacy—vital for understanding user acceptability in SMEs—the modified TAM-3 theory extends this even more (Salimon et al., 2023). The third theory is the Unified Theory of Acceptance and Use of Technology (UTAUT). Focusing on performance expectation, effort expectation, social impact, and enabling factors, UTAUT combines many theories to explain technological acceptance. These elements can influence individual motivation and organizational preparedness to accept technology in Malaysian SMEs (Abu et al., 2015). Resistance to use is one of the UTAUT modifications that emphasizes the difficulties SMEs have using new technology, affecting individual motivation (Abu et al., 2015).

Furthermore, human objectives, strategic imperatives, economic incentives, and individual motivations are crucial for technological adoption. Sometimes, entrepreneurs use technology to improve operational efficiency and get a competitive edge. The interaction of personal

incentives and external forces, including market needs and rivalry, shapes the decision-making process in SMEs even more (Park, 2024).

Conceptual Framework

Independent variables (IVs) are those which influence the result through the three factors of technological innovation, organisational culture, and digitalisation are its independent factors. Furthermore, in statistical analysis, the dependent variable (DV) shows the primary outcome or goal of the topic under consideration. The mediator variable supports the reflection of the link between dependent and independent variables. The successful digitalisation is the dependent variable in the conceptual framework. Individual motivation mediates the relationship between IV and DV. Individual motivation is the intrinsic desire and willingness of Malaysians in SMEs to embrace digitalisation. It covers elements including perceived advantages, self-efficacy, personal opinions, and apparent simplicity of usage connected to digital technology.

The dependent variable is the degree to which Malaysian SMEs have successfully incorporated digital technology into their corporate operations. It covers several factors, including the degree of digital technology adoption, integration, use, and general organisational digital maturity.

The mediating variable (MV) represents the friendliness of digital technology in customers' eyes. It influences people's view of the simplicity with which they may adopt and use digital tools, mediating the link between individual motivation and effective adoption.

The conceptual framework presents the interactions among personal motivation, perceived ease of use, advantages, organisational support, and effective adoption of digitalisation in SMEs in Malaysia. It offers a basis for study and analysis to investigate, under consideration, the mediating and moderating elements influencing this connection and how individual motivation contributes to the effective adoption of digital technologies in this environment.

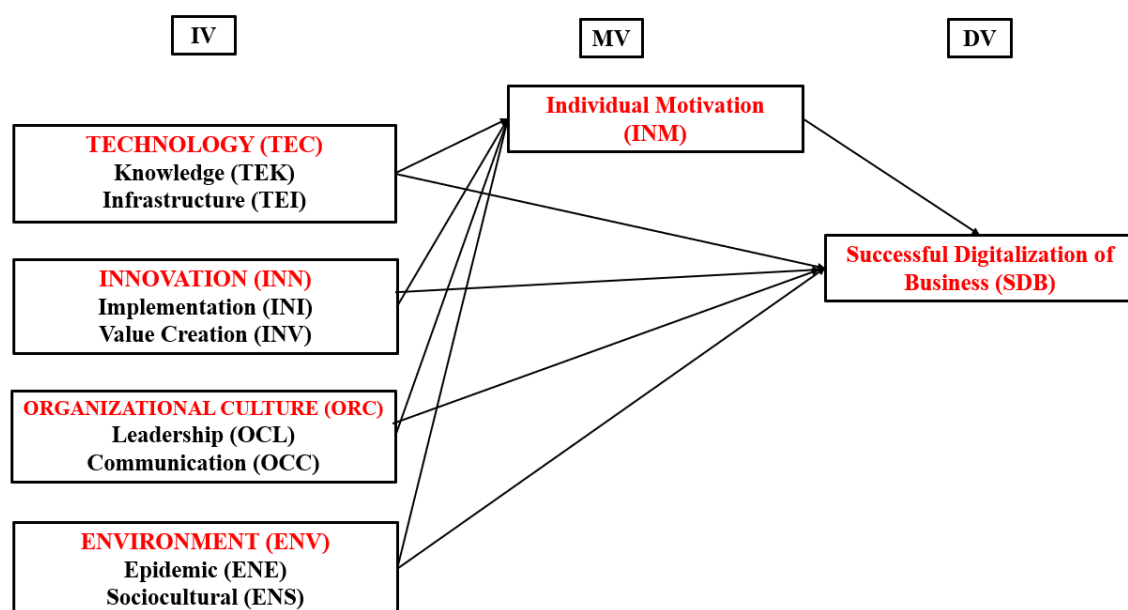


Figure 1. Proposed conceptual framework

Methodology

Primarily, research design supports solving the research questions by providing a synopsis concerning the study's goals. For researchers, a preliminary organized plan of study, data collecting techniques, and statistically analyzed data outcomes have proven to be practical research guides (Saunders et al., 2018). This study employs a quantitative approach based on positivist and interpretive methods, which form the basis of the research. From the positivist perspective, this study recognizes that the reality is vital. The interpretivist approach is necessary to compensate for weaknesses and to provide a better answer to the research issue.

Survey quantitative results depend on the resources gathered using a questionnaire. The assumptions and the unit of analysis have been precisely stated, and random selection of a suitable data set is therefore feasible thanks to data availability. The researcher sees the phenomena as an outsider seeking reliable facts and data. Based On the body of current research, hypotheses are developed and tested from the unit of analysis data. At last, axiology affects studies in addition to epistemology and ontology.

Quantitative Research Methodology

More information and understanding of the social world are the aim of quantitative research to track events or circumstances influencing individuals or organisations (Bougie & Sekaran, 2019). Objective data generated by quantitative research may be precisely expressed with numbers that statistics can quickly analyse. Quantitative researchers have been trying to establish a broad knowledge of behaviour and other events across several environments and people. Following observing the condition to be examined, the researcher develops a hypothesis and employs deductive reasoning by projecting how the data might appear should the hypothesis be valid. After gathering the data, the researcher evaluates it to validate or refute it.

Quantitative research is beneficial when many respondents are involved in the gathered data, yielding appropriate results in facts, graphs, charts, and statistics. Professionals in social science—including sociology, psychology, public health, and politics—often study quantitatively. It is also extensively applied in education, business, marketing, and healthcare (House, 2019). When a study aims to evaluate an issue or address a "what" or "how many," researchers usually employ quantitative data. Quantitative research studies aim to understand the link in a population between an independent variable and one or more dependent variables.

Population and Sampling

The data set was acquired using a structured survey questionnaire from a cross-section of companies from SMEs in the Selangor area, Malaysia. The industries covered are trade, services, information and communication technology, travel, and storage. Businesses range in size under SMEs whose ranks the Malaysia Secretariat released in 2016 (NSDC, 2016) last updated rule issued to the National SMEs Development Council (SDC). The number of workers and the capital were used to classify SMEs. Choosing SMEs is mainly motivated by their dominance over companies in the commerce and services sectors, which makes them easily reachable.

This study aims to determine the critical requirement for successful digitalisation in businesses mediated by individual motivation. The questionnaire's structure includes multiple choices and rating questions according to the five-point Likert scale as follows: Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), Strongly Agree (5). Statistical Package for the Social Sciences software (SPSS Version 26) is used to analyse survey data. This questionnaire consists of six parts, as shown in Table 1.

Table 1

Construction of the Questionnaire

Part	Construct	Variable	Code	Items
1	Demography			
2	Technology	Knowledge	TEK	7
		Infrastructure	TEI	7
3	Innovation	Implementation	INI	5
		Value Creation	INV	5
4	Organizational Culture	Leadership	OCL	5
		Communication	OCC	7
5	Environment	Epidemic	ENE	3
		Socio-cultural	ENS	4
6	Individual Motivation		INM	5
7	Successful Digitalization of Business		SDB	7
Total				55

Testing Sample Size

The chosen active companies should possess the beginning financial and personnel resources for digitalisation. According to the literature research and context analysis, the degree of digitalisation in SME firms needs to be improved. The total number of registered SMEs in Selangor is 32,657, of which 8.2% are for service. Based on the Krejcie and Morgan Table, only 378 companies could be randomly selected, with a statistical significance of 5%. Convenience sampling and non-random selection will help in choosing the sample. Stratified sampling will help to choose top management, middle management, and staff members. Equation (1) is used to determine the sample size (s) in terms of the population size (N), the population proportion (P = 0.5), the degree of accuracy (d=0.05), and the Chi-square for one degree of freedom ($\chi^2 = 3.841$). The calculation for N = 32,657 is 382, which is very close to the maximum of 384.

$s = \frac{\chi^2 NP(1 - P)}{\chi^2(N - 1) + \chi^2 NP(1 - P)}$	(1)
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Table 1

Estimation of sample size (Krejcie & Morgan, 1970)

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	1000000	384

Note: N is Population Size; S is Sample Size

Source: Krejcie & Morgan, 1970

Statistical Analysis

The act of gathering vast amounts of data and then applying statistics and other data analysis methods to find trends, patterns, and insights is known as statistical analysis. Statistical procedures require, on many occasions, big data, machine learning, and technology. Finding correlations between variables is the first step in statistical analysis, which reveals patterns and trends in raw data. Numerous domains benefit from statistics, including science, technology, business, health, communities, and the environment.

Demography Statistical Analysis

Table 2 shows the demography of the respondents, including the position, age, respondents, sector type, location, and annual turnover. The analysis shows that the valid number is 35 respondents. The analysis of the six demographic items includes the mean, median, standard deviation, skewness, standard error of skewness, and Kurtosis standard error of Kurtosis. The most important statistical variables are the skewness and the Kurtosis, which show their values within the accepted level (-7 to +7).

Table 2

Demography Descriptive Analysis

	Position	Age	Respondents	Sec_type	Location	Turnover
N	Valid	35	35	35	35	35
	Missing	0	0	0	0	0
Mean	2.3714	2.6286	2.2857	2.9429	3.0857	1.6000
Median	2.0000	3.0000	2.0000	2.0000	3.0000	1.0000
Std. Deviation	1.11370	.68966	1.22646	1.96952	.91944	1.00587
Skewness	.411	.077	.226	1.309	-.659	1.640
Std. Error of Skewness	.398	.398	.398	.398	.398	.398
Kurtosis	-1.177	-.157	-1.586	.323	-.468	1.506
Std. Error of Kurtosis	.778	.778	.778	.778	.778	.778
Minimum	1.00	1.00	1.00	1.00	1.00	1.00
Maximum	4.00	4.00	4.00	7.00	4.00	4.00

Table 3 shows the statistical results of the demography of the respondents. Regarding position, managers represent the highest at 15 out of 35 respondents (42.9%); age between 36 to 50 years (17; 48.6%); number of employees between 1 and 5 (14; 40%); sector type services (18; 51.4%); location in Shah Alam (14; 40%); and turnover of less than 1 million Ringgits (23; 65.7%).

Table 3

Demography Statistical Analysis

Position			Sector Type		
Executive	8	22.9%	Trading	5	14.3%
Manager	15	42.9%	Services	18	51.4%
Operation	3	8.6%	ICTs	4	11.4%
Others	9	25.7%	Transport / Storage	1	2.9%
Total	35	100.0%	Construction	1	2.9%
			Real Estate	1	2.9%
			Others	5	14.3%
			Total	35	100.0%
Age					
Less than 25 Years	1	2.9%	Location		
Between 25 to 35 years	14	40.0%	Gombak	2	5.7%
Between 36 to 50 years	17	48.6%	Ampang	7	20.0%
More than 50 years	3	8.6%	Petaling	12	34.3%
Total	35	100.0%	Shah Alam	14	40.0%
			Total	35	100%
No of Employees			Turnover		
1 - 5	14	40.0%	Less than RM 1m	23	65.7%
6 - 10	5	14.3%	Between RM 1-3m	7	20.0%
11 - 49	8	22.9%	Between RM 4-10m	1	2.9%
More than 50	8	22.9%	More than RM 10m	4	11.4%
Total	35	100.0%	Total	35	100%

Reliability of all Variables

Table 4 shows the correlation between each item in a set of test questions. A correlation matrix is a key part of item analysis used to assess how well the items on a scale measure the same concept. There are eight IVs (TEK, TEI, INI, INV, OCL, OCC, ENE, and ENS), DV (SDB), and the mediating variable (INM). The range of R2 is between 0 and 1, with 0 (no correlation) and 1 (complete correlation). The values of R2 between 0.2 and 0.5 suggest that items moderately measure the consistency among the variables; however, for values of R2 greater than 0.7, the items highly measure the consistency among the construct. The lowest value of R2 (0.115) appears between the correlating epidemic (ENE) and the value creation (INV), suggesting a very low correlation where the epidemic is not necessarily creating better values. The highest correlation (0.738) appears between individual motivation (INM) and implementation (INI). Seemingly, INM results in faster implementation of digitalization. In addition, the values of Cronbach alpha range between 0.841 (SDB) and 0.898 (ENE). For the total correlation between variables, R2 ranges between 0.164 (ENE) and the highest value, 0.739 (INI), suggesting that the epidemic is not well correlated, more likely because the data collection took place way after the Coronavirus. On the other hand, the Cronbach alpha is high for INI, showing that implementing digital systems has become necessary, especially in the last three years. All correlations between domains and total scores were tested under a $p = 5\%$ significance.

Table 4

Reliability and internal consistency of all variables

Variable	Reliability		Internal Consistency									
	R2	Cronbach Alpha	TEK	TEI	INI	INV	OCL	OCC	ENE	ENS	INM	SDB
TEK	.467	.854	1.000	.330	.647	.389	.336	.339	.317	.318	.440	.384
TEI	.426	.853	.330	1.000	.339	.537	.530	.404	.177	.177	.420	.476
INI	.739	.841	.647	.339	1.000	.438	.348	.456	.303	.450	.738	.531
INV	.502	.850	.389	.537	.438	1.000	.542	.269	.115	.316	.392	.599
OCL	.576	.845	.336	.530	.348	.542	1.000	.389	.267	.440	.500	.600
OCC	.399	.856	.339	.404	.456	.269	.389	1.000	.214	.152	.525	.481
ENE	.164	.868	.317	.177	.303	.115	.267	.214	1.000	.219	.232	.187
ENS	.348	.860	.318	.177	.450	.316	.440	.152	.219	1.000	.358	.436
INM	.653	.843	.440	.420	.738	.392	.500	.525	.232	.358	1.000	.479
SDB	.578	.841	.384	.476	.531	.599	.600	.481	.187	.436	.479	1.000

Reliability and Internal Consistency of Items*The Knowledge*

The questionnaire for this study consists of seven parts, including the demography. The six parts comprise 55 items, as shown in Table 1. The correlation matrix, R2 and Cronbach alpha are analyzed in this and the following paragraphs. Table 5 describes the first variable, knowledge, which includes seven items. The smallest value of R2 (0.157) is with the item TEK-02, while the highest value (0.457) belongs to TEK-05. The values of Cronbach alpha range between 0.554 (TEK-05) and 0.636 (TEK-07); both values are within the highly-moderated level.

The correlation matrix shows that TEK-03 and TEK-04 are not correlated (0.00), while TEK-03 and TEK-05 are strongly correlated (0.429). To understand the no-correlation status, searching for possible justification is advisable. TEK-03 and TEK-04 state that “the

development of your firm effectively manages current digitalization issues for future competition” and “databases adapt to global technology to aid and update information,” respectively. There seems to be a misunderstanding of the concepts of the two statements, as the first one talks about digitalization and future work. In contrast, the second statement talks about the importance of the database without mentioning digitalization.

Regarding the demography, the operator position constitutes 25.7%, and the company sector of ICTs constitutes 11.4%. The statements were highly understood by less than a quarter of the whole population. With this in mind, the non-correlation of 0.00 could be justified.

Table 5

Reliability and Internal Consistency of knowledge items

Items	Reliability		Internal Consistency						
	R2	Cronbach Alpha	TEK_01	TEK_02	TEK_03	TEK_04	TEK_05	TEK_06	TEK_07
TEK_01	.239	.574	1.000	.067	.312	.316	.357	.158	.130
TEK_02	.157	.598	.067	1.000	.214	.251	.234	.255	.079
TEK_03	.443	.573	.312	.214	1.000	.000	.429	.399	.039
TEK_04	.261	.599	.316	.251	.000	1.000	.229	.234	.064
TEK_05	.457	.554	.357	.234	.429	.229	1.000	.007	.370
TEK_06	.330	.596	.158	.255	.399	.234	.007	1.000	.071
TEK_07	.186	.636	.130	.079	.039	.064	.370	.071	1.000

Infrastructure

Table 6 describes the second variable, knowledge, which includes 7 items (see Table 1). The smallest value of R2 (0.194) is with the item TEI-07, while the highest value (0.488) belongs to TEI-05. The values of Cronbach alpha range between 0.5194 (TEI-07) and 0.600 (TEI-05); both values are within the highly-moderated level.

The correlation matrix shows that TEI-07 and TEI-02 are weakly correlated (0.064), while TEI-06 and TEI-02 are strongly correlated (0.575). To understand the weak correlation status, looking at the statement of the two involved items is imperative. TEI-02 and TEI-07 state that “my firm uses communication and information system infrastructure such as network and computer hardware and software” and “hardware and modern equipment are available,” respectively. The two statements are complementary, and most respondents have not focused on the purpose of each statement. As the first statement declares the availability of the hardware, the second statement was misunderstood, and there is no reason to be included.

Table 6

Reliability and Internal Consistency of infrastructure items

Items	Reliability		Internal Consistency						
	R2	Cronbach Alpha	TEI 01	TEI 02	TEI 03	TEI 04	TEI 05	TEI 06	TEI 07
TEI_01	.337	.639	1.000	.211	.173	.409	.419	.139	.221
TEI_02	.360	.669	.211	1.000	.183	.351	.195	.575	.064
TEI_03	.460	.722	.173	.183	1.000	.147	.445	.202	.322
TEI_04	.477	.600	.409	.351	.147	1.000	.280	.541	.305
TEI_05	.488	.600	.419	.195	.445	.280	1.000	.336	.237
TEI_06	.613	.646	.139	.575	.202	.541	.336	1.000	.175
TEI_07	.194	.659	.221	.064	.322	.305	.237	.175	1.000

Implementation

Table 7 describes the third variable, implementation, which includes five items (see Table 1). The smallest value of R2 (0.154) is with the item INI-04, while the highest value (0.631) belongs to INI-03. The values of Cronbach alpha range between 0.353 (INI-03) and 0.638 (INI-02); both values are within the moderate and high range.

The correlation matrix shows that INI-05 and INI-02 are weakly correlated (0.112), while INI-05 and INI-01 are strongly correlated (0.683). To understand the weak correlation status, looking at the statement of the two involved items is imperative. INI-02 and INI-05 state that “the organization decided to transform for agility and performance digitally” and “without digitization, companies must recruit more workers for routine jobs,” respectively. The two statements target two goals that coincide with each other. As the first statement indicates a quick digital transformation, the second statement emphasizes the importance of new recruiting without explicitly mentioning the type of those recruits.

Table 7

Reliability and Internal Consistency of implementation items

Item	Reliability		Internal Consistency				
	R2	Cronbach Alpha	INI_01	INI_02	INI_03	INI_04	INI_05
INI_01	.523	.478	1.000	.192	.540	.055	.683
INI_02	.411	.638	.192	1.000	.317	.390	.112
INI_03	.631	.353	.540	.317	1.000	.144	.666
INI_04	.154	.637	.055	.390	.144	1.000	.046
INI_05	.626	.457	.683	.112	.666	.046	1.000

Value Creation

Table 8 describes the fourth variable, value creation, which includes five items (see Table 1). The smallest value of R2 (0.085) is with the item INV-03, while the highest value (0.305) belongs to INV-01. The values of Cronbach alpha range between 0.493 (INV-01) and 0.604 (INV-03); both values are within the moderate and high range.

The correlation matrix shows that INV-04 and INV-05 are weakly correlated (0.112), while INV-01 and INV-04 are relatively strongly correlated (0.486). To understand the weak correlation status, looking at the statement of the two involved items is imperative. INV-04 and INV-05 state that “digital marketing significantly increased value generation” and “using

social media to create value reduces organizational issues,” respectively. The two statements seem to talk about two different scenarios. As the first statement indicates that digitalization increases value generations, the second statement talks about the influence of social media not on digitalization but instead the reduction of organizational issues. The two statements are factually correct with reasonable Cronbach alpha values; however, their R2 values are weak (0.271 and 0.149), respectively. The respondents found no strong relationship between the two statements.

Table 8

Reliability and Internal Consistency of value creation items

Item	Reliability		Internal Consistency				
	R2	Cronbach Alpha	INV_01	INV_02	INV_03	INV_04	INV_05
INV_01	.305	.493	1.000	.195	.244	.486	.303
INV_02	.140	.579	.195	1.000	.178	.266	.281
INV_03	.085	.604	.244	.178	1.000	.196	.161
INV_04	.271	.538	.486	.266	.196	1.000	.148
INV_05	.149	.592	.303	.281	.161	.148	1.000

Leadership

Table 9 describes the fifth variable, leadership, which includes five items (see Table 1). The smallest value of R2 (0.120) is with the item OCL-03, while the highest value (0.550) belongs to OCL-05. The values of Cronbach alpha range between 0.711 (OCL-05) and 0.820 (OCL-03); both values are within the high range.

The correlation matrix shows that OCL-02 and OCL-03 are weakly correlated (0.268), while OCL-01 and OCL-05 are strongly correlated (0.661). To understand the weak correlation status, looking at the statement of the two involved items is imperative. OCL-02 and OCL-03 state that “company leadership becomes less independent due to digitalization” and “digitalization causes firms to globalize and abandon community responsibilities,” respectively. The two statements talk about two different scenarios. As the first statement suggests, the concept of leadership undergoes significant changes and becomes independent; the idea can be comprehended mainly by the executive (22.9%), which is over a quarter of the population. The second statement discusses globalization under digitalization, suggesting that SMEs could abandon social responsibility. Social responsibility, or corporate social responsibility (CSR), is a relatively new concept that is not very well known to most respondents. Accordingly, the Cronbach alpha values for OCL-02 and OCL-03 are more than sufficient; however, the values of R2 are 0.484 and 0.120, respectively.

Table 9

Reliability and Internal Consistency of leadership items

Item	Reliability		Internal Consistency				
	R2	Cronbach Alpha	OCL_01	OCL_02	OCL_03	OCL_04	OCL_05
OCL_01	.449	.747	1.000	.416	.280	.399	.661
OCL_02	.484	.728	.416	1.000	.268	.651	.549
OCL_03	.120	.820	.280	.268	1.000	.280	.287
OCL_04	.474	.731	.399	.651	.280	1.000	.533
OCL_05	.550	.711	.661	.549	.287	.533	1.000

Communication

Table 10 describes the sixth variable, communication, which includes seven items (see Table 1). The smallest value of R2 (0.160) is with the item OCC-06, while the highest value (0.385) belongs to OCC-07. The values of Cronbach alpha range between 0.561 (OCC-07) and 0.659 (OCC-01); both values are within the moderately high range.

The correlation matrix shows that OCC-05 and OCC-06 are weakly correlated (0.003), while OCC-01 and OCC-07 are strongly correlated (0.479). To understand the weak correlation status, looking at the statement of the two involved items is imperative. OCC-05 and OCC-06 state that “communication helps adopt new digital communication methods and technology” and “better communication improves productivity and efficiency,” respectively. The two statements talk about the influence of communication on adopting digitalization and improving productivity and efficiency, respectively. The two statements are accurate and factual; however, there is doubt among respondents about the extent of the effect of the communication on creating a new type of communication called “digital communication”. For this reason, OCC-05 has shown a very weak correlation with all other six items in this variable. Although the Cronbach alpha value of OCC-05 is 0.596, the relevant R2 is low (0.227), which reflects the weak correlation.

Table 10

Reliability and Internal Consistency of communication items

Items	Reliability		Internal Consistency						
	R2	Cronbach Alpha	OCC 01	OCC 02	OCC 03	OCC 04	OCC 05	OCC 06	OCC 07
OCC_01	.276	.659	1.000	.008	.023	.005	.080	.022	.479
OCC_02	.314	.572	.008	1.000	.179	.419	.338	.232	.309
OCC_03	.273	.578	.023	.179	1.000	.389	.312	.272	.257
OCC_04	.301	.560	.005	.419	.389	1.000	.333	.221	.229
OCC_05	.227	.596	.080	.338	.312	.333	1.000	.003	.241
OCC_06	.160	.640	.022	.232	.272	.221	.003	1.000	.006
OCC_07	.385	.561	.479	.309	.257	.229	.241	.006	1.000

Epidemic

Table 11 describes the seventh variable, epidemic, which includes three items (see Table 1). The smallest value of R2 (0.182) is with the item ENE-03, while the highest value (0.277) belongs to ENE-02. The values of Cronbach alpha range between 0.370 (ENE-02) and 0.534 (ENE-03); both values are within the moderate range.

The correlation matrix shows that ENE-01 and ENE-03 are weakly correlated (0.342), while ENE-01 and ENE-02 are strongly correlated (0.395). To understand the weak correlation status, looking at the statement of the two involved items is imperative. ENE-01 and ENE-03 state that “your company has opted to build analytics and big data management skills to integrate new business processes due to the epidemic” and “digitalization is supposed to help firms innovate during epidemics,” respectively. The two statements focus on two different issues. ENE-01 talks about a possible future digital implementation, while the second statement also concerns an expectation of digital implementation. The respondents dealt with these issues as futuristic incidents and did not take them seriously. It can be noticed that both R2 and Cronbach alpha are low for all items in addition to small correlation factors.

Table 11

Reliability and Internal Consistency of epidemic items

Item	Reliability		Internal Consistency		
	R2	Cronbach Alpha	ENE_01	ENE_02	ENE_03
ENE_01	.204	.461	1.000	.395	.342
ENE_02	.277	.370	.395	1.000	.350
ENE_03	.181	.534	.342	.350	1.000

Socio-Cultural

Table 12 describes the eighth variable, sociocultural, which includes four items (see Table 1). The smallest value of R2 (0.132) is with the item ENS-02, while the highest value (0.257) belongs to ENS-04. The values of Cronbach alpha range between 0.335 (ENS-04) and 0.557 (ENS-02); both values are within the moderate range.

The correlation matrix shows that ENS-01 and ENS-02 are weakly correlated (0.023), while ENS-01 and ENE-04 are moderately correlated (0.358). To understand the weak correlation status, looking at the statement of the two involved items is imperative. ENS-01 and ENS-02 state that “digitalization could change the sociocultural attitudes in the company as high-tech devices are utilized and applied” and “it is unknown how organizations would balance well-being and work life in the digital age, especially the feeling of humans as valued creatures,” respectively. The two statements have almost the same goal and timing. However, the first statement talks about the sociocultural attitudes in the company, while the second statement talks about balancing specific issues upon implementing digitalization. Most companies do not deal with IT technologies except 11.4%, where the respondents are familiar with the digital age. Despite the good Cronbach alpha values, the R2 values of all items are relatively low.

Table 12

Reliability and Internal Consistency of sociocultural items

Item	Reliability		Internal Consistency			
	R2	Cronbach Alpha	ENS_01	ENS_02	ENS_03	ENS_04
ENS_01	.174	.535	1.000	.023	.257	.358
ENS_02	.132	.577	.023	1.000	.218	.300
ENS_03	.154	.421	.257	.218	1.000	.334
ENS_04	.257	.335	.358	.300	.334	1.000

Individual Motivation

Table 13 describes the ninth variable, individual motivation, which includes five items (see Table 1). The smallest value of R2 (0.115) is with the item INM-05, while the highest value (0.361) belongs to INM-01. The values of Cronbach alpha range between 0.415 (INM-01) and 0.581 (INM-04); both values are within the moderate range.

The correlation matrix shows that INM-03 and INM-04 are weakly correlated (0.013), while INM-01 and INM-03 are highly correlated (0.532). To understand the weak correlation status, looking at the statement of the two involved items is imperative. INM-03 and INM-04 state that “digital goods, platforms, and services simplify things” and “digital infrastructures like technology systems improve results,” respectively. The two statements talk about the outcome of the implementation of digitalization. The first statement focuses on how services will become simple; it is not all services because digitalization itself is not a simple concept requiring very special skills. The second statement talks about improving results with digitalization, which is highly expected, but it is not a common idea among all respondents. Those respondents who comprehend this idea are only a tiny sector of respondents. With this analysis in mind, the weak correlation between INM-03 and INM-04 can be understood.

Table 13

Reliability and Internal Consistency of individual motivation items

Item	Reliability		Internal Consistency				
	R2	Cronbach Alpha	INM_01	INM_02	INM_03	INM_04	INM_05
INM_01	.361	.415	1.000	.222	.552	.192	.288
INM_02	.143	.579	.222	1.000	.118	.342	.066
INM_03	.338	.490	.552	.118	1.000	.013	.306
INM_04	.144	.581	.192	.342	.013	1.000	.068
INM_05	.115	.564	.288	.066	.306	.068	1.000

Successful Digitalization Business

Table 14 describes the tenth variable, successful digitalization business, which includes five items (see Table 1). The smallest value of R2 (0.167) is with the item SDB-05, while the highest value (0.433) belongs to SDB-02. The values of Cronbach alpha range between 0.433 (SDB-03) and 0.530 (SDB-05); both values are within the high range.

The correlation matrix shows that SDB-01 and SDB-04 are weakly correlated (0.025), while SDB-02 and SDB-04 are highly correlated (0.690). To understand the weak correlation status, looking at the statement of the two involved items is imperative. SDB-01 and SDB-04 state that “digitalization improves my life and gives me greater business independence” and “strategic management and marketing will improve with digital technologies,” respectively. The two statements talk about the consequences of the implementation of digitalization. The first statement focuses on the expected independence due to digitalization, while the second discusses possible improvement. However, the two statements require excellent AI technology knowledge to visualize these outcomes. Only 11.4% of the respondents have a vision of digitalization, as those respondents belong to the ICT sector. Hence, it is expected that the respondents of others will not be entirely accurate. Under this impression, the weak correlation between SDB-01 and SDB-04 can be recognized.

Table 14

Reliability and Internal Consistency of successful digitalization business items

Items	Reliability		Internal Consistency						
	R2	Cronbach Alpha	SDB_01	SDB_02	SDB_03	SDB_04	SDB_05	SDB_06	SDB_07
SDB_01	.275	.454	1.000	.069	.421	.025	.337	.114	.166
SDB_02	.541	.488	.069	1.000	.162	.690	.056	.151	.014
SDB_03	.418	.433	.421	.162	1.000	.004	.293	.052	.465
SDB_04	.578	.436	.025	.690	.004	1.000	.120	.383	.082
SDB_05	.167	.530	.337	.056	.293	.120	1.000	.068	.031
SDB_06	.216	.494	.114	.151	.052	.383	.068	1.000	.216
SDB_07	.264	.456	.166	.014	.465	.082	.031	.216	1.000

Pearson Correlation

The study employs Pearson's correlation to establish a relationship between two variables that are related in a linear relationship. Pearson correlation ranges between -1 and +1 with 0, which indicates no correlation. The positive and negative correlations describe a direct and inverse relationship between the two variables. The strength of the correlation was identified based on the Pearson statistical based on the following classification: 0.00-0.19 (very weak); 0.20-0.39 (weak); 0.40-0.59 (moderate); 0.60-0.79 (strong); and 0.80-1.00 (very strong). Based on these suggested values, the correlation values considered here are between 0.30 and 1.00 (Emmert-Streib & Dehmer, 2019). Pearson correlation was estimated at either 0.05 (*), 0.01 (**), 2-tailed significance, or significance of more than 0.05 (insignificance), as indicated.

Table 15 contains 100 pairs, out of which 15 are insignificant pairs whose significance (sig more than 0.05). The variable Epidemic under the construct of environment shows insignificant results compared to all other variables (8 out of 15). The possible reason for this result is that the survey was conducted after the Epidemic of Coronavirus ended in 2022. After about two years, people have not looked back to the severe effects and terrible consequences of that Epidemic. The author thinks that this psychological behaviour deserves to be carefully studied. What was said during the Epidemic that the impact could last for generations before it is forgotten was an inaccurate estimation, at least from the perspective of this study. The other variable that shows five insignificant correlations is the variable sociocultural under the construct of environment. The construct of the environment has 13 insignificant pairs out of 15. The last two insignificant pairs are the infrastructure variable under the construct of technology and the variable communication under the construct of organizational culture.

Table 15

Pearson correlation

		TEK	TEI	INI	INV	OCL	OCC	ENE	ENS	INM	SDB
TEK	Pearson Corr.	1									
	Sig. (2-tailed)										
TEI	Pearson Corr.	.330	1								
	Sig. (2-tailed)	.053									
INI	Pearson Corr.	.647**	.339*	1							
	Sig. (2-tailed)	.000	.047								
INV	Pearson Corr.	.389*	.537**	.438**	1						
	Sig. (2-tailed)	.021	.001	.008							
OCL	Pearson Corr.	.336*	.530**	.348*	.542**	1					
	Sig. (2-tailed)	.049	.001	.041	.001						
OCC	Pearson Corr.	.339*	.404*	.456**	.269	.389*	1				
	Sig. (2-tailed)	.046	.016	.006	.118	.021					
ENE	Pearson Corr.	.317	.177	.303	.115	.267	.214	1			
	Sig. (2-tailed)	.063	.308	.077	.510	.121	.216				
ENS	Pearson Corr.	.318	.177	.450**	.316	.440**	.152	.219	1		
	Sig. (2-tailed)	.063	.309	.007	.064	.008	.382	.206			
INM	Pearson Corr.	.440**	.420*	.738**	.392*	.500**	.525**	.232	.358*	1	
	Sig. (2-tailed)	.008	.012	.000	.020	.002	.001	.180	.034		
SDB	Pearson Corr.	.384*	.476**	.531**	.599**	.600**	.481**	.187	.436**	.479**	1
	Sig. (2-tailed)	.023	.004	.001	.000	.000	.003	.283	.009	.004	
**. Correlation is significant at the 0.01 level (2-tailed).											
*. Correlation is significant at the 0.05 level (2-tailed).											

Ethical

Data has become an integral part of people's everyday lives and a component that fosters social growth, creating social and economic development, social structure, and lifestyle changes. Big data processing and analysis may simplify, organize, and exploit difficult-to-collect data. The relevant technology has expanded information gathering, so it can rapidly and correctly retrieve important information from a complicated and extensive database to aid decision-makers. SMEs and corporate social responsibility typically deal with society, and data have become more vulnerable because of their involvement in societal affairs (Hmidah et al., 2023).

As a traditional industry of the national economy, industries depend, to a certain extent, on competition, which requires a certain level of security and confidentiality. SMEs are rapidly growing in marketing, highlighting the most important share of the national economy. This growth requires technology involvement, especially in the digital age. Digitalization has caused adverse consequences by deepening the importance of security as big data datasets are subjected to cyberattacks.

In particular, more than 382 companies were contacted in this research to fill out a well-structured questionnaire. The respondents were briefed about their confidentiality and ethical obligations.

Conclusion

The number of samples for the pilot study was randomly taken at 35 out of 97. SPSS was used to estimate the percentages of the demographic attributes of the respondents, internal consistency validity, validation of all constructs, and Pearson's correlation. Concerning demography, the results show that the manager's position is the highest among respondents at 42.9%, service companies at 51.4%, and age (36-50) at 48.6%. The minimum reliability appeared between the epidemic (ENE) and the value creation (INV) (0.115), suggesting a very low correlation where the epidemic is not necessarily creating better values. The highest correlation (0.738) appears between individual motivation (INM) and implementation (INI). Pearson correlation was estimated at either 0.05 (*), 0.01 (**) 2-tailed significance, or significance of more than 0.05 (insignificance), as indicated. The lowest value of R² (0.115) appears between the correlating epidemic (ENE) and the value creation (INV). The highest correlation (0.738) appears between individual motivation (INM) and implementation (INI). Seemingly, INM results in faster implementation of digitalization. In addition, the values of Cronbach alpha range between 0.841 (SDB) and 0.898 (ENE). For the total correlation between variables, R² ranges between 0.164 (ENE) and the highest value, 0.739 (INI), suggesting that the epidemic is not well correlated, more likely because the data collection took place way after the Coronavirus. On the other hand, the Cronbach alpha is high for INI, showing that implementing digital systems has become necessary, especially in the last three years. All correlations between domains and total scores were tested under a $p = 5\%$ significance.

Integrating innovative practices within SMEs can improve performance and customer satisfaction, essential for thriving in a digital economy. A supportive organizational culture that encourages experimentation and embraces change is vital for successful digitalization; however, resistance to change can hinder progress. Meanwhile, leadership is critical in fostering a culture that prioritizes digital initiatives, influencing employee motivation and engagement. The results have shown that the questionnaire elements have been successfully validated with mainly alpha Cronbach factor (0.843), which is higher than 0.6 -the threshold accepted by most researchers. Hence, work on the broader scale of testing and analysis could proceed.

Contribution

There are numerous theoretical and contextual contributions of technology, innovation, organisational culture, and work environment to the adoption of digitalisation by Malaysian SMEs, mediated by individual motivation. These components have a cumulative impact on SMEs' preparedness and competence to embrace digital transformation, particularly in the context of Industry 4.0. Mohamed et al. (2023) claimed that technical improvements such as Industry 4.0 are critical for SMEs to remain competitive in an ever-changing market scenario. Additionally, Zabri (2024) proved that SMEs' technical preparedness substantially impacts their use of digital technologies. Hooi and Chan (2023) discovered that boosting employee involvement and acceptance of digitalisation can catalyse digital transformation, turning cultural, inventive developments (Khin & Kee, 2022). Another addition to this research is that digitalisation increases individual motivation (Khin & Kee, 2022). Meanwhile, Chin et al. (2023) stated that digitalisation benefits firms by giving a road map to overcome financial restrictions and reluctance to change while SMEs advance.

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