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Digital transformation in Vietnamese SMEs: managerial implications

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Abstract

Purpose – The purpose of this paper is to investigate the implementation of digital transformation in small and medium-sized enterprises in Vietnam.
Design/methodology/approach – The research features in-depth personal interviews with SME executives and managers.
Findings – The findings of this study may be summarized into five main areas: (1) multi-tasking role and scarcity of resources; (2) risk; (3) data-driven decision-making processes; (4) efficient communications; and (5) strategic issues. These categories emerged from the content analysis process.
Research limitations/implications – Qualitative research provides a good explanation for situations in actual firms but may not always be generalizable.
Practical implications – Means of overcoming problems with implementing digital transformation in Vietnamese SMEs are provided.
Originality/value – Most studies of Vietnamese companies focus on intensive manufacturing and membership in supply chains. Few studies consider the emergent service and technology sector.

Keywords Corporate governance, Digital transformation, Leadership, SMEs, Vietnam
Paper type Research paper

1. Introduction

Vietnam's economy depends to a considerable extent on a series of factors that make digitalization particularly important: the transformation of large state-owned enterprises into more market-friendly corporations; the role of Vietnam as a site for assembly and manufacturing and the presence of extensive supply chains organizing activities. In addition, the Trump administration in the USA (2016–2020) initiated a trade war with China which meant, in part, the relocation of a number of activities from China to Vietnam, some on a temporary and some on a permanent basis. Further, the coronavirus pandemic has caused many involved in business to conduct their activities remotely, either voluntarily or because of government orders. Digitalization or digital transformation (DT) is understood to be a complex and transdisciplinary issue that might be defined as "... a process where digital technologies create disruption triggering strategic responses from organizations that seek to

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alter their value creation paths while maintaining the structural changes and organizational barriers that affect the positive and negative outcomes of this process (Vial, 2019)."

Digital technologies incorporate future technologies (e.g. quantum computing and artificial general intelligence), integrating technologies (e.g. robotics and the Internet of Things), transactional technologies (e.g. imaging and cloud computing) and semiconductor technologies (Abell, 2020). Introducing such technologies into a company can have numerous potential advantages, from increased efficiency in communications to reduced costs in administration and reduced risk in operations resulting from redundancy in data storage. However, such improvements are often potential rather than actual because of the complexity of introducing DT, especially when compared with the resources that can be made available to manage the process. The complex interplay of forces, institutional and cultural, combined with the significant changes to working patterns and the costs involved in what can be a skilled-labour-intensive process means that failures of implementation can be common (Kholeif, 2007). There is also the issue that employees who are concerned that technological change will reduce their level of control over the workplace and in social relations in the workplace will resist change and that can also lead to failure (Mueller, 2021). What can be done, therefore, to try to ensure that DT can take place successfully and its benefits brought into effect so as to assist in the development of the Vietnamese economy as a whole? Are there specific issues that should be addressed in order to improve the likelihood of this taking place? These questions are considered in the context of the Vietnamese economy, which is reaching a point of inflection known as the Middle Income Trap, which requires an economic transformation to enable domestic consumption to replace some part of the export growth that had previously dominated economic development. Are there particular aspects of the Vietnamese economy that are relevant to this discussion? Research by the World Bank (Cirera *et al.*, 2021) shows that only a small number of Vietnamese firms have begun DT in earnest and, among them, the manufacturing sector fares the worst. It is claimed that the lack of high-quality management is a significant contributing factor to these issues. It is also the case that a small number of very large firms are supported by the government to lead the way with much of the everyday DT that will lead to a digital society (e.g. Central City Speeds up Digiral Transformation, 2023). It is well-established that the Vietnamese government's favouring of state-owned enterprises (SOEs) tends to squeeze out the potential involvement of SMEs (e.g. Thang and Freeman, 2009).

The paper is organized in an orthodox manner, with this introduction succeeded by sections addressing the literature review (Section 2), methodology (Section 3), findings (Section 4), discussion and conclusion (Sections 5 and 6). It reports on research conducted on DT in Vietnam for the RMIT-KPMG Centre of Governance and support from this organization is gratefully acknowledged.

2. Literature review

2.1 Digital transformation

DT has received much attention from scholars over the past decade (Agarwal *et al.*, 2010; Galindo-Martín *et al.*, 2019; Burton-Jones *et al.*, 2020). The existing literature has discussed it in terms of required resources and capabilities (Hess *et al.*, 2016; Frank *et al.*, 2019; Guinan *et al.*, 2019), transformation processes and modes (Schallmo *et al.*, 2017) and benefits (Warner and Wäger, 2019; Hoang *et al.*, 2020). The conceptualization of DT has evolved over the decades. In the earlier stage, enterprises were mostly concerned about adopting internal management information systems, such as enterprise resource planning (ERP) or customer relationship management (CRM) systems (Agarwal *et al.*, 2010). The transformations they promoted were mainly limited to improvements in business processes in a number of areas, such as cost reduction and business process optimization (Matt *et al.*, 2015; Li *et al.*, 2018). More recently, cross-boundary technological systems such as e-commerce and social media

have been widely employed by enterprises. DT driven by advancement in information technologies goes far beyond internal business processes and causes significant transformations to business models (Frank *et al.*, 2019; Li, 2020), organizational strategy and corporate culture (Singh and Hess, 2017; Sainger, 2018; Hoang *et al.*, 2020).

Recent interest in organizational DT derives from extensive changes not only to the business information system but, also, influences organizational routines, business processes, capabilities and culture (Li *et al.*, 2018). Large corporations can develop and deploy their own digital platforms more easily. Equipped with abundant resources and capabilities, they can orchestrate internal resources to develop critical capabilities that allow them to overcome organizational inertia and resistance to change (Helfat and Raubitschek, 2018; Correani *et al.*, 2020; Eller *et al.*, 2020). However, most SMEs have faced a variety of difficulties and one of their potential solutions is to rely on third-party digital platforms (Castagna *et al.*, 2020; Westerlund, 2020).

Although SME DT has drawn research interest over the last few years, much research on this phenomenon has focused on technological functionalities offered by the platforms investigating the effectiveness of specific tools such as online communication tools and transaction processes (Bouwman *et al.*, 2019; Castagna *et al.*, 2020). Nonetheless, innovation management scholars have agreed that DT is more a managerial issue than a technical one: Successful DT demands not only acquiring and deploying technical resources but, also and perhaps more importantly, tackling managerial issues such as redesigning business processes and training (Li, 2020; Crupi *et al.*, 2020) and investing in human resources and organizational design (Li *et al.*, 2018; Hoang *et al.*, 2020; Dethine *et al.*, 2020). However, there has not been much research exploring how SMEs handle management issues in DT.

It has long been recognized that business leaders play a critical role in digital-induced organizational changes such as DT (Singh and Hess, 2017; Sainger, 2018; Klein, 2020). In particular, business leaders' understanding of DT and belief in its potential benefits are key to the successful adoption and implementation of digital technologies (Klein, 2020; Hoang *et al.*, 2020). Nevertheless, many SME leaders do not fully understand IT or DT. Limited by their own experience and past success, they are not easily convinced of the value of digital technologies and nor are they ready to engage in DT proactively (Heavin and Power, 2018; Isensee *et al.*, 2020). Such cognitive inertia from SME leaders can be a problem to solve when they are doing business in the digital era. Moreover, SME leaders have to deal with multi-tasking roles and the scarcity of resources. It is vital to go forward with more data-driven decision-making processes, new ways of communication and new business models. However, these leaders need to understand where they are and what hurdles and pitfalls confront them in order to have a suitable strategy in place (Frank *et al.*, 2019; Brock and Von Wangenheim, 2019; Bouwman *et al.*, 2019). So far, researchers have highlighted potential challenges for SME leaders during the DT of their organization and how successfully to lead the DT. There is not so much information available about the ways in which DT has generated new managerial problems in the firms which have employed this and the ways in which such problems have been confronted. In particular, it is intended to find ways and strategies that managers can use to overcome problems arising from implementing DT in their own organizations.

2.2 Small and medium-sized enterprises

Universally, SMEs dominate national economies in terms of numbers and provision of jobs, although the actual proportion contributed to national GDP tends to be rather lower because of the higher productivity of larger firms. In many countries, including Vietnam, many if not most SMEs are in fact micro-enterprises, with fewer than 10 employees and, indeed, very often being own account workers (a form of self-employment). These businesses are very low on resources and tend to add very little value to production and are mostly precarious. Government policy has favoured both state-owned enterprises and foreign-owned

enterprises rather than domestic SMEs (Co *et al.*, 2017). This project focused on relatively large and more established businesses within the SME sector.

SMEs in Vietnam are categorized as being micro, small or medium in size with an upper limit of 200 employees and must meet one or both of two criteria: total capital not exceeding VND100 billion (approximately US$4.4m) or total revenue from the previous year did not exceed VND300bn (approximately US$13.2m) (Dezan Shira and Associates, 2017). The Vietnamese government provides various benefits and incentives to SMEs to help them cope with problems that are common in most countries, such as difficulties with access to finance, poorly trained and educated staff, unfair competition and so forth. This is because SMEs are valued for their ability to be innovative and agile in responding to new opportunities, help to distribute goods and services to every part of the country and for their role in enabling women and young people to become part of the functional labour force.

One of the characteristics of SMEs in developing economies is the preponderance of small and micro enterprises and, compared to developed economies, much fewer of medium-sized enterprises. This missing middle phenomenon is known to be problematic in that incoming foreign investing firms will look for them to become partners and incorporate them into their supply chains. In a quantitative study of some 2,500 Vietnamese SMEs, Ngo and Chi (2020) found that there was an additional problem in that it was only the larger SMEs that are able to add value to production rather than competing primarily on price. Industrial transformation for Vietnam depends, therefore, on enabling small SMEs to become larger. However, this is being hindered by the inefficient capital allocation in the country, since additional research indicates that it is profitable for companies which are the ones receiving capital rather than the companies that really need it (Kinghan *et al.*, 2020).

2.3 Innovation and digitalization of Vietnamese SMEs

According to the OECD-UNIDO (2019), most of the operating activities with which Vietnamese firms currently participating in global value chains (GVCs) are engaged involve the assembly of existing materials or components. Thus, there are calls for improvement from engaging in higher value-added activities through investment in upstream production with a higher level of competitive advantages such as garments, agriculture and wood products (Nguyen *et al.*, 2020). However, these upstream operating activities are challenging because of the requirements to improve technologies and intellectual capital and to find tech-savvy employees (Ignatenko *et al.*, 2019). Vietnam is one of the more attractive destinations for foreign direct investment (FDI) among emerging markets because of the stable political environment, plentiful workforce and government-provided incentives. The difficulties Vietnamese SMEs face can be handled by technology transfer and knowledge exchange with multinational corporations. Further efforts need to be made by Vietnam SMEs to capture opportunities and turn them into reality. Results based on data from the World Bank (2017) illustrate that, although Vietnamese companies are trying to enhance product quality and operational processes, there are considerable limitations regarding their capability to leverage their products as well as improve research and development (R&D) activities. Statistical analysis indicates that medium and large corporations have a higher innovation level than SMEs (OECD & World Bank, 2015). Under the resource-based perspective, this result is obvious as SMEs are less likely to invest more in innovation than medium and large-size enterprises with support from foreign business partners. According to another report by the World Bank (2017), only 23% of Vietnamese corporations introduced innovative products during the period from 2014 to 2017. This is a much lower rate than other southeast Asian countries; for instance, Cambodia and Philippines enterprises claimed over 30% of innovative products; meanwhile, Thailand and Malaysia enterprises reported a significantly higher rate (World Bank, 2017).

In the same vein as product innovation, process innovation in Vietnamese corporations is subject to certain limitations. The work of Pham and Matsunaga (2019) reveals that a greater focus on the automation of manual work and technological advancement for production methods is necessary for Vietnamese SMEs. Furthermore, R&D investment in Vietnamese firms is much lower than in other countries, with only 1.6% of annual revenue compared to 14.5% in Lao PDR, 3.6% in the Philippines and 2.6% in Malaysia. Additionally, the percentage of Vietnamese small firms' expenditure was only one-third of medium and large size firms (9% for small firms compared to 26% for medium and large size businesses). Finally, only 20% of Vietnamese corporations claimed that they invested in training employees to develop innovative products, which is lower than in the Philippines and Cambodia (World Bank, 2017).

In addition, according to Connelly *et al.* (2017), in Vietnam, corporate governance and leadership practices are facing limitations and companies are generally not well operated. In a recent report from Vietnam Corporate Governance, it was claimed that the quality of governance extent is lowest in private enterprises and highest in foreign-invested firms (VCCI, 2016). Hence, it could be hypothesized that the lower degree of innovation and digitalization in Vietnam SMEs is a result of poor governance and leadership quality.

2.4 Research questions

The literature review has indicated the relationship between Vietnamese SMEs and innovation and investment in the pursuit of competitive advantage and in the need to comply with the requirements of partners in mutual GVCs. However, it is not clear how Vietnamese SMEs relate to DT within the broader picture of innovation. More information is required concerning the extent to which the firms concerned are aware of DT and their attitudes towards it. Second, it is not clear how executives and managers of Vietnamese SMEs think about DT – is it a requirement? A hindrance? A source of competitive advantage? This research should shed some light on these issues.

3. Methodology

Although information about DT in other contexts is available, as noted above, there is very little information on the subject from Vietnam. Consequently, it was decided that a qualitative approach would be appropriate for this project, with a semi-structured interview schedule informed by the results of existing research. This approach combines aspects of both exploratory and confirmatory aspects of qualitative inquiry, which is considered to be rigorous in appropriate circumstances (Copestake, 2014). The study combines both personal, in-depth interviews and focus group discussions. In both cases, suitable potential respondents were identified through personal networks and then approached to participate. To enrich the data collection and analysis processes, only respondents representing firms in which DT had become embedded were approached. It is possible that this may be seen as a limitation of the research. It is acknowledged that executives of relevant firms not undergoing DT might have had interesting opinions to add. However, an alternative approach was adopted.

Once initial respondents had agreed to participate, a snowball approach was adopted to obtain additional potential respondents with care being taken to avoid problems resulting from an overly homogeneous sample (Biernacki and Waldorf, 1981). Table 1 displays details of the sample obtained for the research. It indicates diversity in the sectors in which the SMEs were operating.

A semi-structured interview schedule which was intended to cover all the important issues to be raised in the conversation but in a discursive manner which permitted individual

Interviewee No	Position	Types of company	Sectors	Interview length (min)
1	General Manager	SMEs	Computer and Electronics Manufacturing	70
2	Director	SMEs	Finance and Insurance	60
3	Senior Brand Manager	SMEs	FMCG	65
4	Founder	SMEs	Telecommunication	55
5	General Manager	SMEs	Wholesale	60
6	Managing Director	SMEs	Healthcare	40
7	Executive Director	SMEs	Computer and Electronics Manufacturing	45
8	General Manager	SMEs	Textile and garment	50
9	Director	SMEs	Real estate, Renting and Leasing	45
10	Director	SMEs	Education	60
11	General Manager	SMEs	Finance and Insurance	65
12	Managing Director	SMEs	Computer and Electronics Manufacturing	55

Source(s): Authors' Work

Table 1.
Sample characteristics

respondents to address in more detail those issues of particular interest or relevance to them. Interviews were either voice recorded for subsequent transcription or else accompanied by extensive note-taking and then reconstruction of the interview in as much detail as possible. Interviews generally lasted from 40 to 70 min each. All respondents were treated with professional courtesy and assured that reports of the research would not allow other people to identify them or their opinions. The research process was conducted according to the university's research ethics code, which dealt with the treatment of respondents and potential respondents, as well as the handling of data and data security.

Interview transcripts were entered into the NVIVO software program in order to conduct content analysis. Both exploratory and confirmatory approaches were employed, with the first approach having labels and themes emerge from the data and the second having them defined by expectations raised by the previous research and understanding of the current research. The findings were allocated into specific categories, as described in the next section.

The focus group session was managed in a similar way to the individual interviewees, in that a recorded discussion covered the main issues it wished to be explored but in a way that encouraged respondents to make unanticipated connections with others or to note different experiences and explore issues of interest. The transcript of this session was also entered into the database for content analysis.

In order to maximize the rigour with which data analysis took place, the research team was divided between those who were actively involved with data classification and label management and those who maintained a distance from this process and were able, therefore, to consider the findings from an objective perspective. The entire process was designed while bearing in mind the experience of previous projects successfully completed so as to aim for the most useful and meaningful arrangement of the findings.

4. Findings

The findings of this study are described in five main areas: (1) multi-tasking role and scarcity of resources; (2) risk; (3) data-driven decision-making processes; (4) efficient communications;

and (5) strategic issues. These categories emerged from the content analysis process. In addition, the role of leadership in DT is considered in the context of Vietnam, where successful and contemporary leadership styles are not always to be found, especially in SMEs, since these tend to be the province of one individual. Many small Vietnamese enterprises have similarities with the Chinese family business (e.g. Loy, 2012) in terms of management style and succession, the evolution of business activity depending on market opportunity and limitations on size. As Vietnamese society becomes increasingly globalized, then this tendency will gradually wither to be replaced by more modern forms of management and, indeed, this has already happened in many of the country's more successful companies. The findings are as follows.

4.1 Multitasking roles and scarcity of resources

A recurrent theme in the interviews regarding challenges for DT management was the sense amongst SME leaders that it has forced business leaders to confront multitasking in their current organization. One manager observed:

> Besides daily operation, you need to take care [of] other development[s] and change[s] regarding your digital transformation efforts such as developing appropriate KPIs, communicating with know-how people, announcing your efforts and seek[ing] for help and cooperation from business partners (Interviewee 2).

Another manager confirmed this idea:

> We cannot own all technologies without strong leadership and agreement from all staff and stakeholders. So the role of a leader is critical to connecting all . . . isolated parts together. For example, we partner with a number of tech firms for technical solutions to drive digital transformation into our firm. So, all of [this] work created a lot of tasks and duties for the manager (Interviewee 1).

Some interviewees argued that multitasking is one of the main challenges for DT in their organizations, while others mentioned the scarcity of resources as a fundamental obstacle that limits the DT in SMEs and leads them to a number of difficulties. The multitasking roles and scarcity of resources have put managers of SMEs in a difficult situation that either creates more tasks for them or requires them to become more cautious. This is consistent with existing literature on management and leadership which describes DT as a challenging process requiring extensions to the managerial competencies of a firm.

4.2 Risk

SMEs wishing to achieve high levels of organizational efficiency to improve their performance and be able to join cross-border supply and value chains have little option but to pursue DT. However, this is inherently an area of risk. The first area of risk is financial:

> We have been investing and buying from technology companies. These investments cost us a lot of money, 2 to 3 million USD per year. These investments have not always paid off. Technology and market conditions change on a regular basis, and so we need to adapt often while the financial resource is quite constrained (Interviewee 9).

The risk posed by the cost of potential solutions has more than one face since it requires some firms to purchase off-the-shelf options from outside firms who may gain more than payment from the transaction:

> One of the weakness[es] that we always face is . . . the lack of funding needed for the DT. For instance, we don't have enough money to develop our own Enterprise Resource Planning system, so we need to hire this system from a third-party. It leads to a number of risks, such as the disclos[ur]e of our sensitive commercial information (Interviewee 8).

Second, there is the risk of failure. Firms realize their competitors are acting with respect to DT and so they too must be active, even though they may not have the capability to do so effectively:

> Owing to a large number of options for digital platforms, . . . the first challenge we often face is the selection of the right one, we can't try everything due to financial limitation. When we already buy a platform, we have to switch from tool to tool so many times. In some cases, we must follow what the suppliers suggest as they are an agent of the platform companies. 50% of ERP projects in Vietnam failed. We do not own a strong digital infrastructure and risk comes from weakness (Interviewee 5).

Finally, there is the risk attached to success as an early adopter of technology. Given the costs indicated above, it is possible that later adopters might use the savings they have made by deferring the decision to rewarding employees in the early adopter firm:

> We have the advantage in knowledge and expertise for digital transformation. Our employees are competent with digital skills, but it is hard to keep them working for us when there are always better offers out there (Interviewee 12).

Although salaries in general are not very attractive in Vietnam, jobs in DT-related areas can be highly renumerated as national and international companies in the country seek to leverage digitalization into areas of competitive strength such as in start-ups and fintech (ASEAN Up, 2021). Nevertheless, there are managers who wish to use the DT process as a means of disciplining employees further.

> The fear of automation and robotics will cost the employee their job; hence, people resist change . . . hence, we need to talk with them, make them understand that if they can leverage their digital skills, they can stay longer in our company (Interviewee 1).

It is evident that at least some people see DT as enhancing the creative destruction of capitalism in their firms. In any case, DR is seen as causing change within a firm and this is not welcomed by all managers. At a time of heightened environmental turbulence, which the world, in general, has been facing for the past few years, voluntarily taking on more risk can be considered problematic.

4.3 Data-driven decision-making processes

DT affects decision-making processes. This affects not just the relationship between the firm and its environment, as noted above but, also, relationships within the firm. Notably, business leaders of SMEs witness the change from decision-making based on experience to data-driven decision-making. Talking about this issue, one interviewee observed:

> Since I am a founder as well as the leader in this company, my strength relies on the autonomy and freedom in decision-making, I don't have to explain to anyone for getting approved. However, after my company [has] go[ne] digital, everything has been changed, business plan and almost [all] decisions are supported with real-time data (Interviewee 4).

Other participants supplement the prior idea by explaining how data-driven decision-making creates discomfort for business leaders by offering different results, as follows:

> At the initial time, I can't say that I like the data-driven business plan, because, sometimes, it makes my 20-year experience become useless. Our new system provides totally different suggestions . . . (Interviewee 11)

However, she did recognize the benefit of adopting the new approach:

> But in the long-term, data-driven business plan and data-driven budget really help us to set up a long-term plan for managing and resource allocation (Interviewee 11).

One question this raises which future research might explore is the extent to which poor managers have resisted DT because of fears it will marginalize their own abilities and the extent to which this has led to a positive form of evolution in the SME sector. Owing to the pandemic, as mentioned previously, the new normal of business transactions involves the withdrawal of the individual and its replacement by digital tools and this means SMEs avoiding DT will inevitably lose opportunities. DT adoption, in other words, can represent a barrier to entry for other firms without it. In this sense, it can represent a competitive advantage (Leão and da Silva, 2021).

4.4 Efficient communications

Several participants raised concerns about new ways to communicate with internal stakeholders. The concern was that discrepancies in communication would take place between departments which had undergone DT and those that had not. More managers than not foresaw DT as a means of enhancing their control over workplace operations.

> Although we are just [a] medium-size firm, our firm has multiple separated teams; there may be an inconsistent perspective on how we digitalize our operational activities. Different teams may have different mindsets; as a leader, I need to encourage them to think in one direction (Interviewee 11).

In some cases, the respondent was concerned about operational efficiency and in other cases about control by management.

> Every employee has to understand the message; leadership constantly sends the message to employees to make technology and change management the core of the business (Interviewee 10).

There were few, if any, mentions of how DT might permit decentralization of decision-making or empowerment of employees. This is related to the nature of management and leadership commonly found in Vietnamese SMEs.

Besides communicating with internal stakeholders, communication with customers is also critical in order to help them understand better service being made available. However, it is necessary to deliver the communication in an appropriate way so customers will receive concise and accurate information in a way that hides its sensitive commercial nature:

> Everything you supply now, customers always expect them to be delivered faster. If you cannot meet their demand fast but other companies in the same industry can, you will be out. Customers are becoming more familiar with digital technologies, and they frequently use smart devices. Customers expect more ease of access and instant financial services. Thus, we need to let our customers know concisely what we can do now to satisfy their expectation. However, this information should be released appropriately in order to hide sensitive information (Interviewee 12).

As competition increases in numerous sectors in which DT has become relevant, it has become ever more important to communicate with customers and other stakeholders concerning company offerings. DT itself increases the ability of customers to switch and firms in these sectors are seeking new ways to promote consumer loyalty. This form of competition will lead to significant numbers of firms losing their position in the resultant churn. Bearing in mind the importance of export-oriented value chains in the contemporary Vietnamese economy, the need for effective and timely communication among network partners is clearly very important, particularly in the era of sustainability (Grunwald, 2022).

4.5 Strategic issues

Many respondents within the sample recognized DT as a global trend in business which cannot be ignored. Many respondents spoke about the importance of being an early adopted of this technology, possibly a result of sample bias in this regard. One example is the following:

> I agree that the need for DT is derived from the demand for business operations. In that sense, DT is expected to enhance the productivity and effectiveness of daily operational processes. However, I believe that letting the demands of business operations drive your digital strategy is quite inefficient. In other words, if DT is embraced only when there are problems with your business, it would be too late. Companies should realize DT is a global trend. They will fall behind and lose competitiveness if they do not follow that trend (Interviewee 3).

DT is, in this sense, recognized as a tool rather than a strategy. It is important that a company embraces DT but that should not in itself be seen as a strategy that will provide competitive advantage, although there are sectors where that might be the case temporarily. The rate of change in available DT tools and services, combined with the very volatile pandemic-infused environment, means it is necessary to maintain a flexible strategy.

> We have a three-year strategy. The strategy has been changing every six months due to the dynamic and evolving landscape. The strategic intent is there, but the strategic framework is not available. The vision is very clear; we know where we want to go with DT. The development and roadmap for the next three years are not clear. As soon as you develop digital elements, one year later, there is a new technology that comes alive and alters the case (Interviewee 1).

This observation might have been included in the section on risk above. It is a form of strategic risk that involves the need to be pro-active with respect to technology adoption not just in the home firm but in terms of the firm's offerings to competitors and to other members of a supply or value chain. However, as noted above, firms who wait to see how the situation develops before acting run the very real risk that they will be left behind. This is particularly problematic if there are location-specific issues that prevent the early uptake of new DT iterations. Consequently, this issue is presented as one related to strategy, as the following also explores:

> The technology and DT are top-down visions and strategies. However, being a global company means the platform developed in the West takes time to reach the local company. The local management board must customize the global platform to meet local needs. The most important concern that we always have to deal with is how to leverage automation and develop more localized features for our ends (Interviewee 2).

Vietnamese SMEs must expect to conform to the expectations of their overseas partners to join international chains. If it can do so successfully, it would be well-placed to position itself as the standard-setter for other local firms who wish to attach themselves to the network. Investing in DT, then, becomes a possible source of long-term competitive advantage through the reduced transaction costs of dealing with network partners and this can also be a barrier to entry for competitors.

4.6 Summary of findings

Respondents to this study were concerned that DT represented a necessary step to achieving success in the contemporary environment but mostly in a negative rather than a positive way. That is, firms without DT would certainly be at a disadvantage but even those which did have DT would not necessarily find themselves with a competitive advantage as a result. The issue is not an easy one to navigate, especially since there are numerous innovations taking place related to DT and firms will need to decide how and when to respond to each of them. There are various forms of risk at play.

The research has shown that SME managers are challenged to develop multi-tasking skills to deal with the pressures and complications of DT, which also requires new communications skills and competencies and the ability to let go of existing modes of managerial practice. This can have a significant impact on the self-image of managers who may have done a great deal to drive their companies to their current position. It is not certain

that the results will be positive. Some managers may wish to compensate for this change by attempting to assert themselves as experts in the post-DT systems that emerge. The issue of self-awareness may become prominent in this process, which emphasizes the role of personal characteristics in management even in the consideration of the impact of new technologies on a company.

5. Discussion

The literature review indicated that there was a need for further information on the opinions of Vietnamese SME managers and executives concerning DT. It has been found that those opinions are diverse and dependent on external factors such as the relationship between the firm and its external stakeholders. Undertaking DT is often presented as a necessity to keep abreast of the competition. However, the focal firm may not have the ability to dictate the nature of the DT and might put itself at risk by opening details of its business operations to a third-party provider. Vietnam is a low-trust society, sometimes with good reason, which means that many executives, not available for interview, are likely to have been influenced by the risk of revealing company business to outsiders.

The research questions concerned the factors that should be addressed to promote DT among Vietnamese SMEs and whether there were location-specific issues that should be taken into account. The research indicated that the situation is one which is quite common across emerging economies. The number of path-breaking SMEs is limited and such managerial talent that exists is constrained by resource limitations and lack of ability to judge risk effectively. The government has taken steps to address these issues but relatively few firms are aware of the assistance available or to have taken advantage of it. The work of scholars who have written about the importance of leadership in championing DT (e.g. Singh and Hess, 2017; Sainger, 2018; Klein, 2020) is further vindicated by the current research. Heavin and Power (2018) and Isensee *et al.* (2020) are among those to describe the inability of managers to take the necessary actions as a form of cognitive inertia but this is a little unfair if it is used to place blame on individual managers; the research in this case suggested that managers willing to engage with DT were prepared to change but the business infrastructure of their firms often held them back.

According to at least some respondents, the nature of strategy with respect to DT takes the form of a dialectical relationship and, as Hegel (2015) observed, the negative and the positive are continually interacting with each other, thereby creating new environmental conditions and, therefore, new strategic possibilities. It is certainly true that in recent years, developments in ICT have enabled new business models, many extremely successful, which were not imagined before.

This study was phenomenon-driven. One motivation was the desire to examine the contrast between what resources and abilities leaders could deploy at the beginning of their transformations and what were the leadership requirements for success required by the DT process. In this sense, the study has made unique contributions to the literature on leadership in SMEs. Specifically, it has highlighted some of the emergent problems accompanying DT and the means by which managers seek to overcome them. The study also enriches the literature on DT. Previous research frequently took the governing agency to be a black box (Besson and Rowe, 2012). By examining the challenges the SME leaders faced and the resultant changes to their capabilities and by then offering a detailed description of their thoughts and how the actions and the changes intertwined with driving the DT, it has been shown that human characteristics emerge from the analysis even when only the technological aspects of change are formally examined. It is possible, in other words, to introduce the Foucauldian concept of technologies of the self into the analysis. Foucault divides the nature of technology into four aspects and, in the fourth, considers the interaction between

individuals and technology to be a relationship which extends beyond space and time and can act in any society or context (Nilson, 1998). The manager can use DT to convert the firm into an instrument which can be competitive globally under the right circumstances. Of course, success in this regard cannot be guaranteed.

6. Conclusion

This study aimed to explore the challenges facing the leadership of SMEs in Vietnam when pursuing DT initiatives. SME business leaders have to deal with multi-tasking roles and the scarcity of resources. It is vital to go forward with a more data-driven decision-making process, new ways of communication and new business models. In addition, these leaders need to understand where they are and what hurdles and pitfalls confront them in order to have the right strategy in place. Employing primary data as a part of a project on the DT of Firms in Vietnam by the RMIT-KPMG Centre of Governance, this study aims not only to shed light on these challenges but also to provide suitable recommendations for the SMEs in Vietnam. It also contributes to the emerging literature on the interplay of DT and leadership in SMEs.

Research based on a qualitative approach can always suffer from limitations relating to generalizability and replicability. The approach illustrates the very human nature of the social science of management: people say different things at different times and their opinions change. Although all reasonable methodological precautions have been taken to try to avoid these issues, it cannot be denied that doubts always remain. Nevertheless, there is an issue in this issue relating to the nature of the respondents, all of whom are by definition early adopters of this new form of technology. Their opinions are unlikely to be the same, therefore, as executives in other forms of adoption.

It is also a limitation that it relies mostly on interviews with a relatively small number of informants who were asked to recall events and actions that had occurred in some cases several years before. Even though attempts were made to enhance interview data with observations and informal conversations, triangulation was not possible in every case. It would also have been preferable if interview transcripts could have been triangulated by evidence from employees as well.

Clearly, based on these limitations, there is scope for future research to broaden the generalizability of the findings obtained and, also, seek to determine their applicability to firms which are not early adopters of technology such as DT. This would take place in a dynamic environment since, as some respondents observed, DT applications and services are developing very quickly and are having different impacts on marketplaces on a continuous basis.

The study makes practical contributions. The ever-changing business environment is pushing companies to continue transforming themselves. For business leaders, especially SME leaders who are planning DT or who are frustrated by unsatisfying results from initial DT, it is hoped that the insights the study generated can help show them the way to minimize the failures they face. Specifically, it is suggested that successful DT starts with transforming the thoughts and leadership capabilities of SME leaders themselves. Business leaders need to invest in themselves to overcome cognitive limitations and see and embrace the potential of DT. These efforts are especially important when it is difficult to upgrade existing top management teams.

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