

Impacts Of Strategic Partnership On Technological Transformation On Manufacturing Firms

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Abstract

The main objective of this study was to demonstrate the impacts of the creation of strategic alliances on the digital transformation of firms and how it improves their innovative power. Transforming business operations is not an easy task since it is costly hence through strategic partnerships, a firm can acquire the capital and resources required for digital transformation. Due to the advancing business environments, firms are operating in highly competitive markets, and without competitive advantages, firms are easily pushed out of the market. Today, technological needs in the Kingdom of Saudi Arabia are witnessing significant growth. Businesses in the manufacturing sector are looking for opportunities to enhance their digital capabilities leading to production efficiency. In this essence, firms are taking advantage of strategic partnerships to acquire technological capabilities and improve their innovation strength. Firms are aiming at tapping into new technologies, innovations, and potential that strategic partnership brings. The strategic partnership acts as a critical source of knowledge that can be used to improve organizational performance and promote effective operations. Through strategic partnerships, small enterprises can come together to solve these issues. A strategic partnership should be built on trust and collaboration and meeting the contractual agreement to ensure all parties benefit.

Keywords: *Intellectual Capital, Organizational Performance; Strategic Partnership; Technological Transformation*

Introduction

Businesses today are operating in a competitive landscape thus they are always seeking new and different ways to unlock growth as well as gain a competitive edge. Companies that share the same objectives have managed to overcome stiff competition through strategic partnerships and leveraging different technological tools. Organizations thus have the opportunity to tap into innovations, and markets, expand their customer base, and accelerate their growth. Importantly, organizations that forge strategic business partnerships have continued financial achievement in the ever-changing and aggressive business environment.

Each day, organizations encounter many risks ranging from technological advancement, new entrants, or diseases such as the coronavirus pandemic that threatened the existence of some businesses leading to the closure of some. The strategic partnership environment is drastically changing due to the rapid technological evolution and the growing salience of innovation. The strategic partnership is leading to the transformation of manufacturing activities, competencies, processes, and models. Strategic partnership has significant impacts on organizations through enhanced innovation, expanded access to new markets, and risk mitigation; even though it is founded on risks such as weak trust, and poor information sharing.

In the competitive global world, the Kingdom of Saudi Arabia is looking for different ways to improve its efficiency and this will be through accelerated technological transformation. In Saudi Arabia, firms are seeking strategic partnerships to enhance competitive advantage and drive growth, and digital transformation. It is clear that strategic partnerships offer significant benefits to an organization but there is a need to conduct comprehensive assessment to understand potential impacts. The problem with strategic partnership lies in understanding the effects of strategic partnership on the technological advancement of a firm. The study identified, explored, and analyzed the impacts of strategic partnerships on technological transformation including both positive and challenges that arise. Organizations should address the issues that may emerge to ensure they achieve strategic goals and sustained organizational success.

This study discovers the impacts of strategic partnerships on technological transformation in the firms in the Kingdom of Saudi Arabia. Specifically, this research aims to explain the strategic partnership, explore the relationship between strategic partnership and digital transformation, and investigate the impacts of strategic partnerships in digital transformation in small and medium-sized enterprises. This study assists firms, scholars, and future researchers in Saudi Arabia. Academicians and scholars are always on the verge of searching for new information hence they benefit from this study in understanding how strategic partnership can help an organization penetrate new global markets and revolutionize their operations. This research also can be used by local firms in Saudi Arabia aiming at making business deals for strategic partnerships either with other local firms or international companies. Information in this study helps firms fully comprehend strategic partnership, its meaning, benefits, and challenges.

Furthermore, this study will contribute to policy formulation, especially on the formation

of strategic partnerships for business and digital transformations. It is important to have knowledge of strategic partnerships and how they can be leveraged to gain a competitive advantage over other firms operating in the same industry. Policymakers will understand how strategic partnerships function and in what situations. When this information is documented, stakeholders in the financial sector will have an upper hand in making critical decisions.

Moreover, this study is of value to firms in Saudi Arabia and the world in general since it provides significant information to be used by different firms. These firms can use the information to seek partnerships that will assist them in transitioning to current technology and competing in global markets. Especially, for SMEs in the Kingdom of Saudi Arabia, firms have inadequate knowledge and capabilities to employ sophisticated manufacturing technologies. Firms thus seek partners with advanced technological capabilities.

With the focus on strategic partnerships that have positively changed businesses over the years, this study helps understand these partnerships, their benefits, and how they benefit the country's export and import activities. Gaining access to technology is critical to Saudi Arabian firms even if it may take longer to hire expertise and integrate the technology into manufacturing processes. Through increased technological capabilities, the Kingdom of Saudi Arabia can have access to outside markets promoting the country's economy.

A strategic partnership is a mutually beneficial business relationship that assists businesses in partnership to grow and reduce operational costs. Businesses in strategic alliances have collaborative relationships intended to achieve mutual strategic goals and ensure long-term market position [1]. It is also critical to understand digital transformation which means the profound and accelerating transformation of business processes, competencies, and models

to leverage opportunities brought by digital transformation [2].

Saudi Arabia has depended on oil for a long time, but the economy is undergoing critical digital transformations. The Saudi government is implementing different reforms that will reduce oil dependence. Authors indicate that Saudi Arabia is looking to diversify its income resources as well as enhance the competitiveness of the country in the world and its domestic firms in the global market [3]. The Saudi government is thus supporting local businesses in their efforts to expand to international markets. Some scholars explain the Saudi Kingdom's 2030 vision that supports business alliances and promotes a favorable business environment [4]. The country plans to transform the economy and make it a more balanced investment model that does not overly rely on oil revenues.

Recently, researchers have paid attention to how firms are forming alliances and the advances, challenges, and barriers they experience during the alliances. In particular, strategic partnerships are important for firms in Saudi Arabia. Developing and strengthening partnerships between organizations is recognized by the United Nation's Sustainable Development Goals [5]. This recognizes that firms with common interests such as expertise, capital, and information should form partnerships.

Some countries need changes in their institutional arrangement to have a full advantage to compete in the global markets [6]. This is why the Kingdom of Saudi Arabia needs to transform the country digitally to have a competitive edge in the world as well as to improve its manufacturing efficiency. Due to digital transformation, the capacity for data processing and storage has expanded significantly [2]. This opens up the opportunity for more sophisticated digital applications such as cloud-based applications, blockchain, and machine learning. Integrating operations and systems into technological applications is not

simple hence firms seek strategic alliances. As part of its broader economic diversification, Saudi Arabia has been investing in advanced manufacturing technology. In particular, Saudi Arabia is at the forefront of being ready to embrace cutting-edge manufacturing technologies. The Minister of Industry and Mineral Resources noted that investment opportunities in the industrial sector have undergone radical changes [7]. The kingdom is undergoing three stages of industry changes to reshape its manufacturing activities. They include artificial intelligence, the Internet of Things, robotics, autonomous vehicles, and digital twins [8]. Especially, the country's cement industry is at the crossroads of this revolution.

Different scholars recognize many benefits of strategic partnership in enabling firms to acquire advanced manufacturing technology. Scholars examine the link between strategic alliances and the performance of small firms [1]. The authors identify the benefits of strategic alliances as technology transfer, reduced cost of operations, manufacturing effectiveness, opportunity creation, and overall improved financial performance. Findings from other studies show that firm cooperation alone is not enough to achieve positive results or to improve manufacturing activities [1]. A strategic partnership requires capabilities and actions to drive the company's success [1]. This depends on pre-alliance and post-alliance activities such as establishing different aspects of relationship development, information and resource sharing, and the firm's commitment to this alliance.

Within strategic partnerships, firms can use their partners' capabilities to commercialize new technologies. These authors conclude that strategic alliances are positively associated with new technological implementation [1]. Further research reveals that business alliances reduce operating expenses and this is attributed to knowledge sharing. Information that reveals how intellectual capital stimulates

organizational performance is relevant in the increasingly competitive and globalized world [9, 10]. According to past studies, strategic partnership with suppliers improves the quality of products manufactured, reduce the costs of manufacturing, and promote information sharing [11]. In particular, partnerships are critical in the pursuit of sustainable material supply at considerable prices.

Existing research stresses growth and survival barriers confronting small manufacturing firms such as lack of advanced technology, lack of resources, and limited network capabilities. Importantly, the strategic partnership enables manufacturing firms to solve issues related to obtaining information, delivery time, and raw materials [11]. In particular, the strategic partnership helps firms to anticipate uncertainties associated with demand, supply, and technological development. Early business managers were influenced by the idea of the 'economic man' where they believed that the driving force for the survival and development of businesses was the continuous acquisition of economic benefits [12]. They also believed that they had to maximize shareholders' profits. Other authors stress the importance of strategic alliances for small firms especially during crises where large corporations and global market leaders dominate the local market leaving small firms struggling and on the edge of failure or closure [1].

A strategic partnership is a critical source of knowledge. When counting assets that a business owns, one of the intangible assets includes intellectual capital and it maintains a firm's competitiveness [9]. Intellectual capital is hard to imitate. In this case, the resource-based theory, and knowledge-based theory regard strategic alliance and intellectual capital as the most useful resources that produce competitive advantage enhancing organizational performance. Some authors agree that at the heart of strategic alliances is effective knowledge management [4]. The strategic partnership between organizations

allows the creation, deployment, and storage of knowledge and it provides a firm with opportunities to enhance strategic planning capabilities and innovation. Also, studies indicate that strategic partnership enables information sharing which encourages cooperation between organizations especially when it comes to sharing marketing information [5]. Based on past literature information sharing is the most basic premise of organization collaboration as discovered through many studies [12]. Based on knowledge management theory, firms in strategic partnerships share mutual exchanges, sharing, and learning [12]. Research shows that the quality and content of information have a direct impact on organizational practices such as responsiveness and manufacturing [12]. Organizations in strategic alliances have the responsibility of managing information flow.

Even as organizations stand to benefit from strategic alliances, it is important to be wary of failures. Research shows that failure cases of strategic alliances have been high due to management challenges, lack of trust among partners, rivalry, cultural differences, and poor communication [13]. It is important to study the effects of bankruptcy spillover on strategic alliance partners. Bankruptcy of one firm in strategic partnerships impairs the ability of this firm to maintain its end of the agreement [14]. For other firms, the termination of a partnership is an opportunity to walk away from a failing partner but still, this firm will feel the negative impacts [14]. Bankruptcy can harm the non-bankrupt partner. Strategic partners may have a strong desire for control over decisions and performance outcomes which can leave other parties feeling micromanaged [5]. Importantly, parties in strategic partners can experience uncontrolled disclosure of core knowledge as each firm is pursuing its interests. Research in management and marketing suggests that success from strategic partnerships can be achieved based on commitment and trust [10]. Otherwise, businesses stand to risk so much in

strategic partnerships and it may not be worth undertaking.

Methodology

The sample consists of small firms in Saudi Arabia in the manufacturing sector. The selected participants are familiar with strategic alliances, the need for technological tools in manufacturing, and alliance agreements and therefore they are the best to respond to the questionnaire. The researcher obtained a list of small and medium-sized firms in the manufacturing sector that have sought partnerships either that have been successful or failed. In collecting the data, the study utilized the survey method to develop a deeper understanding of the impacts of strategic partnerships on technological transformation in the manufacturing sector. A sample was selected using a systemic random sampling method. This study aims to research whether strategic partnership positively influences technological transformation. The dependent variable is technological transformation while the independent variable is strategic partnership. This study uses an instrument from the study conducted to measure a firm's engagement in strategic partnerships [15]. The study also uses a Likert-type scale with 1 representing strongly disagree and 5 representing strongly agree. Each of the

participants is requested to indicate the extent to which their firm used strategic partnership over the last two years based on the following items:

1. Entered into partnership contracts with other firms to acquire new technological tools
2. Collaborated with other firms to market new products and services.
3. Entered into partnerships with other firms when introducing new products and services.
4. Jointly provided needed support for new products and services with other firms.

The present study has categorized benefits a manufacturing firm will reap from strategic performance as technological transformation, problem-solving, information sharing, and bankruptcy effects.

The present study uses instruments to measure technological changes from different relevant studies.

The items used in measuring technological advancements include machines, software, manufacturing efficiency, operational costs, and learning and growth performance.

These items were adopted from [16] as explained by Kaplan and Norton's Balanced Scorecard approach [17].

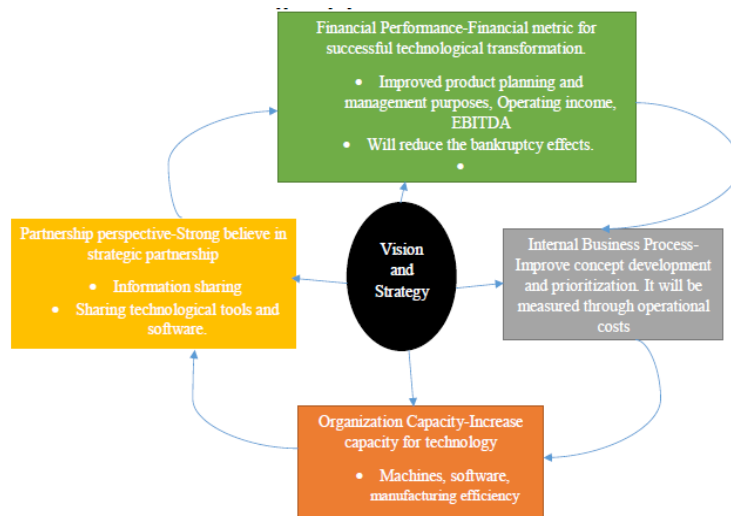


Figure 1. Balanced Scorecard

Also, the study requested the participants to indicate the performance of the firm and the direction it has shifted after the strategic partnership. The participants need to compare organization performance before and after strategic partnerships. These items also apply the Likert scale method where 1 represents below average and 5 is well above average.

Results

This study targeted 50 respondents from small and medium enterprises in the manufacturing sector. A response rate of 90% was achieved and this was critical since the target population was small. This study intended to obtain the firm's data such as products manufactured, number of employees, technology applied in the manufacture of the products, strategic partnerships, and financial performance. The

survey analysis shows that 80% of the firms had between 50-100 employees while 20% had between 10-50 employees. This is in line with the definition of small and medium enterprises. Based on the participants, manufacturing firms were in strategic alliances with local, regional, and international organizations. In particular, all of the firms surveyed had local strategic partners while 50% had regional partners and 35% had international business partners meaning that firms in the manufacturing sector in the Kingdom of Saudi Arabia formed strategic partnerships to support their technological revolution and add value to their operations.

Most importantly, the features of the variables studied were summarized using descriptive statistics. This is shown in Table 3.

Table 1. Statistics for the Variables

Variables	No. of Items	Mean	Standard Deviation
Digital transformation	2	3.68	0.77
Strategic alliance	10	3.78	0.66
Standardization	2	4.15	0.51
Formalization	3	4.27	0.50
Intensity	2	4.36	0.49
Frequency	4	4.19	0.44
Reciprocity	2	4.24	0.51
Aggregate score for Level of collaboration	13	4.24	0.41

This study tests the hypothesis of whether strategic partnership affects technological transformation. In this context, 70% of participants indicate that strategic partnership positively influences digital transformation in the manufacturing sector. Also, this study tested whether strategic alliance improves a firm's performance. The findings of the survey show that after a strategic partnership, the financial burden of a firm is reduced as shown by an increase in financial performance demonstrated through sales and profits. The impact of strategic partnerships on information sharing is

positive. The capabilities of information sharing will increase by 50% if a strategic partnership is effectively implemented and the partners build trust.

Strategic partnership positively influences business performance. Business performance will increase by 80.3% when the partnership is specifically strengthened by 1%. This finding provides support for hypothesis one.

However, the findings indicate that when a strategic partnership is poorly designed and implemented, businesses will fail. Even though the strategic partnership is encouraged to

improve organizational performance, it is important to determine the financial performance of a firm. A failing firm can have triple-down effects on other firms. Their financial troubles can affect other firms. A firm might use large capital to bail out a failing firm in partnership and there will be no benefits realized.

Discussion

The test findings demonstrate that strategic partnership provides a significant and positive impact on digital transformation in the manufacturing sector. It means that strategic alliance is a critical variable since it directly accelerates digital transformation, financial performance, and information sharing. This study is founded on the resource-based perspective which indicates that small manufacturing firms seek partnerships to improve their operations and survive.

The interpretation of these results is that technology and innovation can be enhanced through strategic partnerships. Nevertheless, various factors such as financial status, type of partnership, and resource availability must be considered. It is important to consider resource availability in terms of technology, knowledge, machines, and management capabilities. The findings further demonstrate that firms are constantly looking for partners with critical resources when forming partnerships. The resources can be different yet complementary and this will improve the organization's performance.

The effect path of strategic partnership on information sharing is expected to be as follows: strategic alliance, information sharing, and organization performance. Information sharing has a critical positive impact on organizational performance. Due to technological advancement, market competition has become fierce. There should be adequate information sharing to accelerate knowledge and information flow spillover among firms. This increases communication

efficiency and collaboration among firms which helps them allocate limited resources and respond effectively to market changes. The role of information sharing has become a critical factor in strategic partnerships.

Conclusion

This study was guided by the objective that strategic partnership leads to technological transformation in the manufacturing sector. Also, this study aimed to determine the effects of these strategic alliances on a firm's performance. This study's findings demonstrate that strategic partnerships in the manufacturing sector can help small and medium-sized firms acquire and implement different technologies for production efficiency and effectiveness. This study thus concludes that manufacturing firms in Saudi Arabia should embrace strategic partnerships as viable strategies for technological transformation.

A strategic partnership has a positive impact on the technological revolution measured through software acquired, machines in operation, information sharing, and problem-solving. It can thus be concluded that strategic alliance as a variable is very important since it improves organizational performance. Based on these results, various suggestions can be expressed;

1. To improve the performance of firms in various industries, firms are advised to embrace different firms of partnerships with different parties
2. There must be a planned creation and implementation of strategic partnerships to ensure it will have positive impact
3. The parties concerned and interested in improving their performance and that of industries should facilitate different strategic partnerships to reduce uncertain risks that occur as a result of collaborations.

This study's conclusion should be adopted with care having in mind the limitations. The study is limited to the manufacturing sector.

The results of this study are also limited to the extent of strategic partnership and level of collaboration. Further research can be undertaken to explore this study's construct to include all critical elements of the strategic alliance such as the effects of the external environment on strategic partnership relationships and how it can affect a firm's performance.

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Conflict of Interest

In conducting this research, there was no conflict of interest on the researcher's part.

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