



# Research on the Survival Methods for Small and Medium-Sized Enterprises in the Post-COVID-19 Era

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**Abstract.** Small and medium-sized enterprises (SMEs) outside of the internet industry (i.e., traditional SMEs) are facing more challenges after COVID-19 because of uncertainties and budget concerns brought by COVID-19 and threats from the internet sector. This paper examines how traditional SMEs can survive in the post-COVID-19 era. Using case analysis and literature analysis, this paper investigates and compares survival methods used by general SMEs after COVID-19 and survival methods used by traditional SMEs before COVID-19. The study's research question could be answered by examining whether there is a link between how general SMEs deal with undesirable economic changes after COVID-19 and how traditional SMEs deal with threats from the internet industry prior to COVID-19. Based on the results, cost optimization is shared between methods, whereas innovation types differ. This paper thus presents three strategies to help traditional SMEs survive after COVID-19. While traditional SMEs should adopt a cost optimization strategy, the three types of innovation should be selected according to their resources and environment.

**Keywords:** SME · COVID-19 · Business model innovation · Product innovation · Cost optimization

## 1 Introduction

A major contributing factor to the growth of the overall economy of the country was the creation of SMEs [1]. SMEs were defined by the number of employees, annual revenue, and total assets [1]. The detailed definitions of SME differ according to national laws [2]. As a result of the post-COVID-19 era, SMEs suffered greatly. SMEs faced a lack of funds and other resources [3]. Of these, traditional SMEs may be the most affected. The paper refers to traditional SMEs as businesses that do not operate in the internet sector. Aside from tough budgets, big companies in the e-commerce industry can pose tough competition. In COVID-19, the government implemented its social distancing policy. Residents were encouraged to remain at home. Consequently, residents may have no choice but to purchase essentials online. COVID-19 may thus change consumer

behaviour, and the new consumption habit (online shopping) may persist in the post-COVID-19 age. Despite previous literature discussing how SMEs could survive post-COVID-19 [4], few studies focused on traditional SMEs. Consequently, finding ways to help traditional SMEs may be essential.

For SMEs to thrive and grow economically post-COVID-19, [4] proposed product innovation and cost optimization. Lean Manufacturing (i.e., Six-Sigma ( $6\sigma$ )) was used to optimize costs [5]. Further, SMEs' product innovations could be boosted by applying the Blue Ocean Strategy [6] and Porter's Five Forces [7].

However, traditional SMEs may develop some business models to compete with internet businesses before COVID-19. For example, the Experience-Sales model, the loyalty model, and the customer self-service model.

Thus, if there is a link between methods used by general SMEs after COVID-19 and those used by traditional SMEs before COVID-19, there will be a method suitable for traditional SMEs in the post-COVID-19 period. Through literature analysis and case studies, this essay attempts to find this link by comparing the methods used by general SMEs after COVID-19 with those used by traditional SMEs before COVID-19.

## 2 Review Methods

### 2.1 Methods Used by General SMEs After COVID-19

#### 2.1.1 Product Innovation

The blue ocean strategy [6] and porter's five forces [7] could lead to product innovation for smes after covid-19. the blue ocean strategy refers to finding a new marketplace by innovating products and capturing new consumers [6]. first, smes could analyze their current market according to the five characteristics in Fig. 1. smes may identify their current ocean color based on each characteristic. suppose a business has a new business idea, but its products are low cost or do not have much differentiation. due to the low production costs, this new market may attract many potential competitors, and the blue ocean may easily turn into a red ocean in the future. competitors may also attract new consumers by producing goods that differ from those produced by the business. low product differentiation may cause the business to lose its consumer base. second, smes may have to transform and innovate products after determining the color of the ocean for each characteristic, to stay away from red oceans and fit into blue oceans. for example, a business with low costs and little product differentiation may have to innovate and develop products that are profitable and differentiate themselves from the competition. third, before launching the new products in a new market, smes will need to conduct some pilot studies with their target customers. the smes may need to consider causes or change to develop other product features to meet other new demands if the pilot study does not yield positive results. it may be necessary for smes to develop different versions of products and then choose the one that best fits the new market. it may therefore be necessary to repeat this process iteratively. by doing so, smes may be able to innovate products and live in the blue ocean for a long time.

A Porter's Five Forces analysis describes the competitive environment based on five perspectives: entry threat, the intensity of competition, power relative to buyers,

Red Ocean	Blue Ocean
Existing Businesses	New Business Ideas
Compete in the existing market where there is high competition.	Create spaces with little or no competition (make the competition irrelevant).
Exploit existing demand.	Create and take advantage of new demand.
Give in the value-price relationship.	Break the value-price relationship.
Low cost or product differentiation.	Significant profit and product differentiation.

Fig. 1. Guidelines to determine the red ocean or the blue ocean

power relative to suppliers, and substitute threat [7]. SMEs may be able to innovate their products by incorporating features that can help them strengthen their market power after analysing their current market power. First, there was an effect of potential new SMEs’ competitive advantages on existing SMEs due to the threat of entry. If Porter’s Five Forces revealed a considerable entry threat, SMEs may need to consider strategies to reduce it. Additionally, different forms of competition (e.g., advertising, innovation) were classified by the intensity of competition. SMEs’ profitability could be influenced by industry competition. Moreover, power relative to buyers referred to the situation in which there were few buyers and the buyers had strong market power (e.g., affecting pricing). As a result, buyers could easily switch suppliers if the original SMEs failed to meet their requirements. The power relative to suppliers further revealed that large and few suppliers could significantly influence market pricing (i.e., raising markups for SMEs). Consumers may be more inclined to purchase goods that were produced using these suppliers’ products because they had a large consumer base. Lastly, the threat of substitutes meant the undesirable impact of goods produced by rivals and performing the same functions as SMEs. The profitability level of SMEs may be negatively affected if substitutes cannot be ignored. Overall, these five perspectives provided SMEs with a better understanding of their current market power. These characteristics can help SMEs increase their market power and earn higher profits by creating more innovative products.

### 2.1.2 Cost Optimization

For smes’ survival during the post-covid-19 era, cost optimization was crucial for reducing costs and waste in processes [8]. to achieve this goal, lean manufacturing (i.e., six-sigma ( $6\sigma$ )) was used [5]. six-sigma ( $6\sigma$ ) was a lean manufacturing approach. in order to continuously improve a sme’s process, it examined the causes of generating unnecessary costs and wastes and implemented plans to eliminate them. plans were implemented using the dmaic (define, measure, analyze, improve, control) model. “Define” referred specifically to identifying the negative influence on the process that has occurred. the term “measure” referred to gathering process information. also, “analyze” meant taking into account the process and the information collected. in addition, “improve” was the process of formulating plans based on the analysis of information. lastly, “control” referred to monitoring improvements so they can be sustained. as a result of these five steps, smes could improve processes and ultimately optimize costs.

## 2.2 Methods Used by Traditional SMEs Before COVID-19

### 2.2.1 Experience Sales Model and Loyalty Model

Based on some traditional smes' selling strategies in the pre-covid-19 era, the experience sales model and the loyalty model can be summarized. in terms of the experience sales model, these traditional smes establish a third space between business organizations and consumers. in order to compete with online industries, they seek to differentiate their products. from the physical store environment, these traditional smes shape consumers' sensory experiences, capture their attention and eventually change their behaviour. for example, starbucks, other smaller café stores, and bookstores encourage consumers to focus more on the environment than the goods they provide (e.g., coffee, books). traditional smes can create a third space between work and home by applying this model. it is possible for consumers to gain experience in socialization or to work in these offline stores. traditional smes might be unable to replace their offline stores with online stores because of this experience. the experience sales model can therefore be used by traditional smes to compete against online competitors.

Before COVID-19, traditional SMEs frequently used the loyalty model. For example, a clothing company (e.g., JustFab). Those who join JustFab receive a customized boutique. Consumers may be encouraged to purchase continuously through the loyalty program. Old consumers receive specialized products of high quality, while new consumers may receive special discounts. As a result, consumers are less likely to discover traditional SMEs for the first time but then opt for online SMEs because online SMEs are more convenient and portable. As a result, traditional SMEs can compete with online competitors by incorporating the experience sales model and the loyalty model.

### 2.2.2 Customer Self-service Model

Customer self-service is a model in which consumers take part in the production process. as a result, traditional smes could reduce their operation and labour costs, and eventually, improve their production efficiency by improving their processes. this model may also be supported by the  $6\sigma$  approach, which requires smes to optimize their costs in order to improve processes. ikea is an example of a company that uses a customer self-service model. when ikea's offline store delivers products, consumers need to follow the instructions provided by ikea to complete the final product. delivery fees could be reduced for ikea since only components were delivered rather than entire furniture. the consumers who complete the final products at home also feel engaged and accomplished. due to these senses, traditional smes' physical stores are not replaced by online competitors, such as live sales. as a result, traditional smes could benefit from the customer self-service model before covid-19.

## 3 Compare Methods

Cost optimization may be shared between methods used by general SMEs after COVID-19 and methods used by traditional SMEs before COVID-19. Through the customer self-service model, traditional SMEs optimize their costs and improve processes prior to

COVID-19. In the post-COVID-19 period, general SMEs also consider cost optimization through the  $6\sigma$  technique. Therefore, it may be necessary to take cost optimization into account when analyzing methods used by traditional SMEs after COVID-19.

Moreover, the type of innovation differs between traditional SMEs before COVID-19 and general SMEs after COVID-19. To combat online competition, traditional SMEs consider innovation in business models (e.g., experience sales model) before COVID-19. As a result of COVID-19, many SMEs make the decision to use product innovation to attract and retain customers in order to survive.

Thus, innovation in business models may not be enough to keep traditional SMEs viable after COVID-19, production innovation may be better. This could be explained by the difference between innovation in terms of products and innovation in terms of business models. The business model innovation included the value proposition and the operating model [9]. In other words, the business model innovation focuses on changing the channels or approaches for selling, while a product innovation focuses on improving the product itself. In the former case, consumers could be captured in the current market, but in the latter case, consumers are found, and new consumers can be captured in the new market consisting of hidden demand. As part of COVID-19, governments announced a policy of social distancing and encouraged citizens to stay at home. Since most traditional SMEs sold goods and services offline, they may lose the opportunity to reach consumers. Government policies and concern about COVID-19 may lead consumers of these traditional SMEs to switch to online shopping. The long run of COVID-19 may make consumers more comfortable with online shopping. As a result, traditional SMEs may lose consumers in the current market after COVID-19, and it may be crucial to find new potential consumers through product innovation in the new market.

In spite of this, product innovation was time-consuming and expensive. In addition to finding consumers' hidden demands and entering new markets, traditional SMEs may also need to renew contracts with suppliers and deliveries, invest heavily in market research and pilot studies, etc. It takes time and effort to complete these steps. Therefore, if traditional SMEs invest heavily in product innovation, they may not earn profits in the short run. Thus, traditional SMEs that wish to make short-term profits may benefit from business model innovation, which is less time-consuming and less expensive. Business model innovation on its own results in short-term profits, but long-term losses [10]. As opposed to this, the interaction of service business model innovation with product innovation resulted in the long-term improvement of performance accompanied by a degree of short-term performance sacrifice [10]. It may therefore be necessary for traditional SMEs to choose between "business model innovation", "product innovation", or "business model innovation and product innovation". Traditional SMEs may make this decision based on their resources. As an example, following COVID-19, most traditional SMEs were unable to raise funds [3]. Therefore, improving business model innovation could help traditional SMEs survive in the short term.

## 4 Viable Methods Used by Traditional SMEs in Post COVID-19 Period

Due to COVID-19 and online competition, traditional SMEs thus may have to adopt cost optimization and choose among three types of innovation.

### 4.1 Cost Optimization and Product Innovation

It may be suitable for traditional SMEs who are concerned about the long-term growth of their business. When trying to optimize costs, traditional SMEs could use  $6\sigma$  strategy to identify and improve the processes. The cost savings achieved through successful cost optimization could be used by traditional SMEs to invest in innovative products. Market analysis, based on the Blue Ocean Strategy and Porter's Five Forces, could serve as a starting point for product innovation. As a result, traditional SMEs could identify the key product features that may be of value to develop further, or in other words, they could find the direction to innovate further. It is thus possible for traditional SMEs to earn a profit over the long term by combining cost optimization and product innovation. This idea was supported by a SME of producing socks [4]. This SME received frequent orders after utilizing cost optimization and product innovation.

Before conducting product innovation, traditional SMEs need to consider three factors. The first thing to consider is the budget plan. It is possible for traditional SMEs to conduct product innovation for a long period of time using the cost optimization approach, saving unnecessary costs and increasing investment. As a result, this approach may be appropriate for traditional SMEs that lack funds, which are common after COVID-19. Aside from budgeting concerns, traditional SMEs may also need to consider current industry competition. SME's who face intense competition (i.e., those in the "red ocean") must change to the "blue ocean" by leaving their current markets and entering new ones. Rather than business model innovation, which requires companies to stay in the current market with different selling schemes, this could be achieved through product innovation. Therefore, when faced with significant competition, product innovation may be more useful than business model innovation. As a final point, traditional SMEs need to consider the market's potential consumer base. Consumers may switch to buying online substitutes in COVID-19, which could result in a loss of lots of offline consumers. SMEs may be better off exiting the current market by innovating products instead of attempting to innovate business models in the current market if there are not enough consumers to meet their revenue needs. Thus, traditional SMEs could conduct product innovation while optimizing costs if all three factors were taken into account. The factors that need to be considered are summarized in Table 1.

### 4.2 Cost Optimization and Business Model Innovation

The method is suitable for organizations that want profits in the short term. Using business model innovation alone could result in better short-term market performance, but poorer long-term market performance [10]. The combination of cost optimization and business model innovation may be a reasonable option for traditional SMEs that want to earn

**Table 1.** Business model innovation or product innovation: factors to consider

	Product innovation	Business model innovation
<i>Budget?</i>	Sufficient	Lack
<i>Competition?</i>	Intensive	Slightly
<i>No. of consumers?</i>	Lack	Sufficient

emergent profits to survive. Before deciding to use business model innovation, traditional SMEs should find their current market has few competitors, a large consumer base, and little budget for product innovation. In light of these three factors, traditional SMEs seeking short-term profits may want to consider this approach.

### 4.3 Cost Optimization, Product Innovation, and Business Model Innovation

Combining product innovation with business model innovation reduced short-term profits while improving long-term profits [10]. It may be similar to an approach combining cost optimization and product innovation in terms of long-term performance, but it may be more time consuming and costly. The product innovation and the business model innovation must both be invested in by traditional SMEs. It may only be suitable for those with time and budget to invest in both of these methods, as this method requires more investment than the rest two. However, traditional SMEs may be exposed to high risk due to uncertain consumer and market reactions since both products and selling strategies (business models) are new. The budget, time resources, and risk tolerance of traditional SMEs must be considered before this approach can be undertaken.

## 5 Conclusion

This paper examines and compares the survival methods used by general SMEs following COVID-19 with those used by traditional SMEs prior to COVID-19. Three strategies are presented in this paper to help traditional SMEs survive after COVID-19. The first is that traditional SMEs can incorporate cost optimization and product innovation into their operations. Based on the Blue Ocean Strategy and Porter's Five Forces analysis, they could utilize the 6 $\sigma$  approach to optimise costs and use the savings to innovate products. People who lack funds but care about long-term profits should consider this method. Second, traditional SMEs seeking short-term profits could employ the business model innovation and cost optimization method. Thirdly, SMEs seeking long-term profits and with sufficient budgets may want to consider the "cost optimization, product innovation, and business model innovation" method. Overall, after COVID-19, traditional SMEs should use the method that includes the cost optimization and choose among product innovation, business model innovation, and product and business model innovation.

The limitations of this paper are that it offers suggestions only, rather than examining the effectiveness of the approaches in real-life traditional SMEs. In future research, it should be considered to apply these suggestions to real traditional SMEs.

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