



Strategic Responses of Large Technology Companies to the COVID-19 Pandemic

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Abstract

The organizational strategies of large technology companies in response to economic recessions are fundamental to domestic and international economic competitiveness. Future strategic decision-making at the firm level can be informed by understanding the different strategic responses of large technology companies to the economic recession that resulted from the COVID-19 pandemic. The purpose of this research was to explore the perspectives of managers in large technology companies regarding effective strategic responses to changing market conditions during a crisis. The study design for this research was a qualitative inquiry. The population for the study was eight people in top management positions of large technology companies in the United States. Study participants worked in technology companies employing 1,000 or more full-time employees. Study participants had operational knowledge of their companies' strategic responses to the economic downturn that resulted from the COVID-19 pandemic. The findings indicated that the participants' perspectives of the antecedent to their companies' strategic responses to the economic downturn that resulted from the COVID-19 pandemic were market shrinkage and reduced revenues. The predominant process for developing strategic responses was a hybrid form involving both bottom-up and top-down directives, and the predominant outcome was strategic responses comprised of new tangent products for existing clients and traditional actions such as reducing costs. Implications based on the findings indicated that including middle and upper management in decision-making can elicit strategies for retaining clients and lead to developing new products and services for current clients.

Keywords: Organizational strategies, strategic responses, changing market conditions, global crises

Introduction

The most critical challenges to overcome in 2021 for the technology industry are organizations facing new challenges (Silvergate, 2021). The technology industry is one of the most valuable industries in the marketplace, as the total global value of the technology industry is estimated to be \$5.2 trillion (CompTIA, 2021). In addition, the technology industry is an industry that experiences several forces that create the necessity for managers to focus on understanding the problem that marketplace changes impact the competitiveness of organizations (Silvergate, 2021). Technology, culture, economic development, and public policy are critical factors influencing a firm's organizational strategy to remain competitive (UNCTAD, 2019).

Organizational strategy changes such as establishing new strategic alliances and internalizing the development of some resources rather than acquiring them from other organizations in the external organizational environment can improve profitability as they are responsible for reducing costs and enhancing inimitability for competitive advantage (Ferreira & Kittsteiner, 2012; Weaven et al., 2021). Understanding the problem of marketplace changes impacting the competitiveness of organizations is crucial because a firm must not only protect its share of the market but a firm must also be capable of expanding it. Exploring the business practices used to identify marketplace changes that affect organizational strategy for market share must also include understanding business practices' results.

Summary of the Literature

Historically, there have been academic studies focused on the problem of firms not responding strategically during economic recessions. A number of these academic studies focused on the strategic responses of small- and medium-sized enterprises (SMEs) because smaller firms are more at risk during economic recessions than are large corporations (Geroski et al., 1997). Specifically, when aggregate demand in a marketplace decreases systematically for multiple financial quarters, the burden is greater on new firms, which are predominantly SMEs, than it is on older firms that tend to be much larger (Geroski et al., 1997). Whittington (1989) concluded that the larger the firm, the greater the strategic discretion to respond to decreased aggregate demand that is a function of an economic recession. The observation that larger firms have more discretion when responding strategically to an economic recession has been the reason that SMEs have been the focus of much research on strategic responses to economic downturns (Whittington, 1989). Specifically, this has been the case historically because organizational strategy scholars generally were interested historically in organizational strategy innovations (Whittington, 1989). Larger firms have not had to develop new strategic responses historically amid economic recessions because of their superior capital resources and abilities to implement many different evidence-based strategies (Pearce, 2010). SMEs historically have not had such capital resources and strategic response options (Pearce, 2010).

Silberston (1983) observed that firm size does not necessarily affect the firm's ability to respond strategically to decreased aggregate demand that results from an economic recession. Large firms can be static as well dynamic in their strategic response to economic downturns (Silberston, 1983). Bourgeois (1981) noted that firms of any size must be both static and dynamic in their strategic responses to economic recessions. Firms must be static in terms of using evidence-based, standard strategic responses

to economic downturns that they have used before (Bourgeois, 1981). Firms must also be dynamic or innovative when responding strategically to decreased aggregate demand due to economic recessions by developing new strategies that may be more effective and efficient than standard strategic responses (Bourgeois, 1981).

From 2016-2021, there have been academic studies focused on the problem of firms not responding strategically during economic recessions. This literature is also focused predominantly on SMEs rather than on large technology companies. The antecedents to strategic responses vary based on industry and severity of the economic recession (Shah et al., 2019). Klammer et al. (2017) used a survey to help develop an understanding of what managers of SMEs considered to be factors that led to a strategic response. Entrepreneurial orientation and organizational learning as a critical factor that has a significant and positive impact on a firm responding strategically to an economic recession (Migdadi, 2019). The degree to which organizational learning and entrepreneurship positively predict strategic response varies based on the industry of the SME (Schmitt et al., 2018).

Piette and Zachary (2015) found that banks are less likely to lend to SMEs during economic recessions that are a function of decreased aggregate demand in a marketplace because they believe that SMEs are less capable of effective strategic responses. Lee et al. (2015) similarly observed that SMEs are more likely than large firms to face credit rationing by banks during economic recessions. Kalyani (2020) studied the problem of less access to credit for SMEs during economic recessions and found that some SMEs are capable of innovative strategic responses to decreased aggregate demand but others are not. The cause of this variation in SMEs' abilities to strategically respond to economic recessions was that successful strategic responses were focused on innovative strategies for accessing additional credit from banks (Kalyani, 2020). Lisboa (2017) found similar results for firms of any size, not just SMEs.

Simon-Moya et al. (2016) found that firms that were established due to market opportunities have had more effective strategic responses to the decreased aggregate demand that characterizes economic recessions than firms that were established due to the founders being unemployed. Typically, firms established due to market opportunities have been started by entrepreneurs rather than by corporations (Simon-Moya et al., 2016). Companies established due to market demands were shown to be more likely to take risks and therefore were more likely to respond strategically in dynamic instead of static ways (Kalyani, 2020). Therefore, another source of variation for determining the extent to which an economic recession is a problem for SMEs is the motivation to start the company (Simon-Moya et al., 2016).

The problem of strategic responses to economic recessions by firms is also related to the problem of personnel cuts and increased unemployment (Lai et al., 2016). Lai et al. (2016) found that large firms were more likely than small firms to terminate employees as part of their strategic responses to decreased aggregate demand during economic recessions. SMEs were more likely to respond strategically to economic recessions by implementing cost-saving strategies that did not entail cutting personnel as a first measure (Lai et al., 2016). Large corporations with corporate social responsibility strategies were shown to be less likely to lay off workers in their strategic responses to economic strategies than were large corporations without corporate social responsibility strategies (Papacharalampous et al., 2019).

The decline of corporate social responsibility strategies amongst firms responding to decreased aggregate demand due to economic recessions is another problem associated with firms' strategic

responses (Simanaviciene et al., 2017). The reduction of emphasis on or elimination of corporate social responsibility strategies during economic recessions has been shown to reduce firm valuation (Papacharalampous et al., 2019). Apaydin et al. (2021) examined corporate social responsibility strategic fit with firms' strategic responses to the economic recession of 2008-2009. The authors used strategic stakeholder theory to examine strategic responses to decreased aggregate demand to identify the effects of alienating stakeholders with strategic responses to economic downturns (Apaydin et al., 2021). The results indicated that strategic responses that alienated fewer or no groups of stakeholders correlated positively with corporate financial performance during and after the economic recession of 2008-2009 (Apaydin et al., 2021). Tatoglu et al. (2020) found that eliminating corporate social responsibility strategies related to pollution mitigation in response to economic recessions similarly correlated negatively with corporate financial performance.

Dynamic capabilities also have been identified as predictors of when an SME responds strategically to an economic recession and when it does not (Sievinen et al., 2020). There was a positive relationship between dynamic capabilities and strategic responses in SMEs moderated by organizational learning (Schmitt et al., 2018). There was also a positive relationship between organizational learning and strategic responses in SMEs without the moderation effect of organizational learning (Sievinen et al., 2020). Network relationships may act as an antecedent to dynamic capabilities and strategic responses to economic recessions in SMEs (Herbane, 2019). These findings support antecedents as holding a significant role in the strategic response, but there are some characteristics of these studies which contribute support for further research including the strategic response.

Starting in 2020, there has been a study of the strategic responses of SMEs to the economic recession caused by the COVID-19 pandemic (Papadopoulos et al., 2020). The use of digital marketing is a positive predictor of an SME responding strategically to the economic recession caused by the COVID-19 pandemic (Gamage et al., 2020). Organizational learning is a key factor associated with SMEs responding strategically to the economic recession caused by the COVID-19 pandemic (Kottika et al., 2020). Strategic alliances with large companies facilitate strategic responses to the current economic recession in manufacturing SMRs (Asgary et al., 2020).

The outcomes of the strategic responses of organizations have also been the focus of several studies (Eggers, 2020). Empirical studies of strategic responses to economic recessions by technology companies are focused on small technology start-ups rather than on large technology companies (Boscoianu & Prelipcean, 2020). Though these studies are all focused on the strategic responses of technology start-ups to the economic recession that resulted from the COVID-19 pandemic, all have different conceptual foci regarding the outcome of a new or changed organizational strategy (Kuckertz et al., 2020). Some technology SMEs developed diversified investment portfolios as a strategy for weathering the economic recession due to COVID-19 (Boscoianu & Prelipcean, 2020). New technology adoption has broadened the client bases of small technology start-ups amid the COVID-19 pandemic. Small technology start-ups are faster to adopt client-oriented strategic responses to the current economic recession than are non-technology SMEs (Ebersberger & Kuckertz, 2021).

However, there is room for further research aimed at exploring the business practices that are involved in identifying changes that can impact organizational strategy (Shah et al., 2019). There is evidence of the integral role that strategic response holds in the performance of organizations (Shah et al., 2019). Strategic responses hold a significant relationship with strategic performance (Shah et al., 2019).

Strategic response holds a significant indirect impact on the relationship between strategic orientation and strategic performance (Shah et al., 2019). Strategic response mediated the relationship between strategic intent and firm performance (Kairupan & Sudhartio, 2020). Strategic response capabilities were a significant predictor of the sustainability of an organization in the technology industry (Phetphongphan et al., 2018).

This research contributed to the literature on the strategic responses of firms to the decreased aggregate demand of economic recessions by way of a qualitative study of large technology companies. This gap in the literature existed before this study because it was presumed by scholars and practitioners that large technology firms are at low financial risk during economic recessions when compared to SMEs and large firms that do not include technology development and services as a core function (Amankwah-Amoah et al., 2016). The research findings also contributed to the gap in the practice of strategic responses by large technology companies to economic recessions per the COVID-19 pandemic context of the research study. The economic recession due to the COVID-19 pandemic has affected the aggregate market demands for large firms as well as for SMEs (Haarmeyer, 2020).

Methods

The research focused on the business practices used to identify marketplace changes that impact their organization's strategy for maintaining and growing market share and their experience with changes resulting from those business practices. A qualitative inquiry research technique was used to support understanding of the business practices used to identify effective strategic responses to changing market conditions during a crisis. Inductive reasoning was applied to support describing how business practices of the firm lead to identifying marketplace changes that affect the organizational strategy for market share and what the results are of such changes (see Qureshi, 2020). The strategic response framework (SRF) was used as the applied framework for this study; it was appropriate for organizing the empirical research on firms' changes to their organizational strategies for market share, to which the qualitative inquiry has made an original contribution.

RQ1: What are the perspectives of managers in large technology companies regarding effective strategic responses to changing market conditions from a crisis?

Data Collection

Data collection involved using Zoom to conduct semistructured interviews with a purposive sample of eight managers working in large technology companies in the United States. Each of the semistructured interviews was consistent with the script for interview questions. After each interview, the audio files were saved to an encrypted directory, and transcripts were created for data analysis.

Data Analysis

Thematic analysis was the qualitative data analysis approach selected for this study. The thematic analysis relies on the establishment of themes where the codes created from the analysis of raw qualitative data are organized into categories and assembled to create themes. The qualitative data analysis approach applied in this project was informed by Braun and Clarke's (2006) description of six

phases of analysis and Saldana's (2016) explanation of coding strategies. In addition, the thematic analysis helped to establish themes from semistructured interviews with participants that could support effectively responding to the research question.

Results

The analysis of raw data resulted in assigning the responses of the participants to codes, based on their experience with economic downturn onset by the conditions created by COVID-19. The results of the analysis included the determination that 12 codes could be assigned to the responses of managers about their experiences. The preliminary coding structure, per the concepts of the applied framework, was applied first. Then, I collapsed codes created by analyzing raw data under different categories. The codes matched category names in most instances. However, a category for learning and resources was included based on participant responses, resulting in six categories. The decision rule for organizing two or more codes into a singular category was Saldana's (2016) filtering approach to categorizing by using the key concepts of a theory or conceptual framework. I used Saldana's heuristic approach to label each theme per the specific information and sentiments provided by the participants. The six categories were explored further to understand how the categories could fit within themes, using the "interpretive" approach by Saldana (2016), by which categories are considered collectively and combined, when appropriate, into singular themes. Three themes were developed using this approach (see Table 1).

Table 1

Themes

Theme	Definition	Number of participants	Number of occurrences
Damage control	The company decides to respond with organizational strategy changes to limit losses due to an economic downturn.	8	24
Hybrid strategic response	The organizational strategy change process is top down, albeit participative, and focused on incremental deviations from standard practice organizational strategy changes	8	22
Incremental institutional isomorphism	New organizational strategies are similar amongst competitors and comprised of tangential new services aimed at existing clients and markets	8	11

Themes

Theme 1: Damage Control. The theme *Damage Control* was developed as the underlying sentiment of the antecedent to strategic responses in the participants' companies was to limit the loss of resources amid the economic downturn that resulted from the COVID-19 pandemic. There were two subthemes

for the theme *Damage Control*. These themes were based on the different types of resources lost that the participants described as the impetus for their companies to implement the process of a strategic response to the economic downturn that resulted from the COVID-19 pandemic. The first type of resource discussed was clientele. For example, P1 and P4 described their companies' loss of resources in this way and also described that such loss was the impetus to implement the process of strategic response. P4 noted,

We were, you know, we were expecting to see certain downturns in that first quarter last year. You know, projections were anywhere from 20 to 40% off of the business of top line sales and what would you know what would the effect be to the organization if you had lost you know 30 or 40% of sales during that period.

The second type of resource lost was new clientele. For example, P8 described his company's loss of resources in this way and also described that such loss was the impetus to implement the process of strategic response. Specifically, P8 noted,

We were worried about our ability to sell and track new customers, if our potential customers were to kind of tighten their belt, due to covid Okay, So the event itself was that cold that affected your organization, and the you were concerned about the ability of your customers to okay to stay on board.

None of the study participants mentioned other types of resources that could be lost during the economic downturn that resulted from the COVID-19 pandemic, per the applied framework for the study, such as human resources. None of the study participants reported having any workers they managed missing work due to their or a family member's sickness. Another notable omission from the interview transcripts was the discussion of cutting costs by laying off the workers the participants manage. When asked, most participants observed that they work for large technology companies with economies of scale to endure decreased resources without having to reduce salary costs.

Theme 2: Hybrid Strategic Response. The theme *Hybrid Strategic Response* process was developed from the direct quotations from the interviews concerning the underlying sentiment of the processes of strategic responses. The responses involved numerous perspectives from different levels of the organization. There were two subthemes for the theme "hybrid strategic response process." These themes are based on the different levels of participation of upper management in the strategic response process. The first type of participation by upper management was directive, meaning that the process was designed and implemented by upper management. For example, P1 and P3 described their companies' process of strategic response as dictated by upper management. However, the direction from upper management was not described by any of the participants as an exclusively top-down process. The participants characterized the process as a hybrid one utilizing input from both upper management and middle management and lower. P1 noted,

It's hard to put a finger on anything specific because it was literally, at one point, daily meetings about what to do. And, so, we were making small incremental changes consistently on our own that generated larger changes at the top.

The second type of participation by upper management was ad hoc, meaning that the process was designed at the middle levels of the organization but included upper management. For example, P6 and P8 described their companies' process of strategic response as dictated by upper management. P6 noted that he and his team had "a lot of autonomy and authority" in determining their strategic response to the economic downturn that resulted from the COVID-19 pandemic but added that no less than the priorities of their response came directly from upper management.

None of the study participants characterized the process of strategic response in their respective companies in such a way to represent the fully autonomous or top-down concept of the applied framework. The only such cases that implied an exclusively top-down process of strategic response was the participant whose companies made no changes to their organizational strategies in response to the economic downturn resulting from the COVID-19 pandemic, P1.

Theme 3: Incremental Institutional Isomorphism. The theme of *Incremental Institutional Isomorphism* developed from the interviews underlying sentiment of the outcome of strategic responses by participants' companies to implement strategies that mimicked other companies' strategic responses, but only when these responses were incremental (versus innovative). There were two subthemes for the theme *Incremental Institutional Isomorphism*. These themes were based on the type of incremental strategic response. The first type of incremental strategic response was the response that had not been used before by the company. For example, P5 and P7 described their companies' new organizational strategies as having tangential new services for existing companies that they copied from competitors. P7 noted, "I can say, like, 80% of our new activities were shared by competitors." The second type of incremental strategic response was to use responses that had been used before by the company. For example, P1 and P2 described strategies that emphasized reducing internal costs to provide lower prices to retain existing clients. Specifically, P2 noted,

It really was one of businesses usual act (sic), continue to act as if you were in the office continued to, you know, perform your normal tasks and duties, but be slightly more empathetic of the position that our customers might be in that, you know, expect further delays expect payment delays expect challenges, connecting and certainly because I helped lead part of a sales organization.

P1 noted that budget cuts for travel were part of the final strategic response of his company to the economic downturn that resulted from the COVID-19 pandemic, but that this was also a standard strategic response the company had used in the past.

Discussion

Concerning the discussions on organizational strategic responses, an interesting result was that the predominance of study participants (all except P5) described the process in terms of both autonomous or bottom-up meetings and plans and induced or top-down meetings and plans. This result constitutes a new process for strategic response insofar that the research literature using the SRT has not presented the results of such a hybrid process. Accordingly, the participants describing a hybrid process for both induced and autonomous processes. For example, P1 described the strategic response process as both autonomous and induced.

The outcome, or organizational strategy that resulted from the strategic response process, was described by participants predominantly as reactionary rather than innovative. Only P2 and P5 described the new organizational strategies of their companies as more than incrementally different than their companies' previous organizational strategies. The other five participants described the new features of their companies' organizational strategies as incremental changes from their companies' previous organizational strategies.

The findings contribute to the strategic response framework, or SRF (Pedersen et al., 2020) by describing a hybrid process for organizations' strategic responses that extends the SRF. Specifically, Theme 2 describes a strategic response process involving bottom-up and top-down meetings and plans. The findings for antecedents to and outcomes of the strategic response process amid economic downturns also contribute to the SRF by providing additional empirical support for the framework's assumptions about these phases of organizational strategic responses to economic downturns. Theme 1 included a description that supports the SRF's premise that antecedents to strategic response are contingent on the firm's resources and the firm's learning of changes occurring in how competitors approach strategy or both. Theme 3 included a description that confirms SRF's conceptual variation for the new organizational strategies that result from the strategic response process.

The process of strategic response, when operationalized as a binary social phenomenon, necessitates an either-or process of strategic response (Schmitt et al., 2018; Sievinen et al., 2020). In contrast, when operationalized as a continuous social phenomenon, the process of strategic response may be characterized on a continuum from 100% top-down to 100% bottom-up, with the range therebetween characterizing different variations of a hybrid process for organizational strategic responses to economic downturns.

Recommendations

I recommend that leaders of large technology organizations approach the process of strategic response to economic downturns with participative decision-making at all phases of the process of strategic response. Study participants whose descriptions of the strategic response process were categorized as simultaneously bottom-down and top-up all spoke very positively about the process. The hybrid approach to strategic response can begin at the planning stage of strategic response. Leaders should ask for volunteers from all levels of hierarchy and across all divisions of the organization to participate in the strategic response process. During strategic response, all voices should be heard regarding how to respond amid an economic downturn or global crisis. Client-facing middle managers and their subordinates may have valuable insight into what tangential products or services can be offered to retain clients who are also suffering from an economic downturn. Top managers and executives should assume a hands-off role in their participation to encourage participation and avoid intimidating middle managers and their subordinates from speaking freely.

I also recommend that top management should change internal resources and the need to maintain homeostasis in the inflow and outflow of resources that are critical. Managers that participated in this project were influenced by the importance of efficiency and mitigating expenses. Managers should consider how an economic downturn will influence their resources and the flow of resources through the organization rather than following the activities of competitors as antecedents to change. Also, I recommend that leaders be prepared to limit extreme responses to economic downturns with major deviations from previous organizational strategies. The study participants all reported either incremental or no changes in organizational strategy in response to the economic downturn that resulted from the COVID-19 pandemic. The strategies described did not include plans for entering new markets but instead focused on retaining existing market share through new, tangential services to existing clients and potential new clients in the same market space. Some of the strategies described using standard strategic responses to cut costs and reserve resources until economic conditions improved.

Conclusion

The findings from this qualitative research study revealed consistency between how businesses adapt and change during economic downturns and the strategic response framework. The results from this study were consistent with the applied framework of this study. The findings included evidence of a phenomenon in economic downturns, such as the economic downturn created by COVID-19, where antecedents, processes, and outcomes are involved in changes made to adapt resources to the new environment to support continued organizational sustainability. However, the findings included evidence that antecedents are typically resource-based, that processes can hold elements of being induced and autonomous, where broad guidelines are promulgated to lower managers who have autonomy for achieving change objectives, and that outcomes are typically innovative. Thus, while the model for the strategic response was applicable and supported exploring interview data collected in this project, some elements of the model, such as change antecedents being based on resources and processes including a high degree of autonomy, support some elements of the model being stronger than others within the context of economic downturns. Most often, change to adapt to economic downturns appears to occur within the strategic response framework in such a way that management is most concerned about the resources of the organization and that lower levels of management shall receive directives on how they must respond to change. These changes by lower management have an innovative outcome.

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