

# BUYER DEPENDENCE, INDUSTRY REGULATION, AND EFFECTUATION: EXAMPLES FROM THE COVID-19 PANDEMIC

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## ABSTRACT

*Effectuation emerged as an entrepreneurial decision-making model especially applicable in uncertain environments. Despite the emphasis on environmental uncertainty as an important contextual factor, other contextual factors that support or undermine the applicability of the effectuation approach have not received much attention in entrepreneurship literature. To address this void in the literature and enhance the comprehensiveness of effectuation theory, we introduce buyer dependence and industry regulation as contextual factors and examine them in relation to the four underlying constructs of effectuation (i.e. flexibility, experimentation, affordable-loss, and pre-commitments). We propose that effectuation approach to entrepreneurship is less feasible when firms are buyer-dependent and operate in highly regulated environments. We examine the proposed relationships using examples from the COVID-19 pandemic. The COVID-19 pandemic created the uncertain environment in which effectuation approach is applicable and anecdotal evidence from the pandemic helped us gain a wider perspective on effectuation theory and its application.*

**Keywords:** Effectuation, entrepreneurship, buyer dependence, industry regulation, COVID-19 pandemic

## INTRODUCTION

Do entrepreneurs need to follow the rational making decision-making model? According to effectuation theorists, there is an alternative decision-making model that offers a substitute to the traditional rational decision-making model (i.e., causation). It involves a dynamic and interactive decision-making process, especially applicable in uncertain environments. Effectuating entrepreneurs focus on what can be achieved in the short term with the resources at hand, utilizing pre-commitments, and experimenting with new products and processes within the constraints of what the entrepreneur can afford to lose (Fisher, 2012; Sarasvathy, 2001). Effectuation theory has gained traction as a relatively novel approach in entrepreneurship in the last decade (Sarasvathy, 2001). However, despite growing interest, effectuation theory lacks comprehensiveness and context (Arend, Sarooghi, & Burkemper, 2015; Reymen, Andries, Berends, Mauer, Stephan, & Van Burg, 2015). Although some recent studies have looked into contingency factors such as organization size that affect the effectuation process, information is still limited, and there is a lack of a full understanding regarding circumstances under which effectuation logic is applicable (Arend et al., 2015; Sarasvathy, 2001).

This paper extends effectuation theory by introducing customer dependence and industry regulation as contextual factors. We propose that the effectuation approach to entrepreneurship is less feasible when firms are buyer-dependent and operate in highly regulated environments. Buyer dependence involves systems designed around the customer with significant resources and a long-term commitment to the customer (Dwyer, Schurr, & Oh, 1987; Mishra, Sinha, & Koul, 2017). This move reduces the dependent firm's flexibility, limits their ability to experiment with other business models, and increases potential losses (i.e., affordable loss). Pre-commitments to the buyer also limit options to work with other firms. Similarly, in highly regulated environments, firms are subject to strict rules and regulations that govern their operations. Therefore, their flexibility and ability to experiment are limited. Regulations often require long-term planning and regulate pre-commitments, limiting options to effectuate (Damanpour & Schneider, 2006; Fisher, 2012; Urban, 2018). Therefore, we propose that both buyer dependence and industry regulations reduce the entrepreneur's ability to effectuate. An overview of effectuation theory will be provided below, followed by propositions regarding its relationship to contextual factors of buyer dependence and environmental regulation. Examples are provided from the turbulent COVID-19 pandemic environment in a post-hoc analysis. However, anecdotal evidence does not provide empirical support and, therefore, future studies should empirically test the proposed relationships.

## **THEORETICAL BACKGROUND**

### **Effectuation and Causation as Alternative Decision-Making Models in Entrepreneurship**

Traditional decision-making models (i.e., causation) based on economic theories dominated entrepreneurship literature until the introduction of the effectuation concept, which offered a paradigm shift (Perry, Chandler, & Markova, 2012). From a causation perspective, the future is predictable and systematic evaluation is necessary to determine whether an opportunity is worth exploiting (Fisher, 2012; Sarasvathy, 2001; Venkataraman, 1997). The traditional view is based on the rational decision-making model where first a goal is set, and then alternative ways to reach the goal are identified. Next, the utility of each alternative decision is evaluated, and the probability of each alternative occurring is calculated. Finally, the alternative with the highest expected value is chosen and implemented (Cabantous & Gond, 2011; Keeney 1982).

The implicit assumption of predictability in the causation approach proposes that results can be estimated via superior forecasting ability (Roach, Ryman, & Makani, 2016; Sarasvathy, 2001). The assumption of predictability brings with it planning, long-term focus, and profit maximization goals. The traditional view postulates that an entrepreneur proceeds with predefined goals or objectives and engages in systematic evaluation of alternatives, with profit maximization being the ultimate goal. The dominance of this predictive view can also be seen in traditional textbooks, where historical market data is used to build models and scenarios in an attempt to predict the future and decide on the course of action (Read, Song, & Smit, 2009).

Sarasvathy (2001) offered effectuation as an alternative cognitive problem-solving approach especially applicable in uncertain environments and differentiated it from the traditional causation model. An entrepreneur following the effectual decision-making approach

focuses on what he or she can control rather than focusing on pre-determined goals. Such innovative minds also use the means and resources that are available at hand, accept uncertainty and remain flexible in order to change direction when necessary. Such entrepreneurs also agree with the fact that the future is unpredictable and focus on the short term rather than the long term. In addition, they also emphasize strategic alliances rather than competition and focus on limiting loss (i.e., affordable loss) rather than maximizing profit (Dew, Read, Sarasvathy, & Wiltbank, 2009; Perry et al., 2012; Sarasvathy, 2001).

Effectuation perspective shifts attention from forecasting and long-term planning to a focus on the present and what can be achieved within the current means of the entrepreneur (Read & Sarasvathy, 2005). The means of the entrepreneur include the resources as well as the relationship and networks that he or she has access to (i.e., pre-commitments). Effectuators do not make calculated, long-term decisions under perfect and predictable conditions, but instead, they focus on what is achievable within their current means and constraints under uncertain and dynamic conditions, with a focus on the short term. Because the future is not predictable, entrepreneurs focus on what they can afford to lose instead of focusing on maximizing profits at the end (Arend et al., 2015).

Rational planning underlies causation, whereas effectuation is associated with emergent strategies (Harms & Schiele, 2012). The entrepreneur can set or change direction when conditions change by focusing on what is achievable with the existing means while keeping an eye on the loss that is affordable (Arend, 2015). The effectuation approach allows the entrepreneur more control and flexibility when faced with contingencies. Effectuation theory deals with how enterprising individuals “make it happen” under tremendous uncertainty and ambiguity within their existing means (Read et al., 2016). In this perspective, entrepreneurs are creators rather than discoverers of opportunities (Steyaert, 2007). Entrepreneurship is viewed as an open-ended process, and the results/end states are unforeseen and often multiple (Steyaert, 2007). Therefore, effectuation theory suggests that entrepreneurs have numerous options regarding the results they can achieve in the long run. They are actively engaged in the decision-making process in reaching one of the possible results.

In sum, effectuation focuses on the short term versus the long term, “given set of means rather than goals,” “affordable loss rather than expected returns,” “strategic alliances rather than competitive analyses,” “exploitation of contingencies rather than exploitation of preexisting knowledge,” and “controlling an unpredictable future rather than predicting an uncertain one” (Sarasvathy, 2001; Chandler, DeTienne, McKelvie, & Mumford, 2011). Research over the years has identified four main sub-dimensions of the effectuation construct, including experimentation, flexibility, affordable loss, pre-commitments (Sarasvathy, 2001; Chandler et al., 2011). These sub-dimensions will be discussed below.

### **Underlying Constructs of Effectuation**

Effectuation is a multidimensional formative construct consisting of affordable loss, need for flexibility, experimentation, and pre-commitments as sub-dimensions (Chandler et al., 2011) which will be discussed below.

### ***Experimentation***

Effectuation logic departs from the traditional view where the entrepreneur evaluates alternatives and chooses an opportunity. Instead, it proposes that entrepreneurs take an active part in creating the opportunity. Especially under conditions of uncertainty, means or ends are not predetermined but instead constructed in the entrepreneurial process as the entrepreneur moves along (Steyaert, 2007). Effectuators avoid detailed planning and prediction. Instead, they experiment with options (Sarasvathy, 2001). They follow an iterative process where they experiment with a model, and if desired outcomes are not achieved, the model is refined (Andries, Debackere, & Van Looy, 2013; Reymen et al. 2015; Sarasvathy, 2001). The effectuation approach leaves multiple paths open to the entrepreneur where entrepreneurs can follow different paths to identify, exploit and create opportunities depending on their circumstances (Fisher, 2012).

### ***Flexibility***

Predicting the future becomes particularly challenging in uncertain and dynamic environments (Dew et al., 2009). When effectuators remain flexible, “the need for prediction is greatly reduced” (Sarasvathy, 2001, p.252). By staying flexible, entrepreneurs can take advantage of opportunities as they arise and change direction when necessary instead of committing to pre-existing goals and following rigid plans (Wiltbank, Dew, Read & Sarasvathy, 2006).

### ***Affordable Loss***

An effectuation perspective postulates that the entrepreneur exploits contingencies and utilizes the given set of means, resources, relationships, strategic alliances, and networks that are available with a focus on what he/she can afford to lose. Affordable loss concept is an alternative to the profit maximization emphasis that dominates the effectuation approach (Dew et al., 2009; Sarasvathy, 2001). Predicting the future, an essential component of the causation approach, becomes unnecessary when entrepreneurs can keep failures manageable (i.e., minor and quick).

Focusing on containing the losses allows entrepreneurs to engage in experimentation, affords flexibility as well as opens up new possibilities. When an experiment fails, the entrepreneur can change the course of action since the losses are contained (Chandler et al., 2011). Rather than trying to reach an ultimate goal, the entrepreneur shapes the future of the venture by making optimal decisions given the means available, experimenting with them, and focusing on what he/she can afford to lose in an unpredictable, uncertain environment (Dew et al., 2009).

### ***Pre-commitments***

Effectuation theory postulates that instead of engaging in formal planning, entrepreneurs proceed with available resources, envision possible opportunities, and take advantage of them through partnerships (Andries et al., 2013; Sarasvathy, 2001; Sarasvathy, Dew, Read & Wiltbank, 2008). Effectuation logic is based on the assumption that the entrepreneur can shape and co-create the environment through engaging in relationships with a network of partners and stakeholders (Dew et al., 2009). Pre-commitments allow entrepreneurs to access resources that they need to grow as well as help them control the future (Sarasvathy, 2001). Entrepreneur’s social and business networks and the trust they develop with network partners are critical resources. They help the entrepreneur control uncertainty, discover and take advantage of

dynamic market opportunities (Evers & O’Gorman, 2011; Galkina & Chetty, 2015). Following a review of the underlying constructs of effectuation, the researchers discuss contingency factors that affect the entrepreneur’s ability to effectuate.

### **Effectuation and Contingency Factors**

Early studies defined the theory of effectuation and its constructs. In more recent years, researchers turned their attention to contingency factors affecting the effectuation process. Uncertainty is a well-known contingency factor in effectuation theory since the theory is built on the assumption of uncertainty. The effectuation theory postulates that effectuation logic is especially applicable in uncertain environments. Organization size is another contingency factor examined in relation to effectuation, although in a limited number of studies and mostly within the innovative framework (Roach et al., 2016). Causation is applicable in established markets and corporate settings where incremental innovations are developed (Grimm & Amatucci, 2013). In contrast, the effectual approach was argued to be suitable for small firm characteristics in new product development (Berends, Jelinek, Reymen, & Stultiens 2014). The argument for the effectuation approach in smaller firms is that they enjoy greater flexibility and that product innovation is resource-driven in small firms, as suggested by effectuation theory (Berends et al., 2014; Van de Vrande, De Jong, Vanhaverbeke, & De Rochemont, 2009; Yap & Souder, 1994). It is also suggested that new ventures may switch from an effectuation to a causation approach as they grow and start emphasizing planning, standardization, and structure (El Hanchi & Kerzazi, 2020). Despite the expansion of effectuation research, there have been limited studies examining the contextual factors beyond uncertainty and organization size that affect effectuation. In the next section, this theoretical framework discusses buyer dependence and industry regulation as factors that affect the entrepreneur’s ability to effectuate.

#### ***Buyer Dependence and Effectuation***

Buyer dependence can be defined as the extent to which “a partner provides important and critical resources for which there are few alternatives” and implies a necessity (“have to”) to stay in the relationship (Mishra et al., 2017, p.60). The need to remain in the relationship arises from the fact that the buyer-dependent firms design their systems to serve the buyer, increasing switching costs and limiting their flexibility and ability to serve other customers (Mishra et al., 2017). Any switch will require significant investments and time to change the operations or business models (Plambeck & Taylor, 2007). Hence, the entrepreneur will not be able to respond quickly as suggested by the effectuation theory. Higher switching costs also increase potential losses and limit the entrepreneur’s ability to experiment with other options or business models. Buyer dependence requires a long-term commitment, which further restricts the ability to effectuate (Berends et al., 2013). As suggested by the effectuation theory, limited and short-term obligations allow entrepreneurs to contain their risks and keep any loss short-lived (i.e., affordable loss). Resource dependence theorists suggest that buyer-dependent firms are highly vulnerable to economic and policy shifts of the single customer (Pfeffer 1982; Thompson 1967; Venkataraman et al., 1990). Buyer dependence makes firms vulnerable to changes in the strategies and priorities of the customer, limiting their ability to contain losses (Venkataraman et al., 1990).

In addition, the effectuation theory postulates that the entrepreneur’s social and business ties (i.e., pre-commitments) are critical resources in the effectuation process (Andries et al.,

2013; Sarasvathy, 2001; Sarasvathy et. al., 2008). Pre-commitments provide access to resources, help entrepreneurs create and discover opportunities, and control the environment (Evers & O’Gorman, 2011; Galkina & Chetty, 2015). Buyer dependence limits the breadth of the entrepreneur’s network and pre-commitments. Commitment to a single customer requires significant resource commitment and long-term commitments to that customer, reducing the entrepreneur’s flexibility and ability to experiment with different customers and business partners as well as products and business models. Therefore,

*Proposition 1: There is a significant negative relationship between customer dependence and effectuation.*

### ***Industry Regulations and Effectuation***

It is well known that external environmental factors affect the success and failure of firms. An environment offers opportunities and challenges to the entrepreneur. Entrepreneurs need to understand which situations are favorable and unfavorable for them to succeed (Ansoff, 1987; Wiltbank et al., 2006; Zahra, 1993). There have been calls from researchers to examine the role of environmental conditions in the effectuation processes. However, studies on the same have been scarce (George, Parida, & Wincent, 2016; Urban, 2018). Researchers still do not know much about how environmental factors affect the effectuation process or under which conditions an effectuation approach is applicable (Arend et al., 2015).

There are compliance costs associated with industry regulations. Research has shown that these costs are especially challenging for small entrepreneurial firms (Bailey & Thomas, 2017). Potential for losses increase with compliance costs (i.e., affordable loss) and reduces the entrepreneur’s ability to effectuate. Constraining industry standards and regulations also limits the entrepreneurs’ flexibility and ability to experiment (Fisher, 2012). New firms which are usually “resource-constrained” have difficulty allocating resources, such as time and capital to managing “onerous regulatory processes” (York & Venkataraman, 2010, p.459). When they do, they are very limited in what they can afford to lose since their resources are already scarce. Regulations are also likely to limit whom entrepreneurs can cooperate and work with (i.e., pre-commitments), restricting the entrepreneurs’ network and access to resources. Regulated environments reduce opportunities for innovation and, therefore, reduce chances for experimentation, which is necessary for effectuation (York & Venkataraman, 2010).

In sum, effectuation is difficult to implement in such highly regulated environments since entrepreneurs are subject to strict rules and regulations that govern their operations. In regulated environments, entrepreneurs will not have the flexibility and the ability to experiment with different products and business models. They need to function within the confines of their permitted areas of operation. In particular, implementing short-term plans becomes problematic as entrepreneurs may have time-consuming procedures to follow. Therefore:

*Proposition 2: There is a significant negative relationship between industry regulation effectuation.*

### ***Post-Hoc Analysis: COVID-19 Pandemic and Effectuation***

Researchers have suggested that the effectuation approach is especially applicable in uncertain environments such as the one created by the COVID-19 pandemic. The year 2020 has been marked by Coronavirus (COVID-19), which has been declared as a pandemic by the World

Health Organization. COVID-19 spread rapidly worldwide, as there were reported cases in almost every country by the first quarter of 2020, affecting governments, industries, businesses, entrepreneurs, and employees alike. The COVID-19 pandemic created an uncertain, unpredictable, and constantly changing environment, which entrepreneurs had never experienced before, with challenges ranging from a decline in customer demand due to movement restrictions and unemployment to broken supply chains (Tan, 2020; Tartar, 2020). Customer demand was uncertain due to increasing unemployment rates and certain firms going out of business or filing for bankruptcy. How long the pandemic would last and its economic consequences were unknown. Entrepreneurs were scrambling to utilize their resources to create new opportunities.

The effectuation theory provides a framework to help understand how some organizations used the effectuation logic to survive and even thrive in the environment caused by the COVID-19 pandemic and why some firms could not effectuate. In the following section, the researchers will discuss examples to elaborate on the concepts discussed above. Observations provide anecdotal evidence and insight, allowing the researcher to gain a wider perspective. However, the observations do not provide support for cause and effect relationships or lead to inferences. Future studies should empirically examine the relationships proposed in this study. While it will take some time for scholars to fully understand and evaluate the effects of COVID-19 on the economy in general and businesses in particular, it is important for management scholars to utilize the information at hand. The next section examines the above propositions regarding the COVID-19 pandemic based on anecdotal evidence from published news.

### **Implementing the Effectuation Logic – An example**

A small mom-and-pop bakery located in Dallas, Texas, is a good example of a business that implemented the effectuation approach during the pandemic to keep its doors open and survive. Bisous Bisous is a bakery specialized in French-style pastries famous for its macarons and croissants. Most of their croissant sales were previously wholesale to other businesses before the COVID-19 pandemic. With the wholesale business diminished due to the pandemic and stay-at-home orders in effect, the owners had to think outside the box to recoup some of their losses and survive. Chef/owner Andrea Meyer and her husband updated their website in a few days to focus on e-commerce so that customers could order online and avoid crowds in the store. In doing so, they used their creativity and utilized resources as suggested by effectuation theory (i.e., technical knowledge and skills to build a website). They ramped up their freezer to oven offerings after some experimentation with new products. They realized that as more Americans turned to eat at home, people would prefer freezer to oven products to enjoy at home. They not only kept their existing customers but also started gaining new customers with their creative freezer to oven offerings. In addition, by selling directly to the customer through their website, they avoided intermediaries, such as UberEats, Doordash, and others that take 30% of their earnings. Chef/owner Andrea Meyer says that the frozen products keep them busy and employees paid (Adams, 2020a; Adams, 2020b; Gubbins, 2020; Hall, 2020). They launched a kit as Mother's Day 2020 approached that allows people to make the caramel-pecan cinnamon rolls that they are famous for at home, which is another creative solution that they innovated.

Chef/owner Andrea Meyer realized through social media that many of her customers searched for ingredients such as sugar, flour, and other baking pantry essentials during the early days of the pandemic. Since their production had been reduced, they had hundreds of pounds of those ingredients sitting in their kitchen. She started selling one-pound containers of sugar, flour,

bread flour, cake flour, and yeast for a small fee to recoup her costs. This experience showcases an example of utilizing resources at hand to create opportunities, as suggested by the effectuation theory. She gained new customers and strengthened her existing clients' loyalty by helping them access items that they could not find elsewhere during such a difficult time. By asking her customers to share their purchases on social media with a Bisous Bisous hashtag (#), she leveraged her clients' pre-commitments as outlined by the effectuation theory. Their loyal customer base spread the word through social media, and local newspapers such as *The Dallas Morning News* and *The Dallas Observer* keep them in the headlines and their customers coming.

The owners of Bisous Bisous display the effectuation principles by 1) being flexible with their business model and putting more emphasis on online business, 2) experimenting with new products and being creative in offering freezer to oven products, 3) utilizing their means and resources such as building the e-commerce website, selling unused ingredients to customers, and 4) using pre-commitments such as social media, customer base, newspapers to keep them current and 5) short term focus is displayed by the fact that they had to do all this in a very short period with the sudden onset of the COVID-19 pandemic in the United States without existing long term plans. Bisous Bisous is an example of a small business where owners implemented all the underlying factors of the effectuation logic and kept its doors open during an uncertain time.

However, many other businesses in the United States could not switch their businesses around primarily because they were not as flexible. They did not have opportunities to experiment. In some cases, their pre-commitments turned into disadvantages rather than advantages. The next section discusses factors that affect the ability of the entrepreneur to effectuate and gives examples from the Covid-19 pandemic.

### **Buyer Dependence during the COVID-19 Pandemic**

One of the groups that were hit hardest during the pandemic was the suppliers of the restaurant industry. Farmers who were dependent on the restaurant business were among the hardest hit. They found it difficult to replace the restaurant demand with individual customer demands because their systems were built around the restaurant industry and could not switch to a different business model. Selling directly to households and other customers brings supply chain and distribution challenges. For example, "before the pandemic, the Dairymen's processing plant in Cleveland would produce three loads of milk, or around 13,500 gallons, for Starbucks every day." By April 2020, the Starbucks order was down to one load every three days, and they were left with milk they did not know what to do with at the end of the day (Yaffe-Bellany & Corkery, 2020).

Suppliers tried to find amicable alternatives to replace the restaurant demand. For example, Shay Myers, a third-generation onion farmer in Oregon and Idaho, started redistributing onions from 50-pound sacks into smaller bags that could be sold in grocery stores. He also started freezing as much of his product for future sale as his limited cold-storage capacity allowed. Despite these efforts, he still had to let tens of thousands of pounds of onions decompose in waste (Yaffe-Bellany & Corkery, 2020).

Shifting distribution from businesses to individual consumers can be challenging because, in some cases, it requires reconfiguring complex supply chains and dealing with new storage and distribution requirements (de Sousa, Durisin, & Jha, 2020). For example, in many dairy processing plants, machines are designed to package dairy products such as shredded cheese in large bags intended for wholesale and sale to restaurants. Switching packaging from

wholesale to retail-friendly containers in a short period is difficult, if not impossible, and requires million dollars of investment (Yaffe-Bellany & Corkery, 2020).

Anecdotal evidence from the COVID-19 pandemic suggests that customer-dependent firms did not have the flexibility and the ability to experiment with different markets, products or customers. In cases where switching costs are high, the potential loss is also increased for the entrepreneur (i.e., the loss is not affordable) (Mishra et al., 2017). Switching to a new business model takes time, knowledge and requires the entrepreneur to find the right people and develop contacts, which all take time. Therefore, customer dependence is likely to limit the entrepreneur's network and resource access.

While some suppliers of the restaurant industry were suffering, others found ways to survive and even thrive. For example, Chris Newman, owner of Sylvanaqua Farms, a small permaculture operation that sells and delivers directly to consumers as well as restaurants and wholesale, was able to turn his business around. Newman, a former software engineer, had set up his website for direct orders of meat and eggs earlier on while also selling to wholesalers. As soon as social isolation began, his online orders increased rapidly (Mak, 2020). Megan Brown, another boutique farmer, is also doing remarkably well (Yaffe-Bellany & Corkery, 2020). What these two farmers have in common is a diverse customer base and online presence. They were not customer-dependent and had alternatives. During this pandemic, farmers who sell directly to households (i.e., multiple customers) or both households and businesses were faring better than farmers who were dependent on a single industry or customer (i.e., restaurants or food service operations). In sum, anecdotal evidence from the pandemic suggests a negative relationship between buyer dependence and effectuation which should be tested in future empirical studies. It should also be added that most of the attention in the news focused on the food industry, and the proposition should be tested in other industries and the food industry.

### **Industry Regulation during the COVID-19 Pandemic**

Industry regulation appears to have limited the entrepreneur's ability to effectuate during the pandemic. For example, livestock farmers are required to process their meat at USDA-inspected facilities (Splitter, 2020). The number of USDA-approved facilities is few in some states, and in addition, many were closed due to the spread of COVID-19 among workers and inspectors. This occurrence caused an obstacle for farmers switching from selling to restaurants to individual customers. Farmers were left with cattle in their hands that they could not process (Splitter, 2020).

Another example is the Food and Drug Administration (FDA) regulating hand sanitizer as over-the-counter drugs. With the onset of the COVID-19 pandemic in the United States, hand sanitizer was in short supply in hospitals, healthcare facilities, and households. This provided an opportunity for producers of distilled alcoholic beverages because making hand sanitizer is simple, although dangerous, and distilleries are equipped and trained to handle alcohol in a safe manner (Friedlander, 2020). However, they could not begin production due to Food and Drug Administration (FDA) regulations. They could only start production after March 27, when FDA announced, "entities not currently regulated as drug manufacturers can produce hand sanitizer if they follow an FDA-dictated approach" (Lammi, 2020). The Alcohol and Tobacco Tax and Trade Bureau (TTB) also issued guidance that reduced regulatory requirements and some taxes. Distilleries could only switch their operations and take advantage of this opportunity after some restrictions were lifted and FDA guidance was revised. FDA regulations also applied to

ventilators that were in short supply and high demand during the pandemic. On March 22, 2020, FDA announced that they would work with manufacturers. FDA “implemented drastic regulatory changes to allow automakers and other non-medical manufacturers” to start producing ventilators.

Overall, effectuation is difficult to implement in such highly regulated environments since entrepreneurs are subject to strict rules and regulations that govern their operations. Entrepreneurs operating in regulated environments will not have the flexibility and the ability to experiment. In particular, implementing short-term plans becomes problematic as entrepreneurs may have time-consuming procedures to follow. In addition, rules and regulations are also likely to affect the partnerships that entrepreneurs can form and networks that they can be a part of, limiting their pre-commitments. In addition, if meeting rules and regulations require significant investments, entrepreneurs cannot afford to experiment with different options, and their flexibility is reduced. Therefore, industry regulations are likely to have a negative relationship with the entrepreneur’s ability to effectuate. Future studies should empirically test these relationships in different industries.

## CONCLUSION

The effectuation theory proposes that organizations survive and succeed by experimenting with new products, methods, or ways of doing business, being flexible and changing course when necessary, taking risks that are commensurate with what they can afford to lose, utilizing their pre-commitments to succeed, and focusing on what is achievable in the short term with the resources at hand (Arend, Sarooghi, & Burkemper, 2015; Chandler et al., 2011). Researchers have suggested that an effectual approach is especially applicable in uncertain environments such as the one created by the COVID-19 pandemic. This study indicates that buyer dependence and industry regulations reduce the entrepreneur’s ability to effectuate.

Grimm and Amatucci (2013, p.59) propose effectuation as a “powerful alternative to the expensive, time-consuming planning process which may inhibit quick responses to temporary windows of opportunity that require immediate attention.” Anecdotal evidence from the COVID-19 pandemic supports this view. It also suggests that entrepreneurs who could respond quickly to the changing dynamics in the environment and effectuate survived and even benefited from the pandemic. This study suggests effectuation as a process that is particularly suitable for businesses that are not customer-dependent and are not subject to government rules and regulations.

Buyer dependence requires significant investment to meet the demands of the client and reduces flexibility and profitability (Hewitt-Dundas & Roper, 1999; Pfeffer 1982; Thompson 1967; Venkataraman et al., 1990). Having multiple buyers provide firms with greater options and more room to be flexible and experiment as well as limit losses in the case of the buyer losing business. Industry regulation is another factor that determines the entrepreneur’s ability to effectuate by reducing flexibility and experimentation (Damanpour & Schneider, 2006; Urban, 2018). Rules and regulations require long-term planning and limit the firm’s ability to change course when opportunities or threats arise, and limit flexibility. They also limit the entrepreneur’s ability to experiment because they should operate with the boundaries of the rules and regulations.

Although effectuation theory gained ground as a novel entrepreneurship approach, it still lacks context and comprehensiveness (Arend et al., 2015). This study extends the focus of

effectuation theory beyond the individual by examining contextual factors as they relate to the environment in which effectuation approach is applicable. Hence, this study addresses a gap in effectuation literature and enhances its comprehensiveness. In addition, the uncertain environment provided the Covid-19 pandemic offered the uncertain environment in which researchers can make observations. This study also has important implications for practitioners. Most textbooks in management focus on the rational decision-making process and making long-term plans. On the other hand, the effectuation theory proposes a different approach to decision-making in the entrepreneurial process. This study suggests that effectuation theory may be the best approach for the entrepreneur to follow depending on the contingency factors. Previous research has emphasized the importance of having multiple options and letting circumstances determine the path (Berends et al., 2014).

### **DIRECTIONS FOR FUTURE RESEARCH AND LIMITATIONS**

According to Arend et al. (2015, p.639), the effectuation theory “appears to be missing several units” and comprehensiveness. Majority of the studies in the field of effectuation focus on the individual decision-making process and studies that examine the effect of circumstances on the applicability of effectuation approach are limited. This paper extends the focus of effectuation theory beyond the individual by examining contingency factors as they relate to the environment in which effectuation takes place, as suggested by Arend et al. (2015). Future studies should examine other contextual factors and how they facilitate or hinder the application of the effectuation approach. They should also look beyond the individual and examine factors that affect decision making approaches at the organization level. Berends et al. (2013), for example, suggest product development in smaller firms is different than in corporations and that effectuation approach is more common in smaller firms. Effectuation approach can be applied beyond individual decision making and beyond entrepreneurship. Future studies can apply effectuation theory in all areas of business where decision making process is involved (i.e. marketing, product development).

This study contributes to the literature by utilizing the information at hand provided by the COVID-19 pandemic to advance our understanding of the effectuation process although it is not an empirical study. Despite that fact that confirmation bias is a limitation of the anecdotal method (Evans,1993), informal verbal reports provide clues regarding areas of study that warrant systematic and controlled research. In that vein, the objective of this study is to propose relationships to be tested. The COVID-19 pandemic provides a unique opportunity to examine effectuation theory in a real, turbulent environmental setting. As suggested by Arend et al. (2015, p.642), effectuation theory is “difficult to test as a stand-alone conceptualization” since “respondents are unlikely to comprehend the subtleties involved.” The observation approach allows the researcher to gain a wider perspective. However, there is no data yet that can be used to test the relationships proposed in this study due to the regency of the pandemic. Future research should empirically test the proposed relationships in this study when more data from the COVID-19 pandemic is available.

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