WHEN LITTLE CAN BE ENOUGH: ENTREPRENEURIAL BRICOLAGE, INNOVATIVENESS, AND NEW VENTURE PERFORMANCE

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SUMMARY: Gaining access to resources is a critical issue for new ventures that becomes even more acute due to crises such as the COVID-19 pandemic. In this study, we aimed for new ventures (established for 6 or fewer years) to gain a more nuanced understanding of when bricolage (creative use of existing resources) might benefit their performance. In a survey sample of 362 managers from new U.S. ventures, we found and suggest to entrepreneurs that (a) bricolage influences new venture performance through innovativeness, and (b) the firm's higher age strengthens the relationship between innovativeness and new venture performance.

Keywords: Bricolage; Innovativeness; New Ventures; Resource-Based View; COVID-19

Introduction

Bricolage is a creative, improvisational process in which firms utilize their existing resources to solve challenges and generate opportunities (Ali & Bailur, 2007). Entrepreneurial bricolage is "making do by applying combinations of the resources at hand to new problems and opportunities" (Baker & Nelson, 2005, p. 333). There are different approaches that help firms remain competitive in today's business environments. Resource-seeking attempts or trying to attract new external stakeholders (e.g., investors) are popular approaches for firms to increase their equity (Baker & Nelson, 2005; Balakrishnan & Cheng, 2005; Bhide & Stevenson, 1999). Due to the limited available resources or the diverted stakeholder interest during and after crises (e.g., COVID-19 pandemic), however, new ventures often need to rely on other approaches to survive in competitive markets. One approach that might help early-stage firms with their limited resources in volatile times is bricolage (Baier-Fuentes et al., 2023). By recombining existing resources, bricolage can help entrepreneurs and firms gain advantage over their competitors who do not utilize it (Anand & Delios, 2002). While fostering positive outcomes for firms (Ciborra, 1996; Ferneley & Bell, 2006; Garud & Karnøe, 2003; Orr, 1996; Salunke et al., 2013), bricolage may not be the best approach for all early-stage firms (Lanzara, 1999). We were therefore motivated to explore some of the factors in the new ventures' environments under which bricolage might be more beneficial.

In this research, we used the context of new ventures across different industries operating during the COVID-19 pandemic to explore the relationship between bricolage and firm performance. New ventures are defined as firms established for 6 or fewer years by an enduring body of extant literature (Brush, 2013; Zahra, Ireland, & Hitt, 2000). New ventures play a key role in driving economic growth, and the economies with higher number of new ventures grow faster than the others (Schumpeter, 1934; Schmitz, 1989). Most new firms, however, do not have access to abundant resources, and innovation and creativity might be the critical sources of survival and growth for them. Research suggests that innovation might even be the only solution for small firms to survive and thrive (Chan Kim & Maubourgne, 2005; Rosenbusch, Brinckmann, & Bausch, 2011). Thus, we studied the relationship between bricolage and new venture performance through a specific lens of innovativeness – a firm's willingness to engage in new ideas and creative processes for developing new products and services (Lumpkin & Dess, 1996) – to provide more insight into the effect of bricolage in new ventures.

While examining innovativeness as a mediating factor to explain the relationship between bricolage and firm performance, we also explored the potential impact of new ventures' age – as their internal characteristic – on the relationship between their innovativeness and performance. We considered that harnessing the innovativeness skillsets for higher performance might evolve with experience and that exploring the impact of age of the new ventures was important, because the extent of access to resources, priorities, and level of innovation in these firms might change as the firms mature (e.g., Edwards, Delbridge, & Munday, 2005).

This research offers several contributions. First, the literature about the effects of bricolage on firm performance is very limited, and it lacks a comprehensive exploration of the mechanism through which bricolage has a relationship with firm performance. In this paper, we utilized innovativeness as a mechanism to explain this relationship, thus our study depicts a more comprehensive view of the role of bricolage in new venture performance. Second, we studied the effects of firm's age and, with that, explored how the new venture's length of existence plays a moderating role in our model. Third, we extended the nuanced application of resource-based view (RBV) of the firm (Barney, 1991) to explain the effect of bricolage in further linking firm's performance with the creative utilization of existing resources.

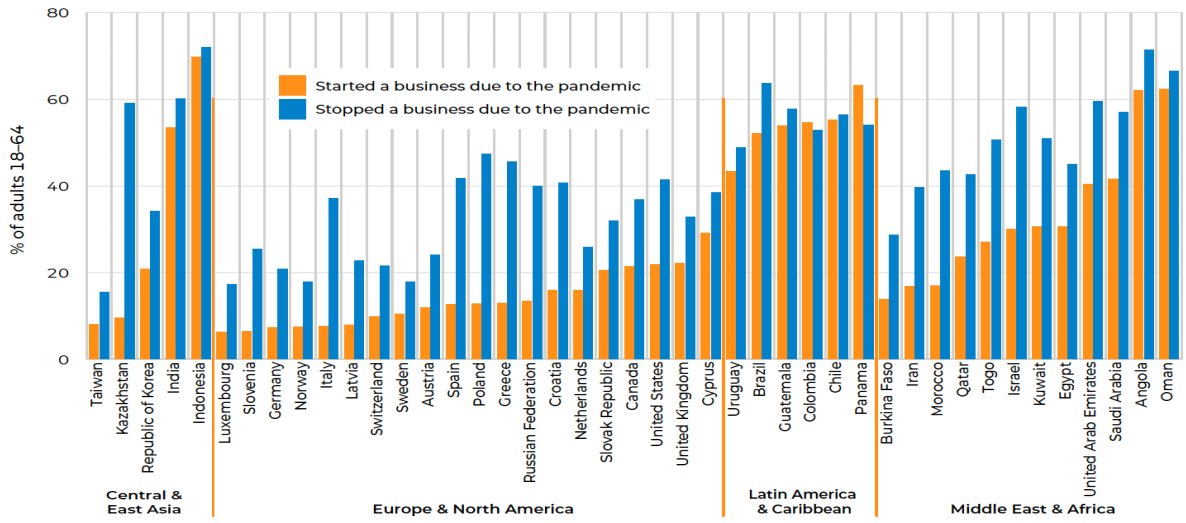
We review below the COVID-19 pandemic's impact on new ventures as well as the literature on bricolage, innovativeness, and RBV framework as germane to the conceptual model underlying the development of our hypotheses that follows. We then discuss the research data and methods, including the sample, design, and measures. The results section then presents what we found and shows the support for each of the hypotheses. We conclude with a discussion inclusive of some implications, limitations, and suggestions for future directions.

Evidence from Global Entrepreneurship Monitor (GEM)

In this section, we look at the GEM COVID-19 and 2020/2021 reports to understand the impact of the pandemic on the new (or entrepreneurial) ventures' access to resources. Starting and maintaining a business requires resources, including access to finance. Despite the media attention to well-funded high-technology startups, most entrepreneurial ventures start with very limited funding – many times just the personal resources of the entrepreneurs and their families and friends – and they continue with limited resources during the initial maturity phases. Because of the economic downturn during the pandemic, access to financial resources became even more difficult

for entrepreneurial ventures. In most economies listed by GEM 2020/2021, more adults reported knowing someone who stopped a business due to the pandemic, compared to those who reported knowing someone who started a business due to the pandemic. As shown in Figure 1, in many countries, 40% of respondents reported knowing someone who stopped a business due to the pandemic.

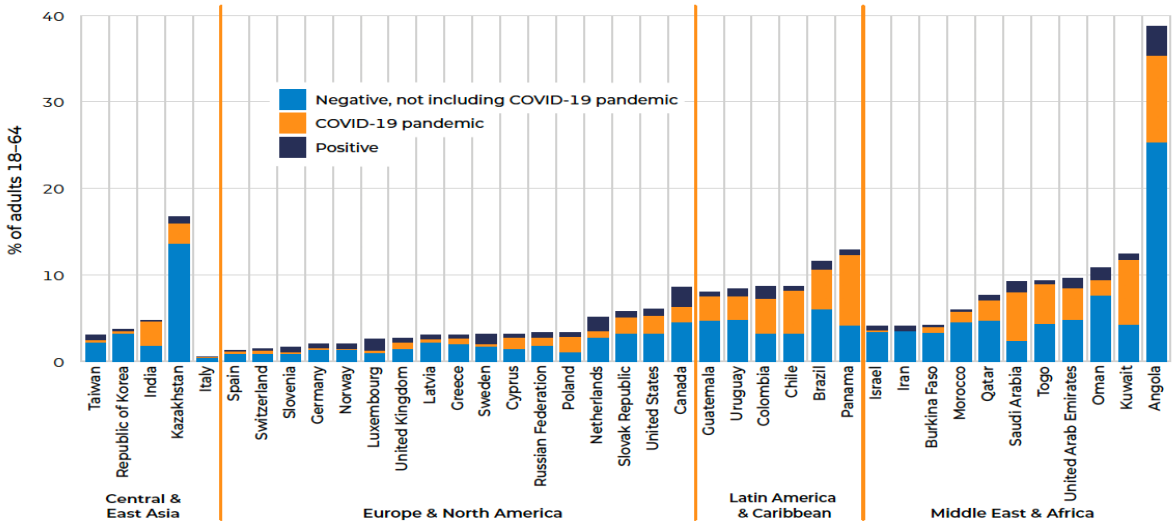
Figure 1: Knowing someone who has started, or stopped, a business due to the pandemic



Source: GEM 2020/2021

There are many reasons why entrepreneurs decide to exit their businesses. Positive reasons might be selling the business, pursuing other attractive employment opportunities, going into retirement or just a planned exit; and the negative ones include the lack of profitability, burden of tax or bureaucracy, difficulty accessing finance or other resources, family or personal reasons, and – most recently – the impact of the COVID-19 pandemic (GEM 2020/2021 report). In most countries surveyed, however, less than 5% of the 2020/2021 exits were due to positive reasons (Figure 2).

Figure 2: Positive, COVID-related, and other negative reasons within total business exits



Source: GEM 2020/2021

Tellingly, COVID-19-directly-related exits alone outpaced the "positive" exits in most economies. It is also important to note that the pandemic might have indirectly played a part in some of the other negative reasons, too. Combined, the negative reasons for 2020-2021 exits – mainly associated with a lack of resources to keep the businesses going – highlight the increased pressure on firms' resources due to crises such as the COVID-19 pandemic. Based on these observations, we find it timely to share with entrepreneurs an exploration of available options when the new resources or access to them are lacking.

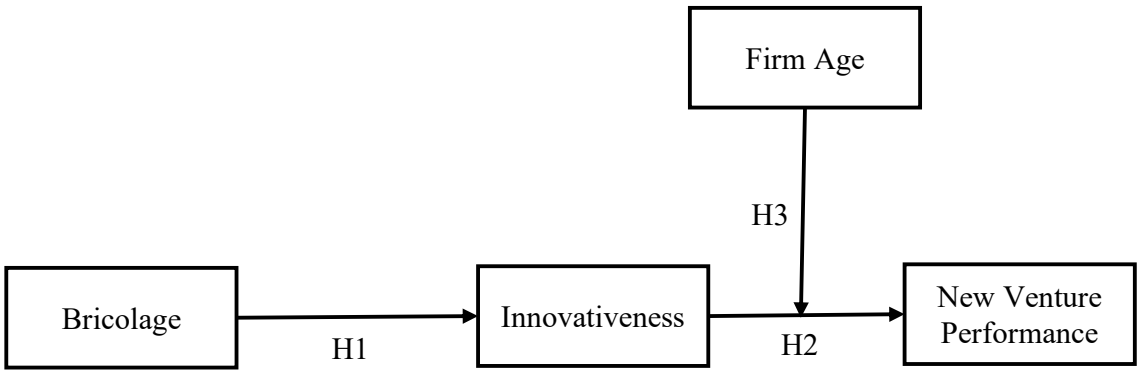
Conceptual Framework and Hypotheses Development

In this section, we explain the theoretical foundation of our research based on the resource-based view (RBV) of the firm. To understand the effect of bricolage – as an approach in creatively using and managing existing resources – on new venture performance, we found RBV to be an appropriate framework for explaining the relationship between resources in a firm and its performance. RBV examines the link between a firm's characteristics and its performance (Barney, 1991) and posits that resources that are rare, valuable, inimitable, and non-substitutable give the firms unique capabilities for becoming successful (Barney, 1986; 1991). RBV has been utilized in the literature to explain the competitive advantage of firms based on the application of a bundle of valuable resources – including in relation to bricolage and uncertain environments

(Meng et al., 2020). According to RBV, access to resources is important in gaining or regaining competitive advantage. Hence, RBV helps to frame the relationships and explanations of effects of resource-based phenomena (e.g., bricolage) in firms.

In this research, we examine the effect of bricolage on new venture performance. First, we argue that the relationship between bricolage and new venture performance is not direct, and that there is a factor that mediates this relationship. Because the creativity and innovation in using existing resources is central to understanding the effects of bricolage, this study introduces innovativeness as the mediator. Based on this argument, we propose that the more the new venture utilizes the bricolage approach, the higher its innovativeness will be; and the more innovative it is, the better it performs financially. Further, we study the moderating role of firm age on the relationship between innovativeness and new venture performance. Because of the nature of our model and its focus on new ventures, we specifically explore how the firm's age affects the relationship between the second part of the meditation (innovativeness on performance). The conceptual model of our research is presented in Figure 3.

Figure 3: Conceptual model of this research



Based on the general research motivation for this study, we aimed at exploring the relationship between bricolage and new venture performance through the lens of innovativeness. Due to lack of adequate resources, new firms often rely on different approaches for fostering internal innovativeness and, despite the lack of substantial resources, they still can manage to innovate (Senyard et al., 2014). One of the approaches that help new firms innovate is creatively using their existing resources; and the extant literature exposes and examines multiple benefits of bricolage for innovative solutions (e.g., Baker, Miner, & Eesley, 2003; Banerjee & Campbell, 2009; Harper, 1987; Lanzara, 1999). Several case studies have also specifically associated bricolage with innovativeness (Ciborra, 1996; Bechky & Okhuysen, 2011; Garud & Karnoe, 2003; Baker & Nelson, 2005), treating bricolage as one of the important and effective ways for new firms to achieve innovation. In the context of resource-limited firms, prior studies additionally suggest that firms using bricolage create more innovative solutions than firms that do not engage in bricolage (Senyard et al., 2014). With this discussion, we present our first hypothesis:

Hypothesis 1: Bricolage has a positive relationship with new ventures' innovativeness.

According to Barney (1986), an organizational culture that supports implementation of a strategy can be inimitable and a source of sustainable competitive advantage. Adopting innovation as part of that culture generally helps performance and effectiveness of the firm (Damanpour, 1991), and the development of new products or services helps firms achieve competitive advantage. As business environments evolve, firms must innovate to adapt to their environments and maintain their competitive advantage (Porter, 1990). Organizations without much innovation invest valuable time and resources in the course of their business but are often not able to translate their knowledge into practice (Hult, Hurley, & Knight, 2004) to achieve higher performance. Literature in various industries shows a positive effect of innovativeness on firm performance (Noruzy et al., 2013; Raymond et al., 2013). Innovation helps to "renew companies, enhance their competitive advantage, spur growth, create new employment opportunities and generate wealth" (Hayton & Kelley, 2006). Therefore, in our second hypothesis, we argue that innovativeness in new ventures in particular also helps to increase their performance:

Hypothesis 2: Innovativeness has a positive relationship with new venture performance.

New ventures are generally known for the lack of adequate resources as well as paucity of established connections to help them access new internal or external resources (Brunswicker & Vanhaverbeke, 2015; Ceci & Lubatti, 2012; Edwards, Delbridge, & Munday, 2005). Many of the new ventures might be innovative, but due to the relative lack of resources or venues to acquire them, few turn the innovation into practice and higher performance and succeed financially. Love, Roper, and Vahter (2014), for example, suggested that every additional external link to information (or resources) helps benefit the outcomes of innovation. We propose that because the more established new ventures have access to more resources or mature connections for resource acquisition, they are better positioned to increase performance while utilizing innovation. Hence, the final hypothesis of our research:

Hypothesis 3: Innovativeness has a stronger relationship with new venture performance in more established new ventures than in younger new ventures.

Methods of Inquiry

To test our hypotheses, we analyzed data from surveying managers in various new U.S. ventures. The survey was designed to include descriptive questions, Likert-scale ratings, and multiple-choice questions based on our variables. We explain below our sample and data collection, followed by a list of variables, their operational definitions and corresponding survey items.

Data Collection and Sample

Our sample consists of new venture managers representing U.S. firms 6 years or younger across a range of industries (manufacturing, retail, service, high-tech, healthcare, education, and other). We utilized the data collection service of Amazon mTurk to find the specific respondents that fit the purposes of our research. The main criteria for inclusion were checked based on the following screening questions at the beginning of the survey:

1. Are you a manager in your current organization? ✓a) Yes b) No
2. Firm age: (years) ✓a) Less than 1 year ✓b) 1-3 years
   ✓c) 4-6 years d) More than 6 years

For each screening question, only those respondents were accepted who chose the options with a check mark symbol. Other respondents were not accepted but, instead, directed with thanks to the end of the survey. Table 1 summarizes our study sample's descriptive characteristics. Of the 362 participants, almost a half (46.7%) represented new ventures with fewer than 100 employees, 27.1% between 100-250 employees, 16.3% between 251-500 employees, and only 9.9% with over 500 employees. More than a half (55.5%) of the firms were between 1-3 years old, 32.3% between 4-6 years old, and 12.2% were established for less than 1 year. Most of the firms in our sample were in the retail (25.7%), service (22.7%), and high-tech (22.4%) industries, while only about 5% were in the healthcare and education industries each.

Table 1: Descriptive statistics of the sample

		Frequency	Percentage
Number of Employees	0-100	169	46.7%
	101-250	98	27.1%
	251-500	59	16.3%
	More than 500	36	9.9%
Firm Age	Less than 1 year	44	12.2%
	1-3 years	201	55.5%
	4-6 years	117	32.3%
Industry	Manufacturing	46	12.7%
	Retail	93	25.7%
	Service	82	22.7%
	High-Tech	81	22.4%
	Healthcare	20	5.5%
	Education	18	5.0%
	Other	22	6.1%

Operational Definitions and Survey Items

We present the operational definitions of all variables along with their measurement items in the Appendix. All items we adapted were previously used in scholarly literature on each of the variables in our conceptual model. Some items were further validated in subsequently published studies (see Appendix for details).

Results

The conceptual model of this research was analyzed using version 4 of PROCESS syntax (Hayes, 2017), which is based on OLS regression. We used PROCESS model 14 to test the moderated mediation model of our research. Results of this multi-regression are provided in Table 2, and all three hypotheses were strongly supported in our data.

Table 2 Results and hypotheses significance of the model

Relationships	Standardized Coefficient	p-value	Hypothesis Significance
Bricolage → Innovativeness	.6008	<.001	Supported
Innovativeness → New Venture Performance	.4871	<.001	Supported
Innovativeness × Firm age → New Venture Performance	.1031	<.05	Supported

Relationships	LLCI	ULCI
Bricolage → Innovativeness	.5179	.6836
Innovativeness → New Venture Performance	.3732	.6009
Innovativeness × Firm age → New Venture Performance	.0208	.1855

Hypothesis 1 predicted that bricolage is positively related to innovativeness in new ventures represented in our sample. The coefficient for this hypothesis is significant (coefficient=.6008, p<.001), indicating strong support for this hypothesis. Hypothesis 2 predicted that innovativeness is positively related to new venture performance. The coefficient for this hypothesis is significant (coefficient=.4871, p<.001), indicating strong support for hypothesis 2.

In our model, we also predicted the mediating role of innovativeness between bricolage and new venture performance. Based on the significance of hypotheses 1 and 2 and non-significant relationship between bricolage and new venture performance (p>.05), we explored the indirect effect of bricolage on new venture performance. The coefficient of the indirect effect is .2730 and the confidence interval is [.2064, .3482]. Since the confidence interval does not include zero, we can reject the null hypothesis and conclude the presence of support for the mediating role of innovativeness in the relationship between bricolage and new venture performance.

Hypothesis 3 predicted that firm age is a moderator for the relationship between innovativeness and new venture performance. This hypothesis proposed that firm age positively moderates the effect of innovativeness on new venture performance. The coefficient for this hypothesis is significant (coefficient=.1031, p<.05), which indicates strong support for hypothesis 3.

Discussion and Conclusion

Our study contributes to the research on bricolage by examining the effect of bricolage through the lens of innovativeness and doing so in the context of new ventures. By using an innovativeness perspective, this paper utilizes a practically relevant environment through which bricolage and its effect can be further and specifically linked with new venture performance.

Because of the critical role of resources for new ventures, especially in and after crises such as the COVID-19 pandemic, it is important to study how bricolage (as an approach for creating or managing resources) impacts performance in these firms. We attempted to expand the resource-based view of the firm by introducing a mechanism through which bricolage – as creative use of existing resources – makes an impact on new venture performance.

We additionally offered a more nuanced view of the relationship between bricolage and new venture performance by including a moderator internal to the company. We used the firm's age – as a characteristic of the firm – to show that the more established new ventures might benefit greater from the positive consequences of innovativeness, as compared to younger new ventures. For entrepreneurs, new venture owners and managers who lost or continue to face a relative lack of access to new resources due to prolonged crises (e.g., pandemics), this study provided contextual pointers for creative utilization of their existing resources.

Limitations and Future Directions

As most research projects bounded by their samples and conditions, ours had its limitations. We only considered data from new U.S. ventures reported by their managers during the COVID-19 pandemic. Our results may not be generalizable outside of our sample's boundaries, and we encourage researchers to further examine our model or test hypotheses in non-U.S. settings and under more stable environmental conditions (e.g., no major external crises). The data for this research was collected using the mTurk website, which is an online platform for data collection through surveys. Critics argue that mTurk might draw from samples of convenience that could be otherwise flawed for studies in psychology (Chmielewski & Kucker, 2020), for example; but Aguinis and Lawal (2012) and other proponents of this platform showed that useful data could be collected for entrepreneurship and other business research from heterogeneous samples around the country. By checking the locations of all our respondents, we tried to ensure that the data has been collected from different parts of the United States. Also, we used only the participants with the highest scores from their prior survey participation records, and we included two screening questions to narrow our sample based on the target population we needed for this research design. Future studies might benefit from testing our hypotheses in different ways and samples and designing other research protocols (e.g., qualitative or mixed-method) for validating our results.

Conclusion

Since the introduction of the RBV framework by Barney in 1986, the importance of resources and their management for gaining competitive advantage has been explored in varied contexts of the firms. In this study, bricolage – as creative use of existing resources – was explored through the role of innovativeness as a mediating factor between bricolage and new venture performance under the conditions of external crisis (COVID-19 pandemic). In our sample, the data suggested that (a) innovativeness mediates the relationship between bricolage and new venture performance, and that (b) the higher the age of new venture, the higher might be its ability to link innovativeness with increase in performance. This research provides a richer view for examining bricolage in new ventures and an important insight for entrepreneurial utilization of their existing resources in today's competitive business environments.

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Appendix

New Venture Performance

New Venture performance was measured using six items and was adapted from literature by Cai et al. (2017) and validated (Li & Zhang, 2007; Zahra, Ireland, & Hitt, 2000). We asked each respondent to rate their firm's performance based on the following criteria: (5-point Likert-type scale from 1. extremely low to 5. extremely high):

- New profit rate
- Investment return rate
- Market share rate
- Sales growth speed
- New employees' growth speed
- Market share growth speed

Innovativeness

For measuring innovativeness, we used three items from Kellermanns et al. (2012). We asked participants to indicate their agreement with the following statements with respect to their firm: (5-point Likert scale from 1. strongly disagree to 5. strongly agree)

- Our firm has emphasized taking bold, wide-ranging action in positioning itself and its products or services.
- Our firm has shown a strong commitment to research and development, technological leadership and innovation.
- Our firm has focused on leading the industry in introducing breakthrough products to the market.

Bricolage

Bricolage was measured using eight items developed and validated by Senyard et al. (2014). We asked participants to indicate how much they agree with the following statements regarding their firm: (5-point Likert scale from 1. strongly disagree to 5. strongly agree)

- We are confident of our ability to find workable solutions to new challenges by using our existing resources.

- We gladly take on a broader range of challenges than others with our resources would be able to.
- We use any existing resource that seems useful to responding to a new problem or opportunity.
- We deal with new challenges by applying a combination of our existing resources and other resources inexpensively available to us.
- When dealing with new problems or opportunities, we take action by assuming that we will find a workable solution.
- By combining our existing resources, we take on a surprising variety of new challenges.
- When we face new challenges, we put together workable solutions from our existing resources.
- We combine resources to accomplish new challenges that the resources were not originally intended to accomplish.