

COVID-19 Fear-Uncertainty Effect on Entrepreneurship Finance and Environmental Performance: The Moderate Effect of BDA

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Abstract: This study examines how the COVID-19 fear-uncertainty, entrepreneurship finance, and firms' environmental-performance are linked and how novel technology adoption like BDA moderates this relationship. PLS-SEM was used to test and assess hypotheses using a questionnaire of 401 Chinese SMEs managers. The results demonstrate that COVID-19 fear-uncertainty boosts entrepreneurship finance. BDA also moderates the COVID-19 fear-uncertainty-entrepreneurship finance relationship. Likewise, entrepreneurship finance positively affects firms' environmental performance. Also, entrepreneurship finance significantly mediates the correlation between the fear-uncertainty of COVID-19 and firms' environmental performance.

Keywords: Fear-uncertainty of COVID-19; Entrepreneurship Finance; Big data analytics; Environmental performance.

1. Introduction

SMEs' poor performance during the pandemic can be attributed to a number of factors, such as restricted cargo movement, limited transportation options, difficulty in determining where a package is on the route, and so on [1]. These roadblocks exacerbate the SMEs' development, harmfully impacting different sectors [2]. According to [3], As the virus spread, widespread panic and apprehension ensued, disrupting the work of SMEs, such as limited financing options, which cause the need for entrepreneurship finance to ensure the long-term viability of new businesses in

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developing economies.

Entrepreneurship finance, when applied to new businesses, is the study of how to maximize value while minimizing costs. How many funds can and should be collected, when and from whom, at what value, and in what form should financing contracts and exit choices be organized [4]. Thus, entrepreneurship financing can help overcome the problems related to the fear and uncertainty of the pandemic, which will affect the SMEs' performance during the pandemic times.

Prior studies have examined the outbreak's influence on entrepreneurship finance [5] [6]. There is a gap because there have been insufficient investigations indicating how can panic and doubt caused by the epidemic have an impact on entrepreneurship finance and the SMEs' environmental performance. In addition, there is a knowledge gap since there have been very few studies on how the pandemic has affected entrepreneurship finance and environmental performance in competitive markets in developing countries like China. Moreover, limited studies looked at the optimistic side, the outbreak has revived governmental support for entrepreneurial financing practices in SMEs [6]. Additionally, while scholars have investigated how BDA has reformed entrepreneurship finance procedures [7], studies on BDA's moderating impact on entrepreneurship finance in Chinese SMEs are scant.

This study has a theoretical contribution as it adds to both the resource-based view (RBV), and the dynamic capabilities (DC) theories. Companies often attribute their achievements and growth in part to their financial stability [8]. Both the RBV and DC theories postulate that compared to businesses that lack necessary resources, those that do have an advantage in terms of performance [4]. According to the most current version of the RBV hypothesis, successful businesses with sufficient resources will have more capital to engage in social activities, which will improve their environmental and financial outcomes [9].

2.Literature review and developing hypotheses

Government financial incentives reflected on entrepreneurship finance programs are one of the most important factors in determining a company's sustainability impact, innovation rate, and public image [10]. After the epidemic, SMEs in economically dynamic countries like China have less financial ability to compete [11], Thus, they see possibilities to engage in and promote entrepreneurial finance as promising sources of competitive advantage and profit [12]. Moreover, fear and uncertainty of natural or man-made catastrophes have been shown in prior studies to increase the SMEs managers' attention towards utilizing new sources of finance that help SMEs survive the post-pandemic effects of COVID-19 [3][5], leading them to take more innovative actions like entrepreneurship finance. Thus, the first hypothesis is as follows;

H1: Fear and uncertainty of COVID-19 have a significant positive effect on entrepreneurship finance.

Capturing, integrating, and using data analytics-based assets in conjunction with promotional resources and capabilities is what we call BDA [13]. Organizations may improve their data acquisition, prediction, and financial decision-making with the use of BDA [14], therefore moderates the relationship between anxiety with regard to

COVID-19 and the entrepreneurial finance [7]. In such a situation, according to [15] and [16], businesses using BDA have a more optimistic outlook and clearer objectives to counteract the anxiety brought on by the COVID-19 epidemic. Thus, There is a favorable effect of anxiety toward COVID-19 on embracing entrepreneurial financing, and BDA functioning under this scenario aids resolve the ambiguity induced by the pandemic [5]. Thus, the second hypothesis is as follows;

H2: BDA moderates the relationship between fear and uncertainty of COVID-19 and the entrepreneurship finance.

State entrepreneurship financial incentives are often used by SMEs in developing economies for day-to-day operations, company growth, new initiatives, and procedures [17]. With the help of the entrepreneurship finance initiative, the government offers both monetary and non-monetary incentives to help them succeed and meet both the financial and environmental requirements during COVID-19 [4]. Khattak et al. [4] found a strong correlation among financial stability and SMEs environmental performance during COVID-19. SMEs use entrepreneurship finance to overcome the anxiety and apprehension about the pandemic, and improve their ecological footprint performance [6]. Thus, the hypotheses are as follows;

H3a: Entrepreneurship finance has a significant positive impact on the SMEs environmental performance.

H3b: Entrepreneurship finance mediates a connection among fear and uncertainty of COVID-19 and SMEs environmental performance.

Thus, the following figure (1); shows the research framework and hypotheses development

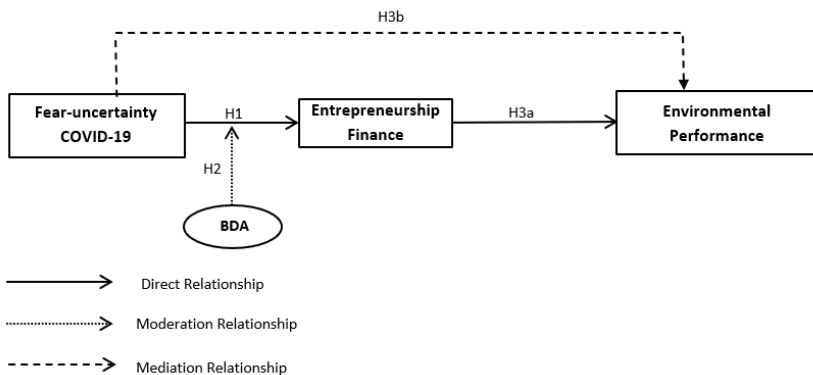


Figure 1. Research framework and hypotheses development

3. Methodology

The data was gathered via an online survey sent to the heads of 401 Chinese SMEs. The study has four variables: fear-uncertainty of COVID-19, BDA, entrepreneurship finance, and environmental performance. The independent variable is comprised of

four statements modified from [18] that all deal with the fear-uncertainty of COVID-19. Two variables (BDA, and entrepreneurship finance) make up the middle section. Firstly, The 5 components that make up entrepreneurship finance were derived and modified from [19]. Secondly, BDA entails 5 items adapted from [20]. The independent variable is SC robustness. environmental performance entails 5 items adapted from [21].

4.The study's findings

Smart-PLS 3.0 was used for both model assessment and testing hypothesis. The results of the validity and reliability assessments are presented in Table (1).

Table 1. Measurement Model

	Items	Loadings	AVE	CR	Rho A	Cronbach's Alpha
Fear-uncertainty COVID-19	FU 1	0.86	0.703	0.905	0.874	0.86
	FU 2	0.827				
	FU 3	0.865				
	FU 4	0.802				
Big Data Analytics	BDA 1	0.768	0.639	0.899	0.868	0.86
	BDA 2	0.785				
	BDA 3	0.831				
	BDA 4	0.816				
	BDA 5	0.795				
Entrepreneurship Finance	EF 1	0.775	0.614	0.888	0.848	0.843
	EF 2	0.862				
	EF 3	0.754				
	EF 4	0.763				
	EF 5	0.761				
Environmental Performance	EP 1	0.781	0.628	0.894	0.912	0.858
	EP 2	0.813				
	EP 3	0.814				
	EP 4	0.795				
	EP 5	0.757				

Moreover, discriminant validity is assessed using the conventional metrics of Fornell and David F. Larcker, [22] in Table (2).

Table 2. Fornell -Larcker criteria

	BDA	EF	EP	FU COVID-19
BDA	0.8			
EF	0.484	0.784		
EP	0.441	0.646	0.792	
FU COVID-19	0.474	0.333	0.34	0.839

According to [23], a good estimate of data normality can be found in the bootstrapping result. The outcomes are summarized in Table (3).

Table 3. Direct Relationships

Hypothesis	Relationship	β	Std Error	t-statistic	Decision	97.5%CI LL	97.5%CI UL
H1	Fear-uncertainty COVID-19 -> Entrepreneurship Finance	0.119	0.045	2.721	Supported	0.033	0.201

H2	Fear-uncertainty COVID-19*Big Data Analytics -> Entrepreneurship Finance	-0.11	0.039	2.473	Supported	-0.184	-0.035
H3a	Entrepreneurship Finance -> Environmental Performance	0.603	0.029	20.739	Supported	0.545	0.658

** p < 0.01, *p < 0.05

We also examined how BDA moderates COVID-19 apprehension and entrepreneurial finance. The findings are shown in Table (3) and Figure 2. The findings presented that BDA moderates the association ($\beta = -0.11$, $t = 2.473$, $p < 0.05$). As can be seen in Figure 2, however, COVID-19 fear-uncertainty had less impact on entrepreneurship finance with higher BDA. At lower BDA, COVID-19 fear-uncertainty had a greater influence on entrepreneurial financing.

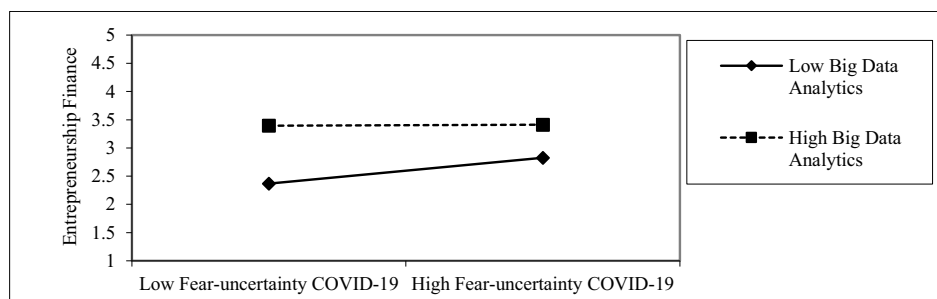


Figure 2. BDA's Moderating Effect

The authors also performed a mediation analysis. The results in (Table 4) show that for H3b, there was a significant-overall correlation amid fear-uncertainty of COVID-19 and environmental performance ($\beta = 0.213$, $p < 0.001$). The influence of fear-uncertainty of COVID-19 on environmental-performance is still significant when the mediating variable (entrepreneurship finance) is taken into account ($\beta = 0.142$, $p = 0.001$). COVID 19 fear-uncertainty indirectly affects environmental performance via entrepreneurship financing substantially ($\beta = 0.072$, $p = 0.007$), indicating entrepreneurship finance partially mediates the COVID-19 fear-uncertainty and environmental-performance link.

Table 4. The Mediation Analysis

	Total-effect		Direct-effect		Indirect-effects					
	P-Value		P-Value		H	T-Value		P-Value	Result	
	β		β			β	SD			
H3b	0.213	0	0.142	0.001	Fear-uncertainty COVID-19 -> Entrepreneurship Finance -> Environmental Performance	0.072	0.027	2.702	0.007	Supported

** p < 0.01, *p < 0.05

5. Discussion and Conclusions

Our findings suggest that the fear and uncertainty associated with COVID 19 improves entrepreneurship finance. This finding is in line with [6], which stated that due to the pandemic SMEs and startups tend to use new sources of finance, like entrepreneurship finance, to overcome the pandemic problems. Also, there is a strong association amongst entrepreneurship finance and the SMEs environmental performance. This finding is in line with [4] and [5], which stated that SMEs often have trouble obtaining funding, but that in light of the governmental support presented in the entrepreneurship finance initiatives, and the constraints and pressure posed by the government during the pandemic to enhance the environmental performance, it would be wise for them to make investments in environmentally creative operations. Similarly, the results show that entrepreneurship finance mediates environmental performance. These results aligned with [24] as they argued that during COVID 19 governments put pressure on SMEs toward more environmentally friendly production methods. Further, BDA moderates the connection between COVID-19 fear-uncertainty and entrepreneurship finance.

6. Future Research and Limitations

Our research's shortcomings may provide new opportunities. First, our analysis focuses on Chinese SMEs. As a result, further research in those other, more developed nations or/and different economic sectors could be considered. Second, our lack of longitudinal data prohibited us from studying the impacts over time. This suggests that a long-term investigation could shed light on the interrelationship between variables in long-term perspective. Third, the scope of this research is limited to the usage of BDA as moderators. This can draw the map for other researchers to extend the work and use more pioneering skills such as blockchain technologies (BCT), to explore these issues further.

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