

Investigating the Effect of Organizational Resilience Dimensions of Start-up Businesses in the Market on Their Financial Performance

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Abstract

In the last decade, organizational performance has been a suitable tool for the pathology of the organization and, consequently, performance improvement at various organizational levels has been considered by researchers and executives, because measuring, monitoring and evaluating performance focused on the goals and missions of the organization. Scientifically in a changing environment, it is necessary for organizations to survive and continue to survive.

The purpose of the present study is to investigate the effect of organizational resilience dimensions of start-up businesses in the market on their financial performance. This research is applied in terms of developmental purpose and descriptive-survey in terms of nature and method. The statistical population of the research consists of all managers and experts of creative companies in Tehran, whose number according to the latest statistics of the "Ecological Development Program of Creative Companies" is 248, including for each company at least 2 managers and experts. The statistical population was equal to 496. Sampling is simple random and the sample size is 220. The data collection tool was a standard questionnaire with 17 questions and structural transaction modeling with PIs software was used to test the hypotheses.

The results showed that planned resilience has a positive effect on adaptive resilience of 62%. Adaptive resilience also has a positive effect on financial performance of 71%, but planned resilience does not have a positive impact on financial performance. This means that the impact of planned resilience on financial performance is through adaptive resilience.

Keywords: Adaptive resilience, Planned resilience, Organizational financial performance, Startups.

1 Introduction

In the last decade, organizational performance has been a suitable tool for the pathology of the organization and, consequently, performance improvement at various organizational levels has been considered by researchers and executives, because measuring, monitoring and evaluating performance focused on the goals and missions of the organization. Scientifically in a changing environment, it is necessary for organizations to survive and continue their survival (Rastegar et al., 2020). In the meantime, performance improvement is very important, especially in times of crisis (Kim, 2020). In very volatile and uncertain times, organizations need to develop resilience capacity in crises and changes that enable them to cope effectively with unexpected events, escape crises, and even ensure future success (Hosseini et al., 2020). Although academic interest in organizational resilience has steadily increased in recent years, there is little consensus on the true meaning of resilience and how it is created. More knowledge is needed especially about the organizational capabilities that make up resilience as well as the conditions for their development (Duchek, 2020: 1). Resilience, meanwhile, differs from related structures such as agility or strength. Although flexibility as the ability to quickly adapt to environmental changes and agility as the "ability to quickly identify opportunities, change direction, and avoid collisions" have some elements in common with resilience, the specific emphasis of resilience structures is different. While flexibility and agility are essential to deal with day-to-day problems and change, resilience involves an aspect of adaptation (Madani & Jackson, 2009) and allows organizations to emerge stronger than before the crisis. This characteristic distinguishes resilience from agility and defines it as the ability of a system to maintain performance despite disturbances (Leng Nick Hall et al., 2011).

Organizational resilience has two dimensions: planned and adaptive (Lee et al., 2013). Planned resilience usually occurs before a disaster occurs, while adaptive resilience usually occurs after a disaster and requires leadership, external communication, internal collaboration, the ability to learn from past experiences, and employee well-being (Nilakant et al., 2014). While

previous studies have shown that post-disaster recovery strategies affect business performance (Corey and Ditch, 2011), the impact of organizational resilience on business performance among start-ups has not been studied. In particular, post-crisis financial performance is affected by many factors, including pre-crisis planning, company size, and operations (Nakanishi et al., 2014). Also, subjective criteria of business performance are highly correlated with objective criteria (Wage and Badie, 2016). Therefore, this study examines the relationship between planned resilience and adaptation to the financial performance of startups and start-ups. Does the size of the company and the operations department affect this relationship? Lack of recovery plans can impair adaptive resilience (Alexander, 2013).

Crisis planning can facilitate the resilience of organizational infrastructure, thus helping planned resilience (Faulkner and Vikulov, 2014). However, research reveals complexities between the relationship between planned and adaptive resilience. Summers (2009) found that crisis planning did not have a significant effect on organizational resilience. Dalziell and McManus (2014) suggest that planning facilitates only partial or post-disaster organizational recovery. Therefore, organizations should focus on creating adaptive flexibility rather than step-by-step plans (Summers, 2009). Orchiston et al. (2016) found strong evidence from the two dimensions of "collaboration and innovation" and "planning and culture" that have different relationships with planned and adaptive resilience. Nevertheless, the importance of effective planning for emergency issues, problem solving, building external links, and effective decision making as a team has been highlighted (Orchiston et al., 2016). These practices can positively affect business performance (Prayag et al., 2018).

Today, start-ups face a variety of challenges related to the market, audience, employment, product, capital and customer service, and there is no simple way to solve them (Sayahpour et al., 138). Entrepreneurs with high resilience do not carry problems with themselves, but rather focus on their long-term mission. In the meantime, it is very important to pay attention to various organizational resilience strategies, especially for small and small businesses (Aldinato et al., 2021). In this regard, the main question of this research is what is the impact of organizational dimensions of start-up businesses in the market on their financial performance?

2 .Theoretical literature and development of hypotheses

2.1 Organizational resilience

A resilient organization can be viewed from two perspectives. One is that resilient organization is an organization that has the ability to rebuild itself from uncertainties, stresses, and scarcity of resources and environmental threats (Balu, 2001; Dutton et al., 2002; Gittel et al., 2006). This perspective is a psychological perspective that emphasizes on increasing the psychological capacity of the organization to deal with threats, crises and challenges. On the other hand, he believes that organizational resilience refers to the development and creation of new organizational capabilities and capabilities to create new organizational opportunities in the environment (Koutu, 2002; Freeman et al., 2004; Jamrog et al., 2006). This is a strategic vision that emphasizes increasing the strategic capacity of the organization to overcome environmental challenges.

But what is certain is that resilient organizations will have better competitive advantages in the market, so organizations try to prioritize their resilience and allocate resources to it (Peyghami et al., 2016: 14; Deloitte, 2021: 6).

Sutcliff and Vogus (2013) believe that resilient organizations have the ability to align themselves strategically and strategically with their challenging environment. These organizations can also improve during the challenges by creating and improving their strategic resilience capacity, because they face and overcome these challenges and obstacles, and thus the ability to change and improve. They add themselves. This in fact demonstrates their strategic resilience, which is the ability to change direction in critical situations (lack of budget, lack of resources) and the like resilience and resilience in the environment and updating and strengthening resources to find new opportunities. It creates potential threats from the environment and transforms them into opportunities, although sometimes achieving these opportunities requires major organizational changes (Kim, 2016: 32). At present, Covid-19 has had a significant impact on the disruption of the global economy, including for start-ups. It encourages entrepreneurs to pursue a process of continuous innovation to become more empowered and to continue to innovate in order to maintain the future of their business (Aldinato et al., 2021).

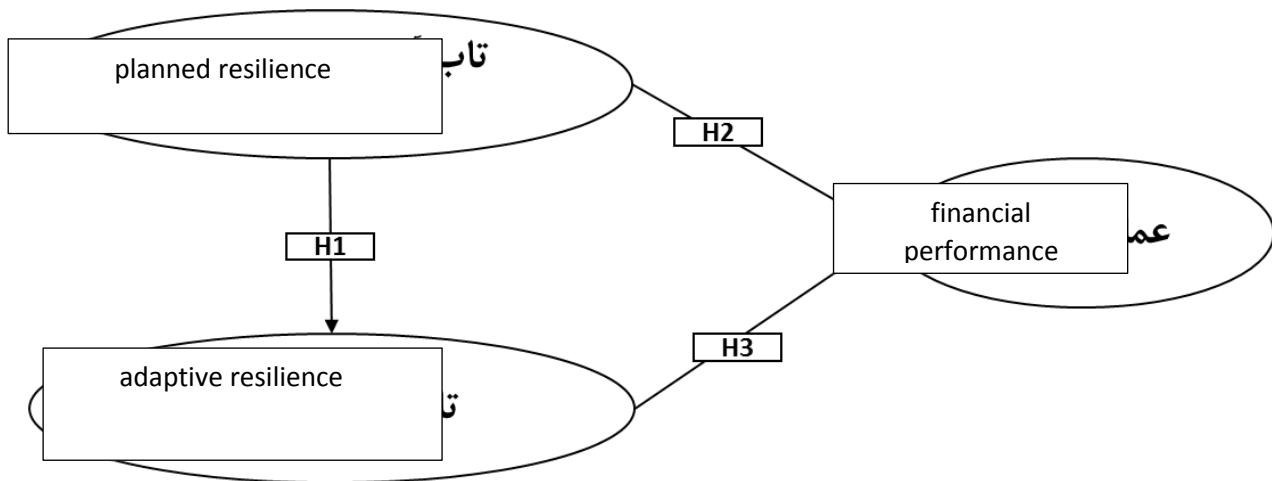
2.2 Organizational performance

Various theories have been proposed about organizational performance. Organizational performance refers to how missions, organizational tasks, and results are performed. In another definition, organizational performance includes achieving or exceeding organizational and social goals and fulfilling the responsibilities of the organization (De Carvalho et al., 2016). In fact, organizational performance refers to the ability of an organization to achieve the set goals to maintain profit, have a competitive advantage, increase market share and maintain long-term survival, based on the use of applicable organizational strategies (Benzing et al., 2009). Organizational performance is introduced as an indicator that measures how an organization achieves its goals. Performance can be defined and evaluated based on goal achievement, cost-effectiveness or efficiency, scarce resource acquisition, environmental adaptability, stakeholder and stakeholder satisfaction, and internal processes such as organizational learning, employee morale, and organizational culture (Karpak and Topcu, 2010).

2.3 Financial performance and organizational resilience

Researchers believe that resilience draws attention to the ability of a system to return to its pre-crisis state as quickly as possible. This implies a focus on performance efficiency and helps the organization focus on its adaptive capacity and bring dynamism and capacity development to cope with new situations (Al-Shehi et al., 2018). Resilience as a functional feature of a system contributes to the performance of that system, and companies that want to invest in more resilience need to evaluate their performance to see the differences in pursuing resilient strategies, including resilience. Planned collection, to be specified. Of course, the complexity is in defining a criterion for analyzing and measuring the resilience of organizations and the relationship with their financial performance due to the diversity of domains and objectives (Balugani et al., 2020). Paradkar et al. (2015) also believe that due to the resilience of start-up businesses, access to different types of success resources is provided in the early stages of development and capabilities-based resources, especially dynamic capabilities, will be realized in them. In the beginning, alliances with partners are especially important, so the ability to form unions is a key capability for successful adaptive resilience of these companies, and they must use their available resources to attract good partners in order to access the necessary complementary resources. Finally, Zand Hesami and Bayat (2016) also found that resilient business models are the key to the success of startups and their performance.

Based on the literature and reviewed background, the conceptual model of the research can be developed as Figure 1:



3. Research methodology

This research is development-applied in terms of purpose, because it is in the field of examining the impact of resilience dimensions of startups on improving their financial performance, which in the theoretical part to explain its various dimensions and in the operational part to provide practical and executive solutions. For start-ups that are the focus of this study. On the other hand, this research is descriptive-survey in terms of nature and method. The statistical population of this study consists of all managers and experts of creative companies in Tehran, the number of which according to the latest

statistics of the "Ecological Development Program of Creative Companies" is 248. According to the latest report, there are 248 creative companies, which with the inclusion of at least 2 managers and experts in each company, the statistical population was equal to 496. Sampling was simple random. To determine the sample size, Charles Cochran's formula has been used and based on this formula, the sample size for the community of 496 companies is equal to 216 people, of which 220 questionnaires have been distributed to ensure a sufficient number of return questionnaires in the statistical sample.

Data collection tool was a standard questionnaire with 14 questions. In order to measure the validity of the questionnaire in this study, content validity and construct validity have been used. To assess the content validity, the questions have been adapted from reliable sources and then provided to professors and experts, and the number of questions and their content has been approved. Confirmation, construct validity used. Cronbach's alpha coefficient has been used for reliability.

4 .Data analysis

4.1 Demographic analysis of statistical sample and descriptive analysis and reliability of research variables

In order to analyze the data obtained from the questionnaires, first in the descriptive analysis section, the statistical sample of the research was reviewed. The results of these calculations are given in Tables 1:

Demographic Variable		Frequency	Percentage
gender	female	164	36
	Male	220	64
Education	BA/BS	135	37.1
	MA/MS	165	42.9
	PhD	104	19.9

Also, the results of measuring the reliability of variables as well as their central descriptive statistics (mean) and dispersion (standard deviation) are given in Table 2:

Key Variables	Cronbach's alpha calculated	mean	Standard deviation
Planned Resilience	0.791	3.80	0.97
Adaptive Resilience	0.780	3.45	0.89
Financial Performance	0.839	4.12	0.61

As can be seen, based on the results of Table 2, most of the statistical sample studied had a master's degree. Also, the reliability obtained for all eight main variables was acceptable above 0.70, which indicates the reliability of the questionnaire questions. On the other hand, descriptive statistics show that in terms of central statistics, the average of all 5 variables was above the mean (3) and below the allowable standard deviation (1), and therefore their mean and standard deviation are within the allowable range.

5.2 Checking the assumption of normalcy

In this section, Kolmogorov-Smirnov test is used to determine the type of data distribution as normal or abnormal, and based on that, because the sig value of the test for all variables is less than 0.05, the null hypothesis is zero. Based on the normality, the distribution of quantitative research variables was not confirmed ($P < 0.05$), in other words, the distribution of all quantitative research variables is abnormal.

5.3 Data analysis based on partial least squares model

Based on the results of Kolmogorff-Smirnov test and determining the abnormality of the statistical population distribution, to test the model of this research, data analysis by structural equation modeling based on variance with Smart PLS software was used.

5.3.1 Divergent validity review

Table 2 shows the divergent and convergent validity statistics for the validity and reliability of the research measurement model:

Index/variable	cp	AVE	α
Planned resilience	0.944	0.770	0.925
Adaptive resilience	0.868	0.569	0.810
Financial performance	0.894	0.680	0.841

5.3.2 Divergent validity review

Co-occurrence between multiple variables occurs when there is a large correlation (greater than 0.9) between multiple variables that results in redundant information. This repetition of information reduces the predictive power of each individual independent variable (Field, 2009; Pallant, 2007). Table 4 shows the results of the correlation coefficients between the research variables.

Variable	1	2	3
Planned Resilience	0.877		
Adaptive Resilience	0.621	0.754	
Financial Performance	0.384	0.675	0.824

In Table 5, the cross-sectional loads of the items on the research structures are reported.

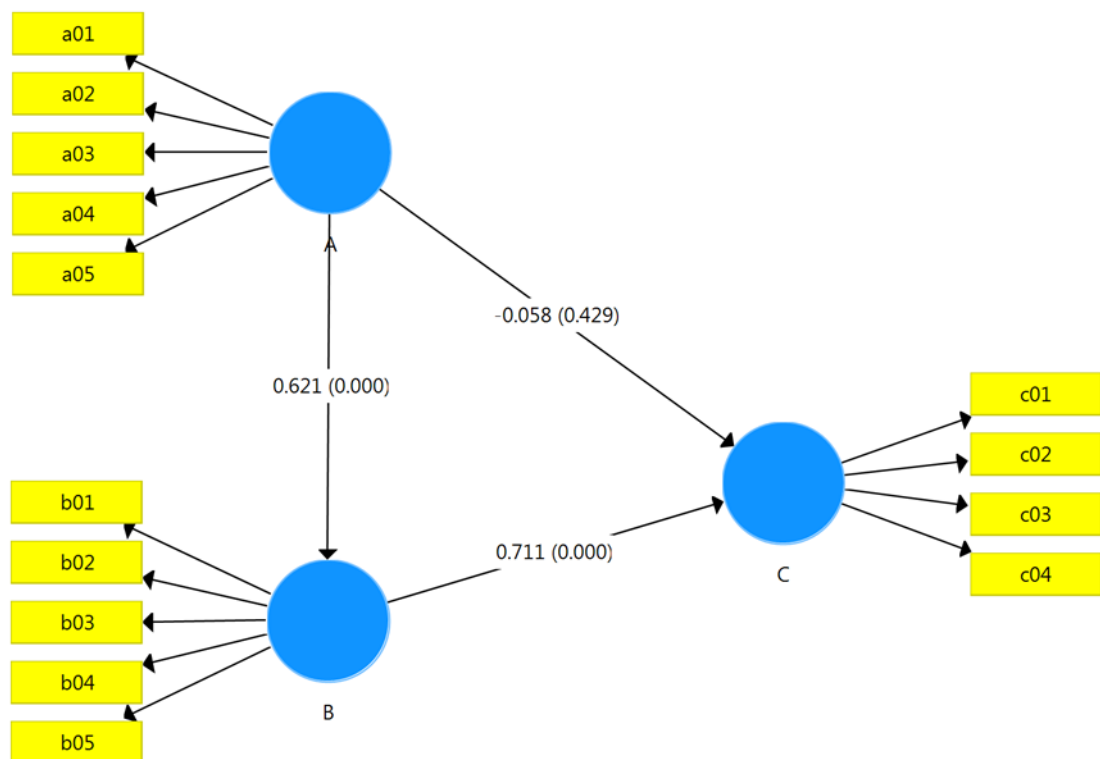
Obvious Variable	Factor load	Criterion Limit	Result
1	0.904	Over 0.7	Factor Confirmed
2	0.844	Over 0.7	Factor Confirmed
3	0.899	Over 0.7	Factor Confirmed
4	0.868	Over 0.7	Factor Confirmed
5	0.870	Over 0.7	Factor Confirmed
6	0.734	Over 0.7	Factor Confirmed
7	0.775	Over 0.7	Factor Confirmed
8	0.790	Over 0.7	Factor Confirmed
9	0.812	Over 0.7	Factor Confirmed
10	0.784	Over 0.7	Factor Confirmed

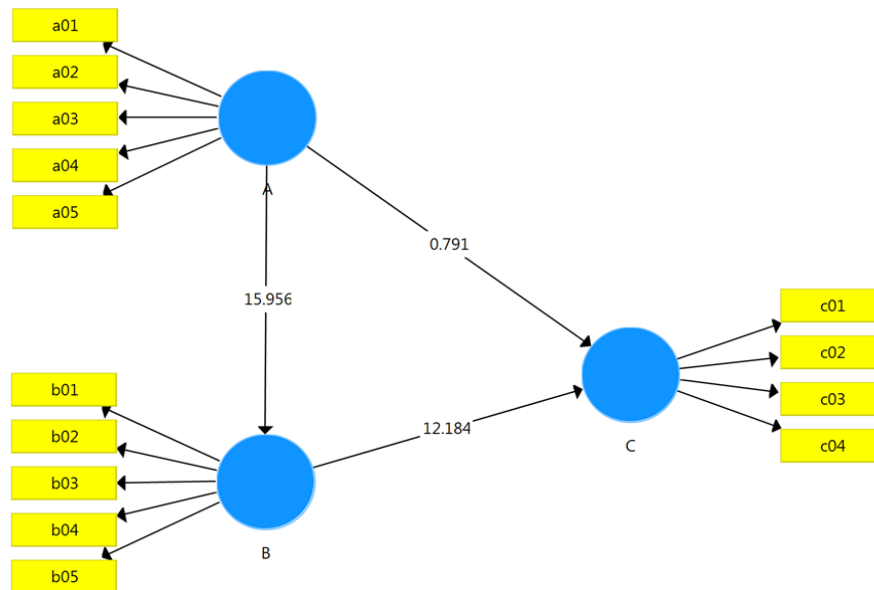
11	0.740	Over 0.7	Factor Confirmed
12	0.875	Over 0.7	Factor Confirmed
13	0.845	Over 0.7	Factor Confirmed
14	0.841	Over 0.7	Factor Confirmed

According to Table 5, the root mean square of the extracted variance of all research variables is greater than their correlation with other variables. Therefore, the criterion for examining the divergent validity of research variables is established. In addition, numbers below the diameter of the correlation matrix have been reported to investigate the relationship between the variables. As can be seen, the correlation coefficient of all variables with each other is positive and significant.

5.3.3 structural pattern tests

The proposed conceptual model is examined through the structural equation modeling method and according to the research hypotheses mentioned in the theoretical framework, the partial least squares method is used to estimate the model. In Figures 3 and 2, the tested model shows the relationship between research variables. According to this figure, the effect of numbers inside the circle of variance are explained. The results are as follows:





In Table 6, the estimation of path coefficients and explained variance of research variables and the result of testing research hypotheses are reported.

	Hypothesis	β	تی آماری	Meaningfulness Statistics	Results
1	Planned resilience has positive effect on adaptive resilience	15.956	0.621	0.000	H confirmed
2	Planned resilience has positive effect on financial performance	0.791	0.058	0.429	H confirmed
3	adaptive resilience has positive effect on financial performance	12.184	0.711	0.000	H rejected

As can be seen in Table 7, the values of the coefficients of determination for the latent variables of the model express the degree of influence of the dependent variables on the independent variable. In fact, from the values in the table above, the inference of 0.385 from the structural changes of adaptive resilience and 0.458 from the structural changes of financial performance is explained by the structure entering them, ie the independent variable of planned resilience. The GOF index is also above the criterion of 0.3 and is acceptable.

Conclusions and suggestions

Resilience, which means the ability and capacity of an organization to face crises and challenges, and the ability to return to normal business conditions, is a very important feature that organizations must be equipped for the survival and continuity of their business. However, concern is not limited to catastrophes; There are also small deviations and uncertainties that challenge organizations (Ran et al., 2011). Various pieces of evidence indicate the limitless nature of disorders (Smith and Fischbacher, 2009). In this regard, Alexander et al. (2014) Acknowledge that there are various businesses that do not have the ability to manage vulnerabilities; In such a way that in the face of environmental unrest, they may be eliminated or taken over by powerful organizations.

This study was conducted in line with the aim of "examining the impact of organizational resilience dimensions of start-up businesses in the market on their financial performance" and the results showed that planned resilience has a positive effect

on adaptive resilience of 62%. Adaptive resilience also has a positive effect on financial performance of 71%, but planned resilience does not have a positive impact on financial performance. This means that the impact of planned resilience on financial performance is through adaptive resilience.

The results of this study are in line with the results of research such as the research of Al-Shahi et al. (2018) who believe that resilience draws attention to the ability of a system to return to its pre-crisis state in the fastest possible time. This implies a focus on performance efficiency and helps the organization to focus on its adaptive capacity and bring dynamism and capacity development to cope with new situations, as well as the research of Balogani et al. (2020) who found that As a performance feature of a system, it contributes to the performance of that system, and companies that want to invest in more resilience need to evaluate their performance so that differences in the pursuit of resilience strategies, including program resilience. Be specified; Finally, the research of Paradkar et al. (2015) showed that due to the resilience of start-up businesses, access to different types of success sources is provided in the early stages of development and capability-based resources, especially dynamic capabilities, will be realized in them. And their resilience is increased and thus leads to their success and performance, is consistent.

Therefore, in line with the obtained results, it is recommended that the managers and decision makers of creative companies be more aware of the situation of managing restrictive barriers in the environment in which they operate. And by identifying potential events and examining their consequences, they can be aware of the amount of resources available to the organization in the face of crisis and they would be aware of the organization's obligations to all stakeholders. they can also find the ability to identify and manage their key vulnerabilities like the points that cause irreparable damage to the business by losing or damaging it, and do so by modifying the business model and increasing employee empowerment. meanwhile, there would be an increase in the capacity for cultural adaptation and dynamism of their business by relying on the removal of structural and cultural barriers to business. Also, managers of small and medium companies should always seek to develop and discover new markets by effectively advertising products and using new marketing methods in order to increase their flexibility in the face of rapid environmental changes. Finally, it is recommended that managers of these businesses carefully examine the capabilities of their employees and accurately describe and discuss them for themselves and them. Freely share information with employees and their subordinates, especially in times of crisis, and express their ideas and thoughts clearly to others, and finally pay attention to organizational structural factors such as organizational structure, organizational strategy, explicit targeting, creating feedback systems. Top management support, employee freedom of action, human resource system, flexible structure, etc., all affect the improvement of organizational resilience processes. The managers of these companies are advised to pay special attention to improving these structural structures and strengthening them in their human resource management programs.

Limitations and future research suggestions

This research has been conducted cross-sectionally and perhaps its results as a longitudinal research can provide other generalizable results. Also, due to the corona epidemic, more access to more startup companies was not provided in order to provide more generalizable results.

In this regard, future researchers are also suggested to do this research again during longitudinal research and also to examine the mediating variables in the effects of organizational resilience dimensions on financial performance (such as type of business plan, level of organizational innovation, The role of dynamic capabilities, etc.) and finally test this model in other statistical communities and other start-up businesses.

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