

Business Resilience System based on Innovative Financial Instruments

Mohsen Imeni

Assistant Professor, Department of Accounting, Ayandegan Institute of Higher Education, Tonekabon, Iran
mohsen.imeni86@yahoo.com

Submit: 20/11/2020 Accept: 17/01/2021

Abstract

Purpose: Today, the business environment is constantly changing, and ignoring the hidden relationship between businesses and their environment can prevent new sustainable development opportunities. The purpose of this study is to explain the resilience system of businesses; through their appropriate recognition, enterprises can increase their capacity to deal with external shocks or adverse effects.

Methodology: In this research, the existing literature has been reviewed based on an archival study. Also, it discussed the concept of resilience and its place in the business environment and its analysis.

Findings: The results indicate that if small and medium businesses can not have adequate resilience to potential crises and problems, and if they cannot show the appropriate flexibility, they cannot survive in the current economic environment, and are doomed to destruction. Therefore, if businesses at the micro and meso levels want to resilience possible crises such as sanctions, COVID-19, etc., which affect their economic conditions, they must have a precise understanding of their strengths and weaknesses. Analysis of strengths and weaknesses can affect the future and the going concern of businesses. Recognizing risks and also using financial perspectives, including traditional, post-traditional, modern and post-modern, can help their protection.

Originality/Value: This research can provide new insights into the resilience literature in businesses, especially small and medium-sized, because the financial pressures caused by economic sanctions COVID-19, etc., could have positive and negative effects on the performance of companies..

Keywords

Resilience, Economic resilience, Business, Innovative financial instruments.

1. Introduction

The last decade for small and medium enterprises (SMEs) has been associated with many challenges and risks. Intense global competition, growing customer demand, rapid technological change, economic uncertainty and the recent financial downturn have combined to create one of the most challenging business conditions in decades (Demmer et al., 2011). Today, the global view of risks (natural and social) has shifted from focused on reducing vulnerability to increasing resilience. As a result, the applying of the concept of resilient societies and the ways to create and strengthen them have become more widely used (Cutter et al., 2008). Economic resilience, given its dynamic and forward-looking nature, can be more effective in increasing the ability of the economy to adapt to risks.

Economic resilience means identifying ways and behaviors that their use increases the capacity to resilience external shocks or adverse effects. On the other hand, resilience is seeking to reduce the probability of failure or losses of economic risks, and it is before and after the occurrence of shocks (Zaman and Vasile, 2014).

One of the critical features mentioned for a resistance economy is the resilience of the economy. Accordingly, economic resilience can be defined as "the capacity or ability of the economy to maintain performance and optimal allocation of resources in the face of economic uncertainty." Resilience consists of two tangible sources (such as internal resources) and an intangible source (such as good leadership, quick decision making) (Chowdhury et al., 2019). Liu et al. (2018) believe that internal resources helping organizations adapt to external crises and opportunities, to improve corporate business performance potentially. Recent events, both natural and economic, have shown that countries are at any level of development are vulnerable to disasters. This can occur at the household, firms, market or macroeconomic level. Economic resilience emphasizes the genius and prudence applied during and after the disaster. Economic resilience is examined at three levels: Microeconomic (individual business or

household), mesoeconomic (individual industry or market) and macroeconomic (the combination of all economic entities). Resilience is divided into two categories: intrinsic and adaptive resilience (Rose, 2017).

Intrinsic resilience, meaning the ability to replace other inputs with inputs that have been impaired. Comparative resilience means using new economic production methods or creating new contracts (Parties to the new agreement, both suppliers and applicants), which can be categorized as the result of great initiative and effort, and the strengthening of markets. Therefore, in the current state of the country's economy (including sanctions, the Corona pandemic, etc.), resilience must be implemented at all levels. But we can say that an economy is whole resilient when this resilience implements in the lower levels.

Radović-Marković et al. (2017) argue that the concept of resilience shows how a country's economy can return to its previous level, based on this concept. However, they say that a country's economic resilience is not achievable unless small and medium-sized businesses resist the adverse effects. Therefore, many consider it two sides of the same coin. The purpose of this study to provide a definition and explanation of the concept of resilience at different levels of the economy, and to express its indicators and components.

2. Definition of resilience

In resilience analysis, we can compare its definitions in the environment, engineering, organizational behavior, planning, psychology, sociology and economics over the past 40 years (Rose, 2017). The term was first used by Holling in 1973. The term "resilience" is used to mean "going back in time", which derived from the root "resilio" (Dadashpoor & Adeli, 2016); and the equivalent of the word Resilience means the ability to recover, rapid recovery, change, elasticity as well as buffer and elasticity (Mohammadi et al., 2017).

The root of resilience (resiliency) derived from the science of physics and means jumping backwards. Holling (1973) defined resilience as the system's

stability to sudden changes and its ability to absorb shocks; while maintaining past relationships between parameters and variables in the same state. Finally, Holling (1973) defines "the ability of systems to absorb change ... as well as to survive" as a definition of resilience. Also, he sometimes refers to resilience as "buffer capacity." Pimm (1991) describes resilience as the speed at which a system returns to equilibrium. Also, Perrings (2006) define resilience as relative: "the gap between current and critical loads". Fiksel (2006) define resilience as the capacity of a system to survive, adapt, and grow in the face of change and instability.

3. Different levels of resilience

Rose & Krausmann (2013) expressed the operational criteria of resilience in two categories: Direct Static Economic Resilience (DESER) and Total Static Economic Resilience (TSER).

Direct static economic resilience (DSER) refers to the level of individual business or industry (micro and meso level), and according to what economists refer to

as the analysis of "partial equilibrium" or performance of an enterprise or household. Total static economic resilience (TSER) refers to economics as a whole (macro-level). Ideally, it referred to as the "general equilibrium" analysis, which includes all price and quantity interactions in the economy. Also, resilience can be assessed behaviorally. Researchers face three problems in the area of resilience. At the conceptual level, there is a need to identify measures of resilience, including the measures that violate rational behavior. At the operational level, it may challenge the model individual, group, and community behavior in a single framework. At the experimental level, data collection on resilience particularly to determine models is difficult (Rose, 2004).

Finally, Rose (2017) expresses resilience on three levels: microeconomic (individual business or household), meso-economic (individual industry or market), and macroeconomic (combination of all economic entities, including their interactions).

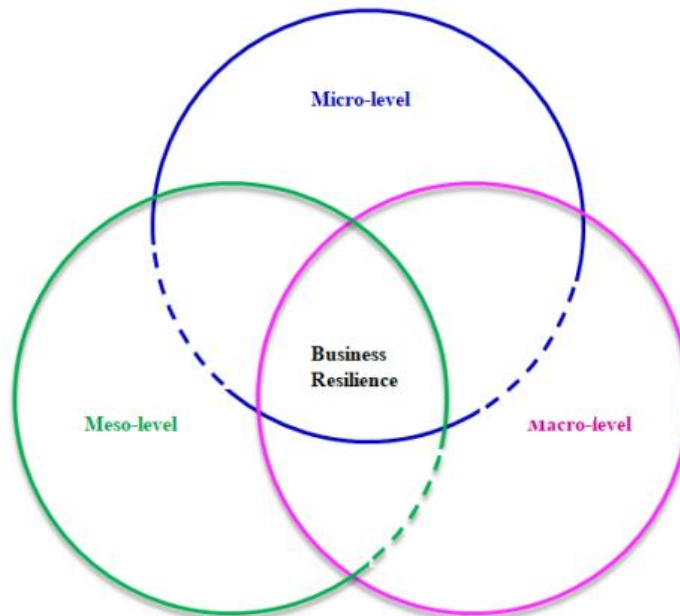


Figure 1- Business resilience based on different levels (Skouloudis et al., 2020).

3.1. Resilience at the microeconomic level

This section presents a conceptual framework for analyzing economic resilience at the micro-level based on the theory of economic production. This is an abstract approach to how businesses combine with different inputs to generate returns for sales. This framework easily deals with how businesses interact in supply chains (meso-level) and one approach, known as Computable General Equilibrium analysis (CGE) and is seen in economics as a set of integrated (macro-level) supply chains. Businesses performance remains at the focus of this approach.

Business resilience has two sides. Customer-side resilience create through disruption (quantity and timing) in the delivery of inputs, and use effective methods to utilize the resources available in businesses and households. Also, it have relationship with static resilience. For example, in a particular period, meaning the existence of a specific fixed capital or any fundamental disruption in the supply of input, resilience is primarily a demand-side issue. In contrast, Supply-side resilience is related to providing output to customers and it can include system redundancy (a type of static resilience), but usually requires the repair or construction of critical inputs (e.g., dynamic resilience). Capital repairs or supplier efforts are the domain of the input provider and are entirely separate from customer resilience (Rose, 2017).

From an economic point of view, economic resilience refers to the ability of the economy to withstand shocks and return to its original path, however, this ability also depends on the level of vulnerability of the economy (Briguglio et al., 2009). Economic resilience means identifying ways and behaviors that use increase the capacity to deal with external shocks or adverse effects. On the other hand, resilience seeks to reduce the likelihood of failure or loss of economic risks before and aftershocks (Zaman & Vasile, 2014). The economic resilience approach, due to having its dynamic and forward-looking nature, can have been more effective in adapting to risks.

3.2. Resilience at the Meso & Macroeconomic level

At the meso-economic level, resilience is an option to strengthen the market or parts of it. For example are pricing mechanisms, aggregation of resources and information of industry, and specific types of infrastructure. Most researchers in the field of economic considerations to be a disaster is the inherent resilience of market prices, which acts as an "invisible hand" to direct resources to better allocation. Rose (2017) believes that the market is also likely to be similar to its own buildings, and human disaster will be damaged. In this case, two alternatives to some (or the all) economy are presented in similar ways under market failure in normal conditions, public goods and market power:

- (1) It is replacing judgments or scheduling with significant costs and higher than its implementation.
- (2) Strengthening the market, such as improving information; both approaches are considered resilient.

Connelly (2011) explained resilience in the meso-level (the level of businesses) in the following structure. Connelly (2011) believes that the governance and risk management of a business can be the most critical element.

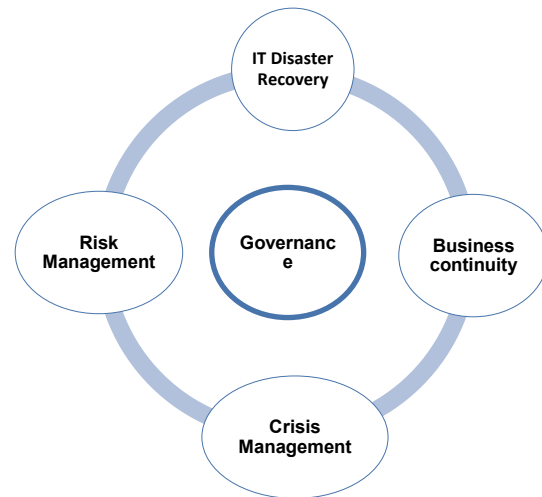


Figure 2– Meso-level resilience (the business level).

At the macroeconomic level, resilience is affected by the interaction between sectors. Martin & Sunley (2015) argue that the resilience of macroeconomic is not just a function of resilience measures at the microeconomic level (individual business or household). It is influenced by the actions taken by all companies and markets (at the meso-economic level).

4. Indicators of resilience and its components

Briguglio et al. (2009) listed variables as resilience indicators at the national level, including macroeconomic stability, microeconomic market efficiency, good governance, and social development of environmental factors. The first sub-component of macroeconomic stability are inflation and unemployment. These are also the two elements of the economic misery index. They are considered as a part of economic resilience. The second component of economic resilience is the efficiency of the micro-market. Market efficiency related to the reallocation of resources and setting the market against shocks, and

the best it is through the price mechanism. Now, the market faster against external shocks are set to achieve a balance, which will be more efficient. The third component of economic resilience is good governance. The fourth component of economic resilience is social development. Social development shows the extent to which relationships within a society are properly formed (Taherpoor, 2019).

The Centennial Resilience Index is an index introduced by Boorman et al. (2013). The index of economic resilience is recognized by using components such as fiscal policy health, monetary policy health, and state effectiveness, governance, banking system health, export diversity, export independence and market efficiency.

The Global Resilience Index (FM) has three components: economic, risk quality and supply chain. It should be noted that the annual report of this index, based on the trade resilience of countries, is presented about the shock in the supply chain (Ghasemi & Arabmazar, 2020).

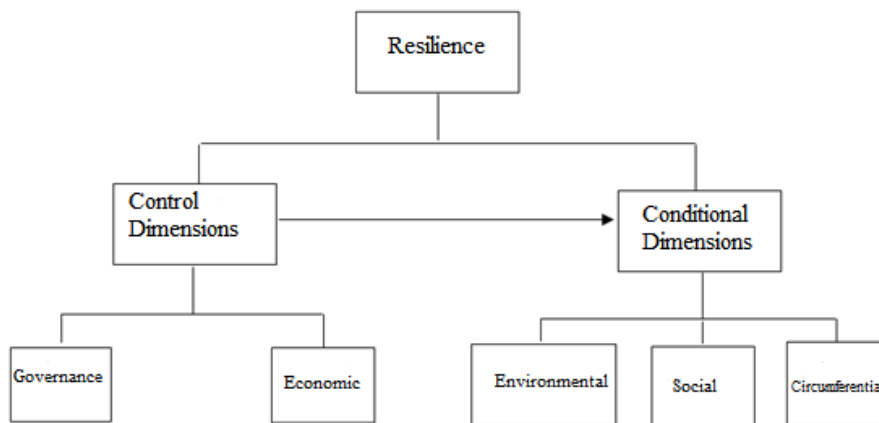


Figure 3- Components of resilience measurement in Angeon & Bates model (2015).

Based on the above, it can be said that if businesses at the micro and meso level want to resilience possible crises such as sanctions, Coronavirus, etc., which affect their economic conditions, they must have an

understanding of their strengths and weaknesses. Analysis of strengths and weaknesses can affect the future and survival of businesses. Businesses can use different financial perspectives to examine their

strengths and weaknesses, such as (1) traditional perspective, (2) post-traditional or market perspective, (3) modern perspective, and (4) post-modern perspective, which the following is a description of each of these perspectives.

4.1. Traditional perspective

The traditional perspective has four indicators, including liquidity ratios, activity ratios, leverage ratios and profitability ratios. According to this perspective, the performance of businesses evaluated by the financial data of firms and stated in their financial reports. However, Narkunienė & Ulbinaitė (2018) believe that the firm's financial information is not sufficient to evaluate the performance of firms. To better understand the relationship between management decisions and the results of their activities, attention should be paid to the indicators of the non-financial performance of companies (Rosová & Balog, 2012). These criteria used accounting information, such as the financial ratios mentioned above.

4.2. Post-traditional or market perspective

The criteria in this perspective are a combination of accounting and market information. In this approach, in addition to using the information of financial statements, be used information and market values to assess more. Evaluation criteria in this perspective are price-to-earnings ratio (P/E), market value-to-book value ratio per share, and Tobin Q ratio (ratio of company market value to the replacement value or book value of company assets) (Moradi & Pourhasan, 2010).

4.3. Modern perspective

This perspective uses more economical and value-creating concepts. In this approach, the emphasis on the profitability of the company's assets is evaluated according to the rate of return and the rate of capital expenditure used (Moradi & Pourhasan, 2010). Because value creation means to earn more returns of

capital than the cost of capital. In other words, achieve a positive economic profit while income is more than expenses and the cost of capital is more than zero (Rahnamay Roodposhti et al., 2013). Some of the evaluation criteria in this approach are economic value-added, market value-added, cash economic value-added etc. Understanding the value-based approach is a necessity of today's businesses, which depends on the following: First, the survival of the company in a competitive environment, the need to pay attention to value-creating thinking. Second, value creation in the business mix reveals a way of thinking that makes sense in the value chain (Rahnamay Roodposhti et al., 2013). This means that these companies must be resilient to maintain the new trend and compete with their competitors in the market; the concepts of resilience and competition are very close (Branco et al., 2019).

4.4. Post-modern perspective

As mentioned earlier, businesses need to have a clear understanding of their strengths and weaknesses to cope with potential economic crises. In this perspective, all efforts are made to manage resources and expenditures properly. Businesses must take the slightest risk to achieve the desired return; therefore, in analyzing financial decisions and making them, recognizing the risk is considered significant (Rahnamay Roodposhti et al., 2013).

Recognizing the risks and accurate hedging these risks can be very important in the continuity of businesses. Because of the constant changes in environmental factors and economic systems, every day, distinct risks affect the financial structure of different institutions every day; therefore, the concept of risk management is critical in this perspective. Risk management is introduced to protect against the adverse consequences of risk tolerance. Also, it is essential to ensure that the benefits of risk acceptance are achieved. One of the most critical components of risk management is risk measurement. Measuring risk means minimizing risk. Various tools in the field of mathematics have been developed, especially in recent years. In the 1980s, the ambiguity of the future and

multiple risks led to the introduction of financial engineering (Raei & Saeedi, 2014). Financial engineering is a process for innovative financial designs and financial instruments to increase the wealth of shareholders, publishers and financial intermediaries. Lo (1999) believes that three important factors led to more attention to this concept, namely financial engineering:

- 1) The economic system becomes more complex. We are creating, new needs and creating new platforms all increased market participants.
- 2) The emergence of new ideas to systematize and modeled in the financial structure, especially in the last three decades.
- 3) The pervasiveness of financial engineering due to the growth and development of technologies such as computers (Raei & Saeedi, 2014).

5. Resilience system of business

Figure 4 explains a system of business resilience at different levels. According to the present system, it can be said that at the initial level of understanding, all the different levels of resilience (micro, meso and macro) in an economy is necessary. As shown in figure 4, these three levels have a part in common. At the micro-level, it refers to the capabilities of small and medium-sized businesses, which deal with adequate planning, adaptation and retrieval of related processes and their effects. According to organizational theories, it is necessary to know the resources of businesses to develop their ability to deal with the adverse impact of an unpredictable environment and create new opportunities for sustainable competitive advantage (Skouloudis et al., 2020).

Such theoretical perspectives can be helpful for businesses with sufficient resources (e.g., financial capital and skilled human resources). Meso-level indicates that relying solely on the business unit's capabilities is not enough to return to success. Some problems in business operations may be due to problems such as supply chain disruption, other business partners, and so on. Some problems in business operations may be due to problems such as supply chain disruption, other business partners, and

so on. The solution to this problem, businesses can overcome problems through partnerships with government agencies, chambers of commerce/associations, and supply chain managers (Skouloudis et al., 2020).

It is worth noting that the cooperation of medium-sized businesses can be explained through systems theory. At the macro-level, based on institutional theory, participatory business activities need to interact not only with government and other business organizations but also with local communities and third party organizations (NGOs) to overcome problems. Therefore, based on this, it can be said that the relationship between these three levels is very close and intertwined.

Indicators such as microeconomic market efficiency, macroeconomic stability, good governance and social development can help advance the goals outlined above. These indicators include variables that strongly influenced by economic policies (Amiri et al., 2018).

The efficiency of the microeconomic market is directly related to the micro and meso levels. Economics uses the price process to allocate economic resources. If the market adjusts quickly, the impact of economic shocks easily absorbed into the economy. On the other hand, resources are not allocated efficiently if the market adjusts late, especially in the face of adverse shocks. Another indicator is macroeconomic stability. This area is related to the interaction between supply and demand in the economy. It is highly influenced by the state budget situation, inflation and unemployment, which is → associated with the macro level. As mentioned earlier, at the macro-level, the participatory activities of businesses should involve government agencies and other businesses, but also the need to interact with other market participants. Now, the role of a good ruler is seen as necessary; which includes transparent bureaucracy, accountability of executive bodies to activities, the active participation of the people in social and political affairs, as well as the equality of all individuals before the law (Taherpoor, 2019). Finally, social development is one of the essential components

of economic resilience. This variable indicates the extent of social relations and the effective functioning of economic systems. Social cohesion shows the amount of effective social discourse in the economy (Amiri et al., 2018), which is in line with the macro-level of resilience.

At level 3 of this system, the existing financial perspectives that can be involved in the business transformation of a business are presented, which are in line with the micro and intermediate levels (first level) as well as the efficiency of microeconomic markets (in the second level). The recognition of strengths and weaknesses points of each business, can be effective in its survival in the economic arena.

Perspectives evolve, and the business environment changes. This has led companies to align with this move step by step. Finally, in the fourth level of this system, are stated the sub-branches of the criteria for each point of view. In this section, traditional criteria such as financial ratios and ratios related to market indicators in the transcendental perspective are completed. A value-added perspective can also help us better understand our financial situation through economic metrics. Finally, in the postmodern perspective, recognizing risks is a business, both commercial and non-commercial, and the solution can be covered by financial engineering topics.

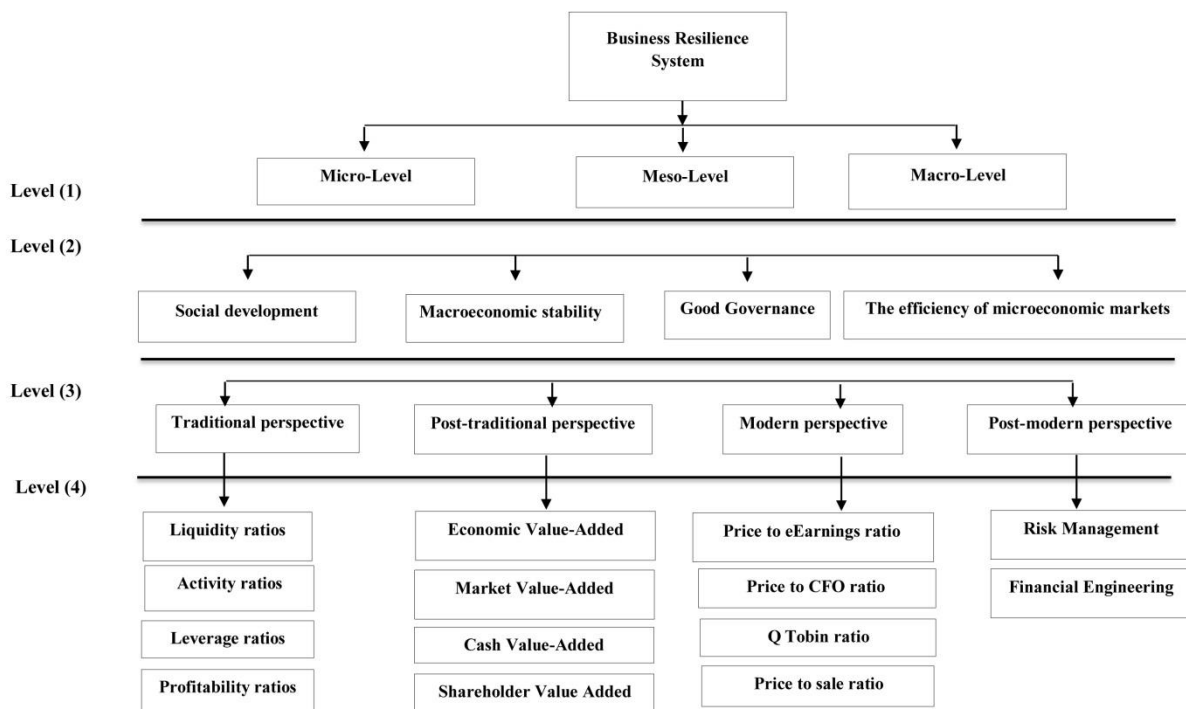


Figure 4- Business Resilience System

6. Conclusion

The business environment is constantly changing and full of risk (Aleksic et al., 2013). By ignoring the hidden link between business and the environment, businesses miss out on many new sustainable development opportunities that may prevent a business from collapsing (Moore & Manring, 2009). Moore and Manring (2009) argue that modern business plans should include articulating the constraints and opportunities offered by changing social and environmental conditions. If small and medium-sized businesses cannot adequately cope with possible crises and problems, and cannot show good flexibility when necessary, the current economic environment in the world, especially in Iran, they cannot survive and are doomed (Hamel & Valikangs, 2003). Therefore, it is necessary businesses must take steps to make themselves more competitive to survive and increase their competitiveness. This approach is also seen in the policies of the resistance economy. Varmazyari and Imani (2017) believe that one of the conditions for the realization of a resistance economy is to improve the resilience of the country's economy (at the macro level) and businesses (at the micro and meso level) against external and internal shocks.

This concept adds to the ability of businesses to cope with sudden and unpredictable changes and shocks (internal and external). Herbane (2010) points out that businesses mainly suffer from a lack of resources such as liquidity to meet the needs of the market and customers. Van Gils (2005) also enumerates factors such as raw material supply and financial needs in this regard. This school of thought includes perspectives based on management risk-focused strategies.

Based on the above, if businesses at the micro and meso levels want to resilience possible crises such as sanctions, coronavirus, etc., which affect their economic conditions, they must understand their strengths and weaknesses. Point analysis strengths and weaknesses can affect the future and survival of such businesses, because businesses can increase their competitiveness and resilience through resource and cost management (liquidity, financing, etc.). Also,

recognizing the risks and proper coverage of these risks can be very important in the continuity of businesses. Therefore, using financial perspectives such as traditional, post-traditional, modern and post-modern, can help them. Understand threats and opportunities allow businesses to use innovative financial tools (using the concept of financial engineering and risk management) to counter these threats. Dahles & Susilowati (2015) argues that companies have been able to survive (and even grow some) emerging crises by using flexible expertise (in any situation), diversifying, and combining different sources of revenue within and across sectors.

Conflicts of Interest

The authors declare that they have no conflicts of interest regarding the publication of this paper.

Funding

The research was funded by the authors.

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