

RESILIENCE OF STARTUP COMPANIES IN CRISIS CONDITIONS

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Abstract: *Startup companies operate in an extremely dynamic and volatile business environment, where they are exposed to various crises that can significantly impact their prospects for survival and growth. This paper presents a comprehensive analysis of the resilience of startup companies in the face of crises, examining the strategies and factors that contribute to their ability to adapt, survive, and even thrive in challenging times. The research analyzes the strategies employed by resilient startups during crises, including possibilities such as generating valuable products and services for customers, protecting intellectual property rights, rapidly commercializing ideas, strengthening competitive advantage, integrating into existing value chains, or defining entirely new value chains, and more. Particular emphasis is placed on the importance of building a culture of resilience within startup companies, focusing on practices that foster an entrepreneurial mindset, promote open communication, prioritize employee well-being, and implement robust risk management strategies. This paper provides valuable insights into the resilience of startup companies in periods of crisis. It offers practical recommendations for startups, decision-makers, investors, and support organizations to enhance startup resilience, creating a successful ecosystem that can effectively withstand and recover from the impacts of crises, with a particular emphasis on crises caused by the pandemic.*

Key words: startup, resilience, ecosystem, strategy, crisis

1. INTRODUCTION

Faced with unexpected challenges in the modern world and turbulent economic conditions, the resilience of all business organization has become an increasingly important topic in contemporary literature. Organizational resilience can be defined as the capacity to effectively navigate challenging conditions and ensure the survival and prosperity of the organization (Vogus & Sutcliffe, 2007). Organizations need to swiftly address unexpected disruptions or substantial changes that could potentially endanger their business operations, employees, resources, brand, or reputation.

Startup companies represent today's oasis of endless possibilities and new business models, driven by innovation, ambition, and the pursuit of innovative ideas. However, the journey from launching a startup to achieving success in the market is often incredibly challenging, with success being highly uncertain. Therefore, startups are organizations whose operations are highly uncertain and unpredictable, making them particularly vulnerable to various negative influences, including those caused by different crises.

Crisis conditions can manifest in various forms, such as economic downturns, market disruptions, natural disasters, pandemics, or regulatory changes. While such events can pose a significant threat to the very existence of startups, they also present opportunities for innovation, adaptation, and competitive advantage. During a crisis, startup founders, like all other company representatives, are compelled to reassess their strategies, redesign their business models, and redefine their offerings, which affects the value delivered to end customers. The resilience of startup companies can be understood as their ability to adapt, recover, and transform in response to crises, ensuring their survival and sustainable growth.

The theoretical framework for startup companies and their operations in the innovative startup ecosystem under crisis conditions will be presented in the paper. It is crucial to consider some of the strategies available to startup founders in these circumstances, as well as their impact on the startup's business itself. The paper showcases research results regarding the implementation of various resilience strategies by startup companies during times of crisis, particularly the pandemic crisis caused by the COVID-19 virus. The conclusions offer suggestions for further research, as well as the advantages, limitations, and impact of this research on understanding this dynamic field.

2. THEORETICAL BACKGROUND

Understanding of startup companies and their operating encompasses various concepts and frameworks from entrepreneurship, innovation, and organizational theories. These theoretical foundations provide valuable insights into the formation, growth and development strategies, and challenges faced by startups. Furthermore, recognizing the role of startup ecosystems and support mechanisms is crucial for creating an enabling environment that cultivates entrepreneurship and fosters innovation.

Entrepreneurship is a business phenomenon with strong impact on modern economies. Entrepreneurship is widely recognized as a key driver of success, and every individual who embarks on creating a new organization or business ventures into a new paradigm of entrepreneurship (Barot, 2015). Entrepreneurship is associated with creating new value and entails a dynamic process (Fayolle, 2007).

Taking into account the purpose of innovations, they can be defined as the process of creating and introducing something new or improved with the aim of generating appropriate value and benefit (Hisrich & Kearney, 2014). Innovations also lead to the launching of new entrepreneurial ventures and enhance their competitiveness (Abrahamson et al., 2019), placing special emphasis on creativity and the advantages derived from utilizing scarce resources, specific knowledge, and modern technologies. Innovations are actually what enable business sustainability (Kotler & De Bess, 2011) and lead to the successful fulfillment of a company's vision and mission, as well as increased success in the market. By fostering and generating innovations, companies secure significant benefits, including: retaining or increasing market share, enhancing profitability in existing markets, and creating opportunities to enter new markets (Vekić, 2023). From a macroeconomic perspective, innovations enable technological growth, more efficient handling of economic crises, employment growth, contribute to higher levels of investment, and the development of completely new industries.

Entrepreneurship and innovation form the foundation for the emergence of new entrepreneurial ventures known as startup companies. To understand this relatively new concept of startup companies, it is necessary to consider their specificities and characteristics. Startups differ from other forms of companies in that they are "a temporary organization designed to search for a repeatable and scalable business model" (Blank, 2013). Startup companies are specific entities whose business is based on opportunities, ideas, creativity, innovation, and new technologies, as well as the development of new products and services, etc. Their operations are connected to various industries and modern sectors, and are built upon advanced technologies (Digital Serbia Initiative, 2019). Innovative startup companies represent one of the most significant elements of development in contemporary economies (Walsh & Cunningham, 2016). Startup company is always capable of delivering an unlimited number of products and services in the same way with minimal production costs. Unlike entrepreneurship, which encompasses all new companies, startup companies refer to new ventures that intend to grow rapidly after their establishment, which is one of their fundamental characteristics. Building upon previous definitions, a group of authors defines a startup company as "a new and temporary company that bases its business model on innovation and technology. Furthermore, startup companies have the potential for rapid growth and scalability, meaning they have the ability to expand and increase their operations with a clear developmental perspective" (Strielkowski et al., 2015). Startup companies are recognizable for being always connected to innovations (Socorro Márquez & Reyes Ortiz, 2021) and their primary product can be hardware, software, services, materials, etc. (Thomas & John, 2021).

The increasing number of startup companies, which are drivers of innovation and development, leads to the emergence of a startup ecosystem that enables their mutual connection as well as collaboration with other participants within this ecosystem, with the goal of their survival, sustainability, and accelerated growth. A startup ecosystem is defined as a system formed by individuals, startup companies in various stages, and different types of organizations in a specific location (physical and/or virtual), where they interact with each other as a system aimed at creating new startup companies (Startup Commons, 2013). The interaction between organizations and individuals within the startup ecosystem enables the flow of resources, thereby fostering the creation of new startups and strengthening existing ones. In addition to providing standard support in the form of financial resources, these ecosystems also offer valuable assistance through a wide range of knowledge and experiences, which are crucial for business beginners (Vekic, 2023).

The main elements of a startup ecosystem are: Ideas, inventions, and research; Startups at various stages of development; Entrepreneurs; Members of startup teams; Business angels; Startup mentors; Startup advisors; Other individuals with an entrepreneurial mindset and Third-party entities from other organizations involved in startup activities (Startup Commons, 2021). Indeed, the startup ecosystem

represents a well-established entity that consists of the mentioned participants and leverages their strengths and advantages to enable innovation, create exceptional companies, generate new job opportunities, and foster entrepreneurship (Aleisa et al., 2013).

3. STRATEGIES FOR STARTUP SURVIVAL AND SUCCESS IN TIMES OF CRISIS

Startups are known for their agility, innovation, and ambition, but when a crisis strikes, their survival and success can be severely challenged. Crises can come in various forms, such as economic downturns, global pandemics, natural disasters, or industry-specific disruptions. Navigating through these turbulent times requires startups to adopt strategic approaches that enhance their resilience and position them for long-term success. Periods of crisis bring unique circumstances that are unpredictable and always interesting for research and description in scientific literature. In such cases, significant changes occur in the way all companies, especially startups, operate and function. These new ventures are highly sensitive to all kinds of changes and require swift response and adaptation, as their business operations, sustainability, and attainment of business success are uncertain even in stable market conditions. The occurrence of crises highlights the resilience of startup companies, and the consideration of implementing appropriate measures becomes crucial (Doern et. al., 2019). Exactly, it involves defining appropriate business goals, strategies, and policies, or redefining existing ones. During times of crisis, startups may need to reassess their objectives and adapt their approaches to navigate through challenging circumstances successfully. This could include revising their business plans, adjusting their target markets, exploring new revenue streams, managing costs more efficiently, and ensuring their products or services remain relevant and valuable to customers in the changed market conditions.

Resilience in business implies the company's ability to perceive and embrace risks, and to leverage them as opportunities for advancement (Aldianto et.al., 2021). Some of the most significant risks that affect the business, growth, and development of startup companies are (FundingSage, 2021): Risk of business expansion capability; Product/service development risk; Economic risk with a special focus on external economic factors; Capital risk; Risk of designing innovative products and services; Risk of the life cycle of innovative products/services; Regulatory risk; Liquidity risk; Risk of implementing the business model; Operational risk; Procurement risk; Risk of researching business fundamentals; Technological risk and Demand risk.

The ability to innovate, be flexible, and maintain a strong focus on goals are essential elements of startup resilience during times of crisis. Therefore, capacity of startups to effectively overcome obstacles and challenges during crises serves as a strong indicator of its resilience (Cvijić-Čović et. al., 2023). Building a culture of resilience within an organization is essential to navigate through challenges, adapt to change, and thrive in uncertain environments. This is also important for startups, and some of the key directions for building a culture of resilience in startup companies are: focusing on practices that foster an entrepreneurial mindset, promoting open communication, prioritizing employee well-being, and implementing robust risk management strategies (Forbes, 2020). To build an effective culture of resilience in startup companies, it is crucial for them to have a clear vision and mission, to be oriented towards learning, growth, and gaining new practical experiences, as well as supporting their employees in various aspects. Additionally, having leadership that recognizes opportunities and nurtures a culture of unity, teamwork, openness, and promotes an inclusive culture and celebration of success is essential.

All of this has proven to be especially important during the recent major crisis, which is distinctive for being caused by a health crisis in the form of the COVID-19 pandemic (Sreenivasan et. al., 2023). According to the World Health Organization, a pandemic can be defined as the global spread of a new disease. Influenza pandemics are unpredictable but recurring events that can have significant consequences on human health and worldwide economic well-being (World Health Organization, 2009). The pandemic caused by the COVID-19 virus has led to significant changes in people's lives, business operations, and the functioning of entire economies. In order to build resilience to new circumstances and successfully survive in the conditions of extreme uncertainty brought about by the pandemic, startup companies have a wide range of strategies available to apply in their business. Some of the most important strategies that startup companies can implement during a crisis to survive and strengthen their position in the innovative startup ecosystem include (Scott & Stern, 2018):

- Generating valuable products/services for customers and protecting intellectual property rights to retain control over them.
- Rapidly commercializing ideas rather than retaining control during idea development.

- Commercializing and strengthening competitive advantage with a focus on integration into existing value chains.
- Defining an entirely new value chain with the goal of gaining control and achieving a market leadership position.

4. METHODOLOGY AND RESEARCH RESULTS

This research is a part of an extensive study on the innovative startup ecosystem in the Republic of Serbia and its part of doctoral dissertation one of the authors of this paper. The study focuses on examining various aspects of the startup landscape in Serbia, aiming to contribute to the understanding and development of the innovative startup ecosystem in the country. The study employed an online questionnaire designed using Google Forms, with founders of startup companies participating as respondents. The data collection period for this research took place from May to October 2021, covering startup companies across the entirety of the Republic of Serbia, including all five statistical regions. The total number of respondents in this study was 106. The research sample consists of startup companies that develop and implement innovation in their business practice.

RQ1: How do startup companies react in case of a crisis?

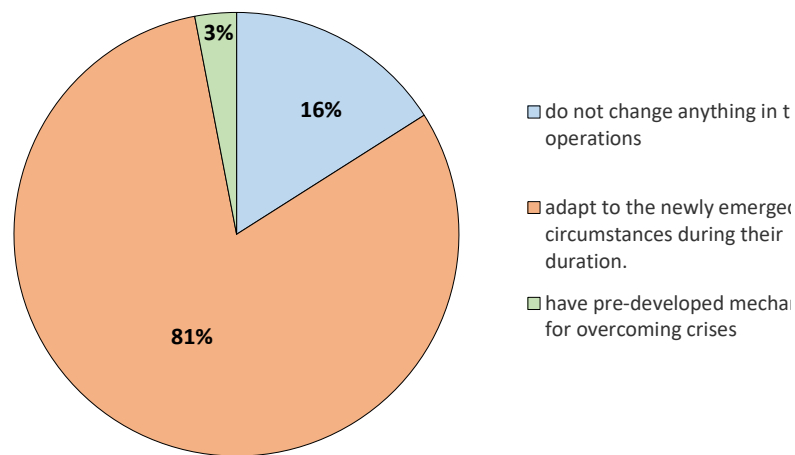


Figure 1: The reactions of startups in case of a crisis (Vekić, 2023)

Figure 1 presents the research results regarding the response of startup companies in case of a crisis. According to the research, the majority of startup companies, around 81%, adapt to the newly emerged circumstances during their duration. Approximately 16% of startup companies have pre-defined mechanisms to mitigate the consequences of the crisis, while a small percentage, only 3% of startup companies, have a strategy of not changing anything in their operations.

RQ2: How do startup companies with pre-defined mechanisms for overcoming a crisis perceive the impacts of risks on their growth and development?

The descriptive statistical method was applied with the aim of examining the perception of risk impacts on the growth and development of startup companies by companies that have pre-developed mechanisms for overcoming crises.

Table 1: Assessment of the impact of risks on the growth and development of startup companies with pre-developed mechanisms for overcoming crises (Vekić, 2023).

	Min	Max	AM	SD
Risk of business expansion capability	1	5	3,53	1,07
Product/service development risk	1	5	3,65	0,93
Economic risk with a special focus on external economic factors	1	5	3,29	1,21
Capital risk	3	5	3,76	0,66
Risk of designing innovative product/ services	1	5	3,18	0,95
Risk of the life cycle of innovative product/services	1	5	3,29	0,97
Regulatory risk	1	5	3,24	1,19
Liquidity risk	1	5	3,18	0,99
Risk of implementing the business model	1	5	3,29	1,20
Operational risk	1	5	3,18	1,01

Procurement risk	1	5	2,88	1,05
Risk of researching business fundamentals	1	5	3,29	1,21
Technological risk	1	5	3,24	0,83
Demand risk	1	5	3,18	0,90

Legend: Min- Minimum Value, Max- Maximum Value, AM- Arithmetic Mean, SD- Standard Deviation

Results of the research which are presented in Table 1, show that all observed risks have been assessed as generally high, while capital risk, business expansion capability risk, and product/service development risk have been identified as particularly pronounced risks. These findings highlight a strong sense of risk awareness among startup companies in the Republic of Serbia. Their caution is evident even when they have anticipated potential risks due to the occurrence of crises and have prepared mechanisms to overcome them, as well as to mitigate any negative consequences that may arise in such situations.

5. CONCLUSIONS

The operation of startup companies in the innovative startup ecosystem is always sensitive and subject to the influence of numerous risks. Since their inception, these companies have been striving to survive in the market and achieve their business objectives, success, and sustainability. The main comparative advantage of startups lies in leveraging innovations to strengthen their market position and assume leadership roles within their industry. Their ability to adapt and respond quickly to emerging changes greatly impacts their survival, especially during times of crisis, which affect all business segments and disrupt the functioning of companies. For this reason, it is crucial for startup companies to consider strategies for mitigating the consequences of a crisis and make important business decisions in a timely manner.

They have the option to adopt various existing strategies or create new ones based on the given circumstances. An example of this is defining new strategies necessitated by the unique crisis triggered by the COVID-19 pandemic, which has reshaped the world and introduced new paradigms in business. The effects of this crisis are not all necessarily negative, as it has led to the flourishing of certain new industries and startup companies within them.

However, there are limitations to this research, as it is based on a sample from one country, and the survey was conducted only among startup company founders, one of the main participants in the innovative startup ecosystem.

Future research could involve examining differences between industries in which startup companies operate and exploring all participants within the given innovative startup ecosystem. Additionally, a comparative analysis between different countries or regions would be desirable.

During a crisis, different types of risks combine and affect startup businesses, prompting them to make a realistic assessment to minimize these risks and proactively reduce potential harmful impact. Startup companies are compelled to develop resilience against all negative effects brought about by a crisis, and the research within this study shows that the majority of companies responded to these circumstances. This includes nurturing a culture of readiness, proactivity, and agility, allowing startup companies to maintain their growth trajectory and become stronger even in the face of adversity.

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