

Graduate School of Management  
St. Petersburg State University

Master in Management

**The Influence of Entrepreneur's Subjective Perceptions on Entrepreneurial  
Exit Decision: A GEM Data Based Study**

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Saint-Petersburg  
2023

**ЗАЯВЛЕНИЕ О САМОСТОЯТЕЛЬНОМ ХАРАКТЕРЕ ВЫПОЛНЕНИЯ  
ВЫПУСКНОЙ КВАЛИФИКАЦИОННОЙ РАБОТЫ**

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## АННОТАЦИЯ

Автор	Анастасия Максимовна Дебердеева
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Наименования ВКР	Влияние субъективно воспринимаемых факторов предпринимателя на выход из предпринимательской деятельности: исследование, основанное на данных GEM
Описание цели, задач и основных результатов	<p>В этом исследовании анализируется влияние субъективно воспринимаемых факторов предпринимателя на его решение выйти из предпринимательской деятельности во время пандемии COVID-19. Исследование опирается на социо-когнитивную теорию и теорию запланированного поведения, которые утверждают, что личное восприятие играет решающую роль в формировании предпринимательских намерений и последующем решении о выходе из бизнеса.</p> <p>Изучая влияние этих субъективных представлений, исследование способствует более глубокому пониманию когнитивных процессов, влияющих на решения предпринимателей во время кризиса. Сосредоточение внимания на пандемии COVID-19 привносит новизну в тему выхода из предпринимательства, поскольку дает уникальную возможность проанализировать данные и получить представление о факторах, влияющих на выход из бизнеса во время кризиса.</p> <p>В этом исследовании данные Глобального мониторинга предпринимательства (GEM) за 2020 год будут подвергнуты трансформации и анализу, в частности, с использованием логистического регрессионного анализа. Модель логистической регрессии будет включать бинарную зависимую переменную «Предпринимательский выход», три независимые переменные «Воспринимаемая самоэффективности», «Страх неудачи» и «Восприятие COVID-19», а также несколько контрольных переменных и модератор в виде переменной «Оценка государственной экономической политики во время COVID-19».</p> <p>При проведении регрессионного анализа полученные результаты указывают на общую значимость модели, при этом все независимые переменные демонстрируют статистическую значимость и оказывают влияние на вероятность выхода из предпринимательской деятельности. В результате анализа выявлена</p>

	<p>положительная корреляция между переменными «Воспринимаемая самооффективность» и выходом из предпринимательской деятельности, а также между «Страхом неудачи» и выходом из предпринимательской деятельности, тогда как между «Восприятием COVID-19» и выходом из предпринимательской деятельности наблюдалась отрицательная корреляция. Более того, эффект модерации переменной «Оценка государственной экономической политики во время COVID-19» оказался значимым по отношению к переменным «Восприятие самооффективности» и «Восприятие COVID-19». На основе этих выводов в исследовании приводятся рекомендации для дальнейших исследований и различных групп заинтересованных сторон.</p>
<p>Ключевые слова</p>	<p>Предпринимательство, предпринимательский выход, кризис, пандемия ковид-19, субъективные восприятия, субъективно воспринимаемые факторы, General Entrepreneurship Monitor (GEM)</p>

## ABSTRACT

Master Student's Name	Anastasiia Deberdeeva
Academic Advisor's Name	Anastasiia K. Laskovaya
Master Thesis Title	The Influence of Entrepreneur's Subjective Perceptions on Entrepreneurial Exit Decision: A GEM Data Based Study
Description of the goal, tasks and main results	<p>This research explores the influence of an entrepreneur's subjective perception on their decision to exit entrepreneurship during the COVID-19 pandemic. The study is guided by socio-cognitive theory and the theory of planned behavior, which argue that personal perceptions play a crucial role in the formation of entrepreneurial intentions and the subsequent decision to entrepreneurial exit.</p> <p>By examining the impact of these subjective perceptions, the study contributes to a deeper understanding of the cognitive processes that influence the decisions of entrepreneurs during times of crisis. The focus on the COVID-19 pandemic brings a novelty to the topic of business exits, as it provides a unique opportunity to analyze the data and gain insight into the factors that influence exits in times of crisis.</p> <p>In this research, the Global Entrepreneurship Monitor (GEM) data for the year 2020 will be subjected to analysis, specifically utilizing logistic regression analysis. The logistic regression model will incorporate a binary dependent variable "Entrepreneurial exit", 3 independent variables "Perceived self-efficacy", "Fear of failure" and "Perception of COVID-19" and several control variables and introduce a moderator in the form of variable "Assessment of government policy during COVID-19".</p> <p>Upon conducting the regression analysis, the obtained results indicate the overall significance of the model, with all independent variables demonstrating statistical significance and exerting an influence on the probability of entrepreneurial exit. The result of analysis identified positive associations between variables "Perceived self-efficacy" and entrepreneurial exit and between "Fear of failure" and entrepreneurial exit, while a negative association was observed between the "Perception of COVID-19" and entrepreneurial exit. Moreover, the moderation effect of variable "Assessment of government policy during COVID-19" was found to be significant in relation to variables "Perceived self-efficacy" and "Perception of COVID-19". Based on these findings, the research provides</p>

	recommendations for further research and various stakeholder groups.
<b>Keywords</b>	Entrepreneurship, entrepreneurial perceptions, entrepreneurial exit, General Entrepreneurship Monitor (GEM), crisis, COVID-19

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## INTRODUCTION

In recent years, global economies have experienced significant transformations, prompting considerable interest in assessing and interpreting the economic conditions of different countries. A crucial aspect in understanding the economy is the study of entrepreneurship and entrepreneurial activity. Entrepreneurship serves as a vital catalyst for innovation, job creation, and overall economic growth. While the number of new businesses established is often used as a measure of entrepreneurship, equal attention should be given to businesses exiting the market. Exiting entrepreneurship represents a critical phase within the entrepreneurial life cycle, yet it has received comparatively less research attention compared to business startup endeavors.

Despite the sufficient number of research on entrepreneurial exit, there exists a research gap concerning the role of personal perceptions factors in the decision-making process of exiting entrepreneurship. Previous studies have primarily concentrated on personal characteristics influencing an entrepreneur's exit decision, such as age, gender, education, experience, family, etc. There are following factors whose influence on exit from entrepreneurship has been extensively studied:

- Gender by Brännback, M., & Carsrud, A. L. (2016),
- age by De Clercq, D., & Soriano, D. R. (2014), Jack, S. L. & Schock, P. J. H. & Marlow, S. (2015), McCann, P., & Ortega-Argilés, R. (2015),
- the educational level by Fairlie, R. W., & Miranda, J. (2018), Franco, M., Lima, F., & Moreira, M. (2018), Kuckertz, A., & Berger, A. (2016), Schøtt, T., & van Praag, M. (2014),
- experience of the entrepreneur by DeTienne, D.R. & Cardon, M.S. (2012), Fairlie, R. W., & Miranda, J. (2018), Franco, M., Lima, F., & Moreira, M. (2018),
- business-family interface by Kołodkiewicz, I. A., et al (2022), Bird, M., & Wennberg, K. (2016), Hsu, D. K., et al (2016), Chrisman, J. S., & Sharma, P. (2018), DeTienne, D.R. & Chirico, F. (2013),
- human capital by DeTienne, D. R., & Cardon, M. S. (2006), Block, J., & Sandner, P. (2018),
- motive and motivation of the entrepreneur by Obschonka, M., et al. (2019), Murnieks, C. Y et al (2019), Van der Zwan, P., & Hessels, J. (2013), DeTienne, D.R. & Chandler, G.N. (2010), Khavul, S., & Singh, P. R. (2015),
- business environment by Storey, D. J. & Scott, J. (2004),
- Industry of the entrepreneur's firm by Cefis, E., & Marsili, O. (2011).



However, limited research has explored how entrepreneurs' individual characteristics, like subjective perceptions influence on entrepreneur's decision to exit. Understanding the impact of subjective perceptions on the exit decision is crucial for developing effective support programs for entrepreneurs across different countries.

For instance, identifying specific personal perceptions associated with a higher likelihood of exiting entrepreneurship can inform the design of tailored support programs aimed at assisting entrepreneurs in developing or transforming these perceptions. Moreover, comprehending how personal perceptions influence exit decisions can assist policymakers in formulating strategies that foster entrepreneurship and support the exit process. This is particularly relevant in countries experiencing rapid economic growth, where initiating a new business is relatively straightforward, and supportive policies are needed to facilitate the closure of existing businesses and the creation of new ventures. Conversely, in countries where establishing a new business is challenging and entrepreneurs require assistance to survive in competitive environments, policies that promote non-exit options and sustain entrepreneurs become crucial. Therefore, investigating the role of individual perceptions in entrepreneurial exit decisions is vital for the development of comprehensive and context-specific entrepreneurship support programs.

Furthermore, conducting research on personal factors, such as individual perceptions, that influence business closures can provide entrepreneurs with valuable insights to make informed decisions regarding their own enterprises. By comprehending the intricate decision-making process and the underlying factors that shape it, entrepreneurs can assess their unique circumstances and strategically determine the course of their businesses, including the decision of whether and when to exit. This understanding can help entrepreneurs avoid common pitfalls and capitalize on opportunities, thereby enhancing their prospects for success.

For instance, if an entrepreneur is aware of having a higher fear of failure, they may exercise greater caution in their business decisions and meticulously assess the risks associated with closure. Similarly, if an entrepreneur recognizes that their perception of personal self-efficacy is relatively low, they can factor this characteristic into their decision-making during challenging times. Taking proactive measures, such as engaging in educational programs, pursuing professional development opportunities, and networking, can help boost their self-efficacy. Notably, DeTienne and Wennberg (2016) and Wennberg et al. (2011) have emphasized the significance of comprehending the factors that influence an entrepreneur's decision in selecting an exit strategy. By investigating these personal factors and their impact on exit decisions, entrepreneurs can make more informed choices, increasing their likelihood of success and minimizing potential setbacks. Understanding the dynamics of the decision-making process

empowers entrepreneurs to navigate their entrepreneurial journeys with greater confidence and clarity.

This research paper aims to provide valuable insights into entrepreneurship for 2020 by focusing on exiting entrepreneurship and the factors that influence exiting entrepreneurship during the coronavirus pandemic. It is worth emphasizing that this study specifically focuses on the COVID-19 pandemic, given the significant impact the pandemic has had on the intentions and behaviors of individuals, particularly entrepreneurs. The pandemic has induced a multitude of stress-related reactions, including changes in focus, irritability, anxiety, sleep disturbances, reduced productivity, and interpersonal conflicts. This particular emphasis is of utmost importance and represents a novel contribution to the field of entrepreneurial exit decisions, as the pandemic has only recently concluded, providing access to data and the opportunity to analyze crisis-related data. The researching of the impact of coronavirus pandemic time on the entrepreneurial exit is necessary, among other things, because entrepreneurship that can play a decisive role in supporting the country's economy in a crisis and subsequent recovery after a crisis. Thus, it is useful for entrepreneurs and business support services at the state level to know more about the factors that influence exit from entrepreneurship in order to prevent mass exit from entrepreneurship in a crisis (Batjargal, B. et al (2023)). This enables a deeper understanding and predictive insights into the behavior of entrepreneurs during future crises. The study's focus on the unique context of the pandemic offers a valuable perspective for comprehending the dynamics of entrepreneurial decision-making in the face of crisis.

The present study conducts a comprehensive analysis of the influence of subjective perceptions on the entrepreneurial exit decision amid the COVID-19 pandemic. Drawing upon well-established theoretical frameworks such as Bandura's social-cognitive theory (1986) and the theory of planned behavior proposed by Icek Ajzen (1991), the study delves into the intricate interplay between personal perceptions and entrepreneurial intentions. Specifically, the study examines the impact of key subjective perceptions, namely self-efficacy, perception of COVID-19 as a threat or opportunity, perception of government economic policies, and perception of the fear of failure. These subjective perceptions are posited to shape individuals' cognitive processes and subsequent decision-making in the entrepreneurial context.

Understanding how these perceptions shape entrepreneur's decision about exit can inform the development of targeted interventions and supportive measures to mitigate the adverse effects of crises, such as the ongoing COVID-19 pandemic, on entrepreneurial activity.

Research goal: To estimate the relationships between entrepreneur's subjective perceptions (as perceived self-efficacy, perception of COVID-19 and fear of failure) and the probability of entrepreneurial exit during times of COVID-19.

The object of the research is the interrelation between entrepreneur's subjective perceptions and the entrepreneur exit.

To achieve research goal, these research objectives were formulated:

- Analyze existing research in the field of entrepreneurship and entrepreneurial exit;
- Identify and evaluate the peculiarities of the entrepreneurship exit;
- Identify possible factors that may influence the entrepreneurial exit and develop hypotheses for quantitative research;
- Develop research design based on the existing GEM data;
- Analyze the data through a building and running a logistic regression model;
- Interpret the obtained results of the regression model and analyze the influence of "assessment of government policy during COVID-19" moderator.

Research questions:

- How subjective perceptions of the entrepreneur (perceived self-efficacy, fear of failure and perception of COVID-19) relate to decision of exit during crisis times?
- What is the impact of assessment of government economic policy during COVID time on these relationships?

Research Characteristics. The study will rely on quantitative research strategy, using Global Entrepreneurship Monitor (GEM) data as a secondary source. To assess the impact of several personal perceptions (like perceived self-efficacy, fear of failure and perception of COVID-19), data regression analysis and marginal effects will serve as the main statistical methods in the RStudio, IBM SPSS and STATA 13 tools.

This thesis is structured as follows: the second section contains the theoretical background, an analysis of the existing literature on exit from entrepreneurship, and hypotheses for further research; the third section explains the methodology of this study and the data (description of the source, description of the data itself), building and running regression model; the fourth section is devoted to the results obtained and their detailed description, summarizing and discussing the further development of the study is in the fifth section and giving recommendations for several groups of stakeholders.

To conclude, a better understanding of the factors that contribute to entrepreneurial exit can lead to the development of strategies aimed at mitigating the negative effects of exit and supporting entrepreneurs in their future endeavors. This research will contribute to the growing body of knowledge on entrepreneurship and provide insights for policymakers, entrepreneurs, and other stakeholders in the entrepreneurial ecosystem.

## CHAPTER 1. LITERATURE REVIEW AND PREVIOUS STUDIES

### Definition of entrepreneur

At the outset of any discussion concerning the theoretical and practical aspects of entrepreneurship, it is crucial to have a clear understanding of what entrepreneurship is. A comprehensive and precise definition of entrepreneurship is essential for conducting any research on this topic, as it provides a foundation for the investigation of the phenomenon.

The etymology of the definition of "entrepreneur" comes from the French "entrepreneur" - an intermediary, from the verb "entreprendre" - to undertake, start, and first appeared in France in the 13th century. Entrepreneurs at that time were considered as "... owners, farmers, merchants, industrialists, including small artisans, owners of retail outlets." Later, the entrepreneurs were associated with innovation, invention, risk and other qualities that are characteristic of the modern understanding of entrepreneurship. For example, Peter Drucker defines an entrepreneur as follows: An entrepreneur is a person who uses every opportunity to the maximum advantage. Albert Shapiro called an entrepreneur a person who takes the initiative, organizes socio-economic mechanisms, operates under conditions of risk and bears full responsibility for a possible failure. In 1982, J. Schumpeter gave the following definition: Entrepreneurship is the activity of deliberately disturbing the economic environment in order to obtain a competitive advantage and, as a result, high income. Entrepreneurship, according to Robert Hisrich (1991), is the process of creating something new that has value, and an entrepreneur is a person who spends all the necessary time and effort on this, takes all the financial, psychological and social risk, receiving in reward money and satisfaction achieved.

The definition of entrepreneurship has evolved over the years, and there is no universally accepted definition that suits all contexts. This paper will use GEM's definition of entrepreneurship as it aligns with the study's primary objectives and concept. According to the official definition used in the Global Entrepreneurship Monitor, entrepreneurship is defined as: is "any attempt at new business or new venture creation, such as self-employment, a new business organization, or the expansion of an existing business, by an individual, a team of individuals, or an established business".

Based on the definitions described above, it can be concluded that entrepreneurship (entrepreneur) has features such as acts as an independent, independent entity, focus on results in the form of systematic profit, presence of entrepreneurial risk (for example, financial, commercial, industrial, etc.), legality, innovative character, perspective (focus on development, scaling up, etc).

Entrepreneurship has a range of different classifications. The most commonly used is the division by direction (profile) of activity (manufacturing of goods and services, commerce, trade, finance, consulting), by territorial scope (local, regional, national, international, and global entrepreneurship), by scale of operations (small-scale, medium-scale, or large-scale), by the level of profitability (highly profitable to low-profit), by growth rates (from rapidly growing to slow-growing), by engaging in risk operations (from low-risk to high-risk) and by number of participants (founders) involved in the business venture (either individual or collective).

### Entrepreneur exit existing typologies

After doing a study of the literature on the topic of exit from entrepreneurship, the following types of separation of reasons for exit were identified:

1. “Harvest” and “stewardship” exit strategies (DeTienne et al. (2015)): The authors have emphasized that entrepreneurs should keep these additional strategies in mind as they provide different options that can be considered. The harvest exit strategy is a lucrative option where the entrepreneur sells the business to gain financial profit. On the other hand, the stewardship exit strategy emphasizes that the business is passed on to a new owner who will continue to operate it in a socially responsible manner. These two additional exit modes provide a more diverse range of options for entrepreneurs who are looking to exit their business without simply closing it down or selling it off to the highest bidder. It is important for entrepreneurs to consider all available options and decide which strategy best suits their goals and objectives.
2. Push and pull factors (such authors as Dawson, C., & Henley, A. (2012), Van der Zwan and Hessels (2013)): Push and pull factors refer to the different motivations that can prompt an entrepreneur to exit their business. Push factors are negative reasons, such as financial difficulties or personal issues, that drive the entrepreneur to exit. On the other hand, pull factors are positive reasons, such as attractive acquisition offers or new business opportunities, that attract the entrepreneur to exit.
3. Strategic and non-strategic reasons (such authors as Cefis, E., & Marsili, O. (2011)): This classification separates strategic reasons, which stem from an entrepreneur's long-term goals and objectives, such as exploring new business opportunities or focusing on core competencies, from non-strategic reasons, which are associated with short-term factors, such as financial hardships or personal reasons.
4. Voluntary and involuntary (failure-based) exit (such authors as Van der Zwan and Hessels 2013, Cefis, E., Bettinelli, C., Coad, et al (2022), R. W. Fairlie and Fossen, F.M. (2018), Looze, J. (2017)). This typology identifies two types of business exits:

voluntary exit, which is a planned and intentional decision by the entrepreneur to leave the business, and involuntary exit, which is an unplanned and forced exit due to external factors such as bankruptcy or legal issues.

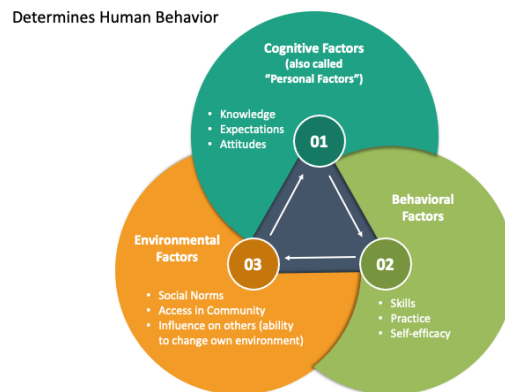
5. Internal and external reasons (such authors as Shadid, Z.A. (2016), Wennberg (2011), Everett and Watson (1998)): This classification separates internal reasons, which are linked to the entrepreneur's personal ambitions and motivations, such as retirement or pursuing new opportunities, from external reasons, which are connected to external factors, such as market conditions (policies) or others.

In this study, it is worth exploring further the factors that may influence the exit from entrepreneurship. In order to deepen our understanding of these factors, it is important to consider the available literature on the topic. This includes examining the current state of the field and the various theories and hypotheses that have been proposed to explain why entrepreneurs choose to exit their ventures. Additionally, we may want to look at case studies of successful and unsuccessful entrepreneurs to gain insights into the factors that may have contributed to their respective outcomes.

Therefore, the exit from entrepreneurship should not be perceived unequivocally as either a negative or positive phenomenon. It is essential to always consider the reasons behind entrepreneurial exit and take into account the context of the country in which the business operates in order to provide accurate recommendations and enhance the economic situation of the country. Moreover, for a more confident understanding of the reasons behind entrepreneurial exit, it is necessary to comprehend the formation of entrepreneurial behavior, the factors that influence it, and how they do so. The most renowned and valuable theories in this regard are the Social Cognitive Theory (SCT) and the Theory of Planned Behavior (TPB).

## Theories

### Social Cognitive Theory



Picture 1. Framework of Social Cognitive Theory (Source: Structural Learning. SCT <https://www.structural-learning.com/post/social-cognitive-theories>)

The Social Cognitive Theory (SCT) is a learning theory based on the premise that the environment in which an individual is raised influences their behavior, alongside the significance of their personality and cognitive abilities. The theory states that individuals acquire knowledge by observing others, and it asserts that the environment, behavior, and cognition act as the key determinants shaping human development within a mutually interconnected triadic relationship.

The core tenets of this theory, as it was mentioned by the author of this theory - Bandura, are effectively communicated through graphical depictions illustrating the triadic causality of relationships. These visual representations offer insight into the manner in which an agent's self-efficacy beliefs regarding their competence to engage in purposeful behavior impact the replication of observed conduct.

Key components of the Social Cognitive Theory (SCT) related to individual behavior change include:

- **Reciprocal Determinism:** This central concept emphasizes the dynamic and mutually influential relationship between the person (an individual with acquired experiences), the environment (external social context), and behavior (responses to stimuli aimed at achieving goals). The theory posits that individuals strive to develop a sense of agency and exert control over significant events in their lives. Factors such as self-efficacy, outcome expectations, goals, and self-evaluation play a role in shaping this sense of agency and control (Bandura, 1989).

To illustrate the concept of reciprocal determinism, it is necessary to consider an example from the practical part: An entrepreneur who believes that he is able to



successfully open and run a business (self-efficacy) is more likely to make the necessary efforts to open it (behavior).

If he doesn't believe he can run a successful business, he's less likely to take steps to start one. As a result, his beliefs about his abilities (self-efficacy) will be confirmed or refuted by their actual opening and running a business (outcome). This, in turn, will influence future beliefs and behavior. If an entrepreneur starts a successful business, they are likely to believe they can successfully start other entrepreneurial ventures and will put in the effort to find opportunities and resources. If he fails, he may doubt his abilities (Bandura, 1989).

- **Behavioral Capability:** This component refers to an individual's actual ability to perform a behavior, which is acquired through essential knowledge and skills. Successful behavior execution relies on knowing what to do and how to do it. People learn from the consequences of their actions, which also influences their environment.
- **Expectations:** This component concerns the anticipated consequences of a person's behavior, which can be health-related or non-health-related. Individuals anticipate the outcomes of their actions before engaging in the behavior, and these anticipated consequences can influence successful behavior execution. Expectations largely stem from prior experiences. While expectations and expectancies both derive from previous experiences, expectancies focus on the subjective value placed on the outcome and are individual-specific.
- **Reinforcements:** This concept involves the internal or external responses to an individual's behavior, which impact the likelihood of its continuation or discontinuation. Reinforcements can be self-initiated or come from the environment, and they can be positive or negative. Positive reinforcements increase the likelihood of behavior repetition, while negative reinforcers decrease it. This construct closely connects behavior and the environment within the reciprocal relationship of SCT. Reinforcements can be direct, immediate consequences of behavior (e.g., receiving a paycheck for work) or indirect, influencing behavior likelihood in the future (e.g., studying hard in school to gain admission to a good college) (Bandura, 1989).
- **Observational Learning:** This component states that individuals can observe and learn behaviors by witnessing others' actions, often referred to as "modeling." If individuals observe successful demonstrations of a behavior, they can also successfully perform that behavior.

- Self-efficacy: This component refers to a person's level of confidence in his/her ability to successfully perform a behavior. Self-efficacy, a unique concept in SCT, has also been incorporated into later theories such as the Theory of Planned Behavior (this theory will be explained further). Self-efficacy is influenced by an individual's specific capabilities, other personal factors, and environmental factors such as barriers and facilitators.

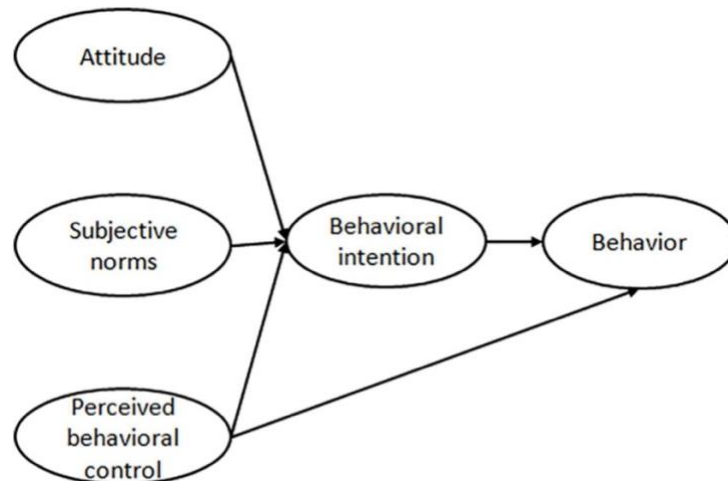
There are several disadvantages of Social Cognitive Theory (SCT). For instance,

1. The theory assumes that changes in the environment will automatically result in changes in individuals, which may not always be true.
2. The theory lacks clear organization and is solely based on the dynamic interaction between individuals, behavior, and the environment. It remains unclear how much each of these factors influences actual behavior and whether one factor holds more influence than the others (LaMorte, W.W., 2022).
3. The theory predominantly prioritizes learning processes while insufficiently acknowledging the influence of biological and hormonal predispositions on behavior, regardless of prior experiences and expectations.
4. The theory inadequately encompasses the intricate domains of emotions and motivation, except when examined in the context of past experiences, thereby allocating minimal attention to these factors.

However, some of these disadvantages will be covered by the theory of planned behavior, so this theory will also be considered below.

In this research paper, Social Cognitive Theory (Bandura, 1986; Wood & Bandura, 1989) will be taken as the basis. Summarizing all of the above, this theory states that environmental events, personality factors and individual behavior interact to influence the final behavior of people. In the context of this work, exit from entrepreneurship will be perceived as the final behavior of people.

## Theory of Planned Behavior



Picture 2. Framework of Theory of Planned Behavior (Source: ASCN (2019). TPB [https://ascnhighered.org/ASCN/change\\_theories/collection/planned\\_behavior.html](https://ascnhighered.org/ASCN/change_theories/collection/planned_behavior.html))

The Theory of Planned Behavior (TPB) emerged in 1980 as an extension of the Theory of Reasoned Action (TRA), aimed at predicting an individual's behavioral intentions in specific temporal and spatial contexts. Developed by Icek Ajzen, TPB sought to enhance the predictive capacity of TRA by incorporating the concept of perceived behavioral control. Notably absent in TRA, perceived behavioral control became a vital component of TPB. TPB has been applied across various domains of human endeavor, encompassing areas such as advertising, public relations, marketing campaigns, healthcare, sports management, and sustainable development. Its application has sought to explore the intricate interplay among beliefs, attitudes, behavioral intentions, and actual behavior within these contexts.

Key components of the Theory of Planned Behavior (TPB) are:

- **Attitudes:** This component reflects the extent to which an individual holds a favorable or unfavorable evaluation of the behavior under consideration. It involves considering the anticipated outcomes associated with engaging in the behavior.
- **Behavioral intention:** This component pertains to the motivational factors that influence the likelihood of performing a specific behavior. The stronger the intention to engage in the behavior, the higher the probability of its actual enactment.
- **Subjective norms:** This component encompasses the belief regarding the social approval or disapproval of the behavior. It involves an individual's perception of whether the behavior is deemed acceptable or discouraged by peers and significant others.
- **Perceived behavioral control:** This component refers to an individual's perception of the ease or difficulty associated with performing the behavior of interest.

Perceived behavioral control varies across different situations and actions, leading to varying perceptions of control depending on the specific context. This construct was later introduced to TPB, leading to the transition from the Theory of Reasoned Action to the Theory of Planned Behavior.

The Theory of Planned Behavior (TPB) has been extensively employed to examine the interrelationships among entrepreneurial behaviors and decisions. This theory has been effectively utilized by various authors, including such as Lortie, J., & Castogiovanni, G. (2015), Kautonen, T., van Gelderen, M., & Fink, M. (2015), Prabandari, S. P., & Sholihah, P. I. (2014), Carr, J. C., & Sequeira, J. M. (2007), Gorgievski, M. J., Stephan, U., Laguna, M., & Moriano, J. A. (2018), Obschonka, M., Silbereisen, R.K., Cantner, U. & Goethner, M. (2015). In the context of this research paper, it is assumed that the behavior of an entrepreneur (for example, "quit entrepreneurship") depends on the intention ("I'm going to quit entrepreneurship"). Intention, in turn, depends on attitudes ("Getting out of the business right now will bring me the most benefit"), subjective norms ("People around me think that I need to get out of the business") and the same perceived control ("I can get out of the business without big losses (risk / reputation / finances / etc.)").

There are drawbacks of the Theory of Planned Behavior (Cornell, D. & Drew, C., 2023). Some of them are:

1. It assumes that individuals possess the necessary abilities and resources to successfully carry out the desired behavior, regardless of their intentions.
2. It does not take into account other variables that can influence behavioral intentions and motivation, such as fear, threat, or past experiences.
3. There are some disagreements regarding the assumption of rationality, as people sometimes act emotionally rather than rationally.
4. It assumes that behavior is the result of a linear decision-making process and does not consider that behavior can change over time.
5. The Theory of Planned Behavior assumes that people act rationally, in accordance with their attitudes, subjective norms, and perceived behavioral control. However, these factors may not necessarily be actively or consciously taken into account when making decisions but rather shape the background for the decision-making process. In other words, individuals may not explicitly formulate a specific attitude, yet it can still influence their decision-making.

The aforementioned theories and the identified research gaps in understanding the relationship between an entrepreneur's subjective perceptions and entrepreneurial exit decision serve as the foundation for conducting further analysis. Specifically, factors such as perceived self-

efficacy, fear of failure, perception of COVID-19, among others, will be examined, and hypotheses will be formulated to deepen our understanding in this area.

### Influence of entrepreneurial exit on the economy

Entrepreneurship plays a pivotal role in the economies of various countries worldwide and serves as a significant economic indicator of a nation's development and overall economic status. However, it is not only the entry into entrepreneurship that acts as an indicator but also the exit from it. Exiting a business can occur for both voluntary and involuntary reasons, where favorable factors such as pursuing more profitable ventures, selling the current business for a profit, or obtaining a better position may lead entrepreneurs to voluntarily leave. Conversely, negative circumstances like unprofitable business operations, difficulties in obtaining financing, or external shocks such as the coronavirus pandemic can force entrepreneurs to exit. Reducing the number of forced entrepreneurial exits, especially during crises, is crucial for improving the economies of individual countries and the global economy as a whole. This is primarily because the entrepreneurial exit can have a significant impact on macroeconomic indicators such as employment levels, market dynamics, and industry competitiveness. Therefore, with a massive exit from entrepreneurship, there can be a massive loss of jobs as it was in COVID-19 time (Nasar, A. et al, 2021), which affects the overall landscape of employment. Moreover, the exit of enterprises affects market competition and industry dynamics, which can lead, in particular, to market consolidation.

At the microeconomic level, going out of business has implications for several stakeholder groups. Entrepreneurs who go out of business may experience financial gains or losses that will affect their personal well-being and future entrepreneurial endeavors (fear of failure may rise). The exit of enterprises can disrupt supply chains, affect the stability of business networks and affect the financial health of related industries. Moreover, entrepreneurial withdrawal can also impede the diffusion of knowledge and resources. Entrepreneurs who possess valuable knowledge, experience, and networks may fail to transfer these assets to other entrepreneurs or companies, depriving the ecosystem of valuable insights and opportunities for growth.

### Influence of the COVID-19 on the entrepreneurial exit

The impact of going out of business during COVID-19 extends beyond individual entrepreneurs and businesses. COVID-19 threatens not only the survival of small and medium enterprises (Pal, R et al, 2014), but entire sectors of the economy (Fabeil, N.F. et al, 2020) and the economy as a whole. This affected the entire world economy, which led to a fall in GDP. Thus,

according to the World Bank, US' GDP fell by 3.4% in 2020, Russia's GDP fell by 2.7% in 2020, EU's GDP fell by 6% in 2020 and still has not reached the level of 2019. And according to Bloomberg, 98 business bankruptcies occurred in the US in four months of 2020. CIBC (Canadian Imperial Bank of Commerce) provided with the results of the poll where it is stated that in 2020 81% of Canadian small business owners have been negatively affected by the pandemic. One more survey was by Small and Medium Enterprises Development Authority (SMEDA) conducted in April 2020. The results were: "920 Pakistan enterprises reported that 95 percent enterprises experienced a reduction in operations, 92 percent faced disruption in the supply chain, 89 percent got financial issues, and 23 percent reported up to 100 percent loss in export orders" (Nasar, A. et al, 2021).

Moreover, Meahjohn, I., & Persad, P. (2020) in March 2020 conducted a survey about 410 young entrepreneurs in 18 Asia-Pacific countries. The results stated that 88% entrepreneurs said that the customer demand was reduced, 34% of respondents noted supply chain disruptions, 26% stated about delays in progressing government business, 25% of entrepreneurs noticed distribution channel disruptions and 21% of all respondents said that the investor demand was also reduced. Additionally, Covid-19 has intensified competition among both entrepreneurs and existing businesses, as noted in studies Sterk and Sedláček (2020).

The aforementioned statistics provides insight into the scale of business closures and subsequent economic downturn during this challenging period. The global repercussions of the COVID-19 pandemic have undoubtedly exerted a profound influence on economies worldwide. Consequently, it becomes imperative to examine the factors that influence entrepreneurial exit specifically during the crisis, utilizing data gathered from the COVID-19 period.

In this study, COVID-19 is examined as an illustrative example of a widespread crisis with significant implications for economies across various countries. Defining a crisis is crucial to comprehending the distinct characteristics of this phenomenon and its broader implications. According to Pearson, C.M., and J.A. Clair. (1998), crisis is "a low probability, high-impact situation that is perceived by critical stakeholders to threaten the viability of the organization." There are authors (Isabelle, D. A. et al, 2021) which states that the world is clearly experiencing a rise in severe crises (Williams et al. 2017), suggesting that COVID-19 is not the last in the line of unexpected and large-impact global events.

Subsequently, a set of factors called subjective perceptions (perceived self-efficacy, fear of failure and perception of COVID-19) will be analyzed, presumably influencing the decision to exit entrepreneurship.

## Hypotheses development

## Perceived self-efficacy

Perceived self-efficacy is an important component of many theories and plays a special role in the decision to exit entrepreneurship. Importantly, self-efficacy refers to people's subjective beliefs about their own abilities (Machin, Adkins, Crosby, Farrell & Mirabito, 2019) a study by Rauch and Frese (2007) found that self-efficacy and resilience are highly correlated with business creation and success. Therefore, this subjective factor must be included in the model for analyzing the reasons for exiting entrepreneurship. Existing studies examining the relationship between self-efficacy and entrepreneurial exit will be reviewed below.

Ndofirepi (2022) analyzed the impact of entrepreneurial self-efficacy and self-identity on the intentions of male and female Zimbabwean students to start and stop entrepreneurial ventures in his research. The study found that a high level of perceived self-efficacy had a significant impact on the entrepreneurial intentions of both boys and girls. Additionally, self-identification had a greater impact on the intentions of female students.

The research carried out by Maczulskij, T., & Viinikainen, J. (2023) aimed to correlate entrepreneurial self-confidence and entrepreneurial success using data from Statistics Finland from 1990 to 2009. The study revealed that self-confidence is negatively associated with an exit from entrepreneurship. According to another authors Harrison, R. T., Mason, C. M., & Muñoz, P. (2019), higher levels of self-efficacy led to a lower likelihood of exit among nascent entrepreneurs.

A similar finding was found by Lee, J. K., & Weaver, K. M. (2014), only for a sample of small business owners in the United States. Researchers have found that entrepreneurs who strongly believe in their ability to succeed are less likely to quit their business. The study also showed that the link between self-efficacy and exit from entrepreneurial activity is influenced by factors such as prior entrepreneurial experience and the level of competition in the industry.

Another similar finding is reported in a systematic literature review conducted by Shen, Y., Wang, Q., Hua, D., and Zhang, Z. (2021). The study indicates that perceived self-efficacy has a strong influence on exit from entrepreneurial activity. Specifically, individuals with higher levels of entrepreneurial self-efficacy are less likely to exit entrepreneurship compared to those with low levels of self-efficacy.

One more study by Drnovšek, M. and Glas, M. (2002) was conducted in two transition countries, and it found that entrepreneurs with higher self-esteem are less likely to leave their businesses. The authors suggest that this highlights the important role of self-efficacy in entrepreneurial success and that measures to improve self-efficacy may help prevent premature exit from entrepreneurship.

The relationship between self-efficacy and exit from entrepreneurship is especially important in risky and uncertain situations, one of the most striking examples of such periods is

COVID-19. Therefore, based on previous studies, it is necessary to test this relationship with data during a pandemic. Hypothesis is:

**H1:** *Perceived self-efficacy of the entrepreneur is negatively associated with the likelihood of exit during crisis times.*

## Fear of failure

Fear of failure in entrepreneurship refers to the anxiety or apprehension that entrepreneurs experience when facing the possibility of their business failing. It is a common experience among entrepreneurs, as starting and running a business is inherently risky and uncertain. Fear of failure can manifest in many ways, such as a reluctance to take risks, a tendency to avoid difficult decisions, or a lack of confidence in one's abilities. For some entrepreneurs, fear of failure can be a significant obstacle to success, as it can prevent them from taking the risks necessary to grow and develop their businesses.

Many studies have explored the relationship between fear of failure and entrepreneurship. For instance, according to Cacciotti and Hayton's (2014) study, fear of failure can hinder entrepreneurship by discouraging individuals from taking risks and pursuing entrepreneurial ventures. However, the study also suggests that fear of failure can motivate entrepreneurs to work harder and be more assertive, although this is not always the case. Additionally, the study underscores the significance of comprehending the link between fear of failure and entrepreneurial exit, which is an area that has not been studied enough.

Fear of failure is an important factor in entrepreneurship because it can influence both the decision to enter an entrepreneurship and the decision to exit it. A study by Klimas et al. (2020) defines the fear of failure as a psychological barrier to entrepreneurship, as in cases of entrepreneurial failure, the fear of failure can lead to negative consequences such as loss of self-esteem, reduced willingness to take risks, and reduced likelihood of future entrepreneurial ventures. Moreover, the study highlights the impact of fear of failure on both entry and exit decisions.

A study by Virwich, Sternberg, and Stutzer (2021) examined the impact of fear of failure on entrepreneurship and exit in regions of Germany. The researchers found interesting fact that the failures of other entrepreneurs in the same region can cause potential entrepreneurs to fear failure, leading to a decrease in entrepreneurial activity. Regarding the direct relationship between fear of failure and entrepreneurial exit, research has shown that fear of failure can lead to an exit, as entrepreneurs who are more afraid of failure tend to exit the market faster.

In general, these studies indicate that fear of failure is a significant consideration when investigating entrepreneurial exit. Developing techniques to surmount this fear can be



advantageous for entrepreneurs. By comprehending how the fear of failure affects the decision to exit a business, policymakers and support systems can create focused interventions to help entrepreneurs overcome this impediment and make informed decisions regarding the future of their businesses.

**H2:** *Fear of failure is positively associated with the likelihood of entrepreneurial exit during crisis times.*

## Perception of COVID-19

Opportunity perception is a phenomenon often referred to by terms such as recognition, identification, discovery, and has generated a great deal of debate in the entrepreneurial literature. It is necessary to consider several concepts of the emergence of opportunities for the entrepreneur. There is a group of scientists (Kirzner, 1997; Schumpeter, 1942; Shane, 2003; Shane and Venkataraman, 2000) who believe that opportunities are not inherent in entrepreneurs and are discrete phenomena arising from the external environment, such as new technologies or social changes. Another group of authors (Gartner et al., 2003; Sarason et al., 2006; Edelman and Yli-Renko, 2010) have an almost opposite opinion, which is that "opportunities" are closely related to the entrepreneur's own perception and arise from him. Also, some researchers describe opportunity as a business idea or concept (Singh, 1998) or actual entrepreneurial activity (Hills et al., 1999).

In this study, the opportunity factor will refer to emerging opportunities during the COVID-19 pandemic. That is, an entrepreneur may perceive COVID-19 as a threat (company/financial/health, etc.) or as an opportunity (create a new product / take a leading position in a free market / open an additional business, etc.) (Ratten, V., 2020). Some people believe that the changes brought on by the pandemic could have a positive impact by providing new learning opportunities and business tactics (Brown and Rocha, 2020)), others fear that these changes may discourage new entrepreneurs from entering the market (Otrachshenko, V. et al, 2022; Batjargal, B. et al, 2023). For instance, the study by Otrachshenko V. et al (2022) examines the impact of COVID-19 on business entry and exit and analyzed data from the Global Entrepreneurship Monitor in Russia. Authors found that while the pandemic has led to an increase in entrepreneurial opportunities, it has also led to higher rates of business closures. Overall, the authors suggest that the pandemic has created both challenges and opportunities for entrepreneurship.

In a study by Çera et al. (2022) explores the impact of the COVID-19 pandemic on entrepreneurial intentions from a stimulus-organism-response (S-O-R) perspective. The authors suggest that perceiving COVID-19 as an opportunity will positively influence entrepreneurial intentions, while perceiving COVID-19 as a threat negatively. To test the hypotheses, the authors conducted a survey of 408 Albanian students attending entrepreneurship courses. The survey

included questions about participants' perception of COVID-19 as an opportunity or threat, their perception of the business environment, and their entrepreneurial intentions. The results of the study confirm the hypothesis of the authors. Perceiving COVID-19 as an opportunity has been found to have a positive effect on entrepreneurial intentions, while perceiving COVID-19 as a threat has a negative effect. The authors suggest that this is because entrepreneurs who view COVID-19 as an opportunity are more likely to be innovative and proactive in seeking out new business ideas and opportunities arising from the pandemic.

A study by Seah (2021) also looked at the impact of COVID-19 on the perception of entrepreneurship as an opportunity and its effect on exiting entrepreneurship. The study analyzed data before and after lockdown periods in Singapore and Malaysia. The results of the study showed that COVID-19 did not significantly affect people's attitudes towards opportunity-driven entrepreneurship. However, the study found that people who perceived COVID-19 as an opportunity were more likely to leave their current business and start a new one.

**H3:** *Perception of COVID-19 is negatively associated with the likelihood of entrepreneurial exit during crisis times.*

### Moderation effect

In 2021, Loan et al. (2021) conducted a study that showed that fear and anxiety due to the Covid-19 pandemic have an impact on entrepreneurial behavior, i.e. entrepreneurial self-efficacy and intentions. Other researchers such as Hernandez Sanchez et al. (2020) have found that the perception of the Covid-19 pandemic is negatively associated with entrepreneurial intentions. That is why the correct policy of the state during the COVID-19 pandemic is very important in order to effectively help entrepreneurs and enable them to continue their business and look for new opportunities (Nasar, A. et al., 2021). Nasar A., Akram, M., Safdar, M. R., & Akbar, M. S. (2021) noted that all entrepreneurs surveyed in their research were expecting government incentives and packages, such as tax breaks or interest-free loans, to support their business.

In the research by Croteau, M., Grant, K. A., Rojas, C., & Abdelhamid, H. (2021) was mentioned a statement of Siri Agrell, Executive Director of OneElelven, an incubator that is home to 55 companies that use over 1,200 people: “In March, our companies laid off 33 people. In the first nine days of April, there have been 40 layoffs. Companies do not have time to wait for government support”. This means that the government of Canada has been developing, agreeing and implementing measures to support the economy during the covid period for a very long time, which is why there have been so many layoffs in the OneElelven incubator. That is why it is so important not only to develop appropriate support measures for certain groups of the population, but also to do it in a timely manner. Croteau M. et al mentioned that government should reduce

the implementation time lag, otherwise, it will be too late to support the most under-resourced companies such as early-stage start-ups. Also in this research was mentioned that the current Canadian government programs aimed at entrepreneurs and investors continue to have a narrow focus primarily on the needs of later-stage startups, rather than addressing the specific requirements of early-stage startups and it is necessary to extend their “runway”, beyond helping them manage the cost of their employees.

Another study by Belitski, M., Guenther, C., Kritikos, A. S., & Thurik, R. (2021) analyzes data from the Global Entrepreneurship Monitor (GEM) survey to examine the impact of the COVID-19 pandemic on entrepreneurship and small businesses. The findings suggest that the pandemic has significantly reduced entrepreneurial activity and business confidence, while increasing financial constraints and uncertainty for small businesses. The study identifies that assessment of government policy may influence the ability of entrepreneurs and small businesses to adapt to a crisis.

According to a UNESCAP study (2021), the COVID-19 pandemic has had a significant impact on women entrepreneurs in Bangladesh. The study examines the various challenges that women entrepreneurs face, including declining demand for their products, limited access to finance, and supply chain disruptions. One noteworthy finding of the study is the role of personal evaluation of public policy in influencing business exit. The study found that female entrepreneurs who viewed government policies negatively during the pandemic were more likely to leave their businesses compared to those who viewed them positively. It is necessary to analyze the moderation effect from the variable called Assessment of government policy during crisis times. In this context, a personal assessment of state policy by an entrepreneur during covid plays a significant role. For instance, if an entrepreneur assesses government policy during the COVID-19 period as ineffective, then most likely he is more likely to exit the business even despite personal faith in self-efficacy, since the cost of business survival if he does not exit entrepreneurship is very high (perhaps the potential losses will be disproportionately greater compared even with long-term benefits from decision to leave the business). Based on previous studies and the above assumption, the following hypothesis will be formulated:

**H4.1:** *Negative personal assessment of government policy during crisis times negatively moderates the association between perceived self-efficacy and the likelihood of entrepreneurial exit during crisis time.*

**H4.2:** *Negative personal assessment of government policy during crisis times positively moderates the association between fear of failure and the likelihood of entrepreneurial exit during crisis time.*

**H4.3:** *Negative personal assessment of government policy during crisis times negatively moderates the association between perception of COVID-19 and entrepreneurial exit during crisis time.*

## Control variables

### Age

In the existing literature, there are already studies that talk about the relationship of age and business exit. A study by McCann, P., & Ortega-Argilés, R. (2015) suggests that older entrepreneurs are more likely to leave a business earlier than younger entrepreneurs. The study also found that this relationship was influenced by factors such as industry type and business size. The same conclusion was made by other scientists De Clercq, D., & Soriano, D. R. (2014) in their study, namely that entrepreneurs are more likely to leave their business with age, and that this relationship is regulated by factors such as firm size and industry type. An analysis of the exit patterns of small business owner-managers in the UK was also conducted by Storey, D. (1994) and found that the likelihood of exit increases with age (factors such as the size and efficiency of the business influenced the choice of exit strategy).

Dimov, D. (2019) made a special contribution to the development of the topic of the influence of age on exit from entrepreneurship in his study, which revealed that while age is not a significant predictor of entrepreneurial intention, it does have a negative effect on the likelihood of entrepreneurial action, which could ultimately impact entrepreneurial exit.

In the article by Parker, S. C., & Praag, M. (2020) authors does not specifically focus on the influence of age on entrepreneurial exit, it suggests that older entrepreneurs have a positive impact on the longevity of their businesses and industries. This implies that older entrepreneurs may be less likely to exit their businesses because they bring valuable experience and knowledge that can help their businesses survive and succeed over the long term. However, the article does not provide direct evidence on the relationship between age and entrepreneurial exit.

According to the study by Henttonen, K., Solitander, N., & Kibler, E. (2021), age has a significant influence on entrepreneurial exit. The research findings suggest that younger founders are more likely to exit their businesses, while older founders tend to stay longer in their ventures. This is because younger entrepreneurs tend to take more risks and pursue new opportunities, which can lead to higher rates of failure and exit. On the other hand, older entrepreneurs tend to have more experience and knowledge, which can help them navigate challenges and sustain their businesses over time.

Based on the analysis of existing literature, it can be said that the behavior of young and old entrepreneurs when exiting a business has differences. For example, a study by

Sarasvathy, S. D., Dew, N., & Read, S. (2005) states that older entrepreneurs are more likely to leave their businesses for personal reasons, while younger entrepreneurs are more likely to leave for business-related reasons. Another study also found that older entrepreneurs were more likely to use less risky exit strategies, such as selling or transferring ownership, while younger entrepreneurs were more likely to use riskier exit strategies, such as bankruptcy or liquidation (Arlen, J., & Carney, W. J. (1992)).

### Gender

Studies suggest that gender can have an impact on the decision to exit a business, as well as the strategies used in the exit process. Furthermore, it is worth noting that some of these studies also suggest that gender differences in entrepreneurial exit may be related to differences in access to financial and human capital. According to a study by Brush et al. (2006), financial constraints and personal reasons (like family obligations) are more likely to cause women small business owners in the United States to exit their businesses, whereas strategic reasons are more likely to lead men to exit. This indicates that gender can have an impact on both the decision to exit a business and the strategies used during the exit process. In a study by Malin Brännback and Alan L. Carsrud (2016), the authors examine the disparity in exit rates between male and female entrepreneurs in Sweden. The study concludes that women are more inclined to exit due to personal reasons, such as family obligations, while men are more prone to exit due to financial causes.

Overall, the research on gender and entrepreneurial exit highlights the need for a more nuanced understanding of the complex factors that influence this process. Efforts to reduce gender-based discrimination and bias in the entrepreneurial ecosystem may also be necessary to create a more level playing field for all entrepreneurs.

### Education

There are studies that suggest that education can have a significant influence on entrepreneurial exit, success, and intentions, but the nature of the relationship may depend on factors such as industry sector, work experience, number of children and other factors. For instance, there are such researchers as Franco, M., Lima, F., & Moreira, M. (2018) who examines the role of education and experience in shaping entrepreneurial intentions and exit in Portugal. they find that higher levels of education decrease the likelihood of exit in some sectors (e.g., manufacturing) but not in others (e.g., services). The authors Davidsson, P., & Delmar, F. (2014) also wrote about the influence of the level of education on entrepreneurial output. In their work, they found that education has a positive effect on survival for some types of businesses but not for others. It is interesting that there is a research states that higher levels of education decrease the

likelihood of exit, but only for entrepreneurs who do not have children, and for entrepreneurs with children, education does not have a significant impact on exit (Joern Block and Philipp Sandner (2018)). Another conclusion about that higher levels of education and work experience decrease the probability of exit, while self-employment experience increases the probability of exit was made by Robert Fairlie and Javier Miranda (2018). The authors came to this conclusion by examining entrepreneurs in the United States.

The study by Kuckertz, A., & Berger, A. (2016) uses data from a longitudinal study of 277 entrepreneurs who started a business in Germany between 2007 and 2009. The authors find that entrepreneurship education has a positive impact on entrepreneurial exit, as measured by successful exit (i.e., selling the business or passing it on to a family member) and failure (i.e., bankruptcy or closure). Specifically, the study shows that entrepreneurs who received entrepreneurship education were more likely to achieve successful exit and less likely to experience failure compared to those who did not receive such education.

Using data from a survey of 2,542 entrepreneurs in Denmark, the authors Schøtt, T., & van Praag, M. (2014) find that entrepreneurship education has a positive impact on entrepreneurial exit intentions. The study shows that entrepreneurs who received entrepreneurship education were more likely to intend to exit their business in the near future compared to those who did not receive such education. The study also suggests that the impact of entrepreneurship education on entrepreneurial exit intentions is mediated by the development of entrepreneurial knowledge and skills.

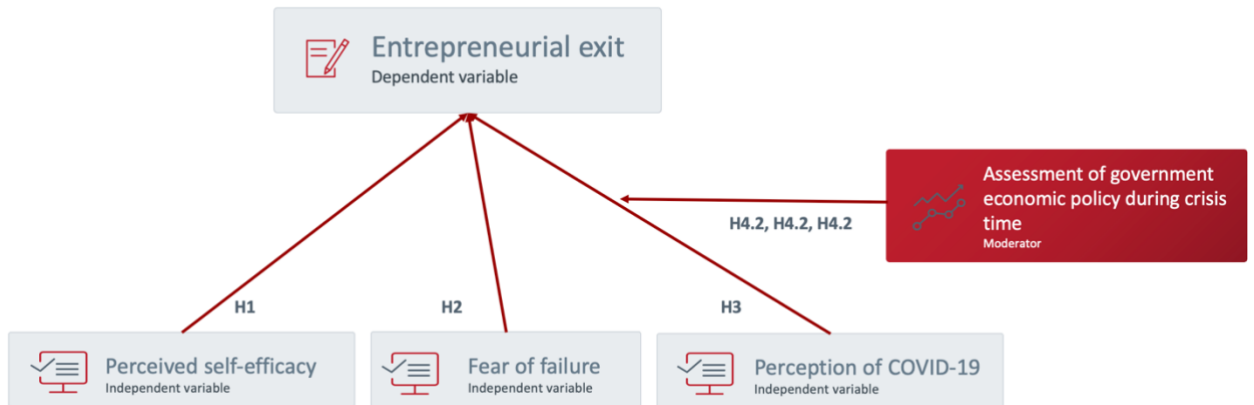
Finally, there is a list of hypotheses:

Hypotheses
<b>H1:</b> <i>Perceived self-efficacy of the entrepreneur is negatively associated with the likelihood of exit during crisis times.</i>
<b>H2:</b> <i>Fear of failure is positively associated with the likelihood of entrepreneurial exit during crisis times.</i>
<b>H3:</b> <i>Perception of COVID-19 is negatively associated with the likelihood of entrepreneurial exit during crisis times.</i>
<b>H4.1:</b> <i>Negative personal assessment of government policy during crisis times negatively moderates the association between perceived self-efficacy and the likelihood of entrepreneurial exit during crisis time.</i>
<b>H4.2:</b> <i>Negative personal assessment of government policy during crisis times positively moderates the association between fear of failure and the likelihood of entrepreneurial exit during crisis time.</i>

**H4.3:** *Negative personal assessment of government policy during crisis times negatively moderates the association between perception of COVID-19 and entrepreneurial exit during crisis time.*

Table 1. List of research hypotheses.

Based on the stated list of hypotheses, the theoretical framework can be presented in following way:



Picture 3. Theoretical model of the research.

## CHAPTER 2. RESEARCH DESIGN AND METHODOLOGY

### Research strategy

This research paper is based on data from the Global Entrepreneurship Monitor (GEM), one of the most comprehensive and descriptive studies of entrepreneurship. GEM covers data from over 100 economies over a number of years. The project began in 1999 as a collaboration between Babson College (USA) and London Business School (UK) with the aim of understanding why some countries are more "entrepreneurial" than others. The main objective of the project is to estimate various entrepreneurship indicators, such as total entrepreneurial activity and willingness to start a new venture, as well as to measure the main characteristics of economies that may influence the development of entrepreneurship in a country.

GEM data can be divided into two parts: the Adult Population Survey (APS) and the National Expert Survey (NES). As part of this study, the GEM APS 2020 dataset was chosen, as it contains information about individuals who plan/became/finished being entrepreneurs, as well as studying the perception of the population of the conditions, opportunities and obstacles for starting a business in their country of residence, as well as the reasons for closing a business and other useful information.

This study will rely on quantitative analysis. According to Muijs (2010), quantitative research involves explaining phenomena by collecting numerical data and analyzing it using mathematically based methods, especially statistics. Since the main objective of this paper is to identify the factors that affect entrepreneurial exit, regression analysis will be employed as the primary statistical method. In this study, a quantitative research approach will be used for several reasons. First, the use of a quantitative research approach will allow comparison with the results of previous studies, as they used similar methods, contributing to a better understanding of the factors influencing exit from entrepreneurship. Also, quantitative methods of analysis allow the systematic collection and analysis of data, providing a structured and objective means of exploring research questions and hypotheses. Thus, the results obtained can then be analyzed over several years over time and will facilitate the identification of patterns and associations between variables.

For this research, there will be used 3 software tools: IBM SPSS, RStudio and Stata 13. Both packages IBM SPSS and Stata 13 offer similar sets of functions for statistical analysis. However, SPSS is known for being more user-friendly when it comes to data description, while Stata offers more opportunities for building and analyzing logistics regressions. RStudio in this research is used for data transformation. Taking these factors into consideration, there will be used



RStudio for data transformation, SPSS for looking at descriptive statistics of the variables, and Stata for the primary statistical analysis.

## Methodology

In this study, logistic regression (a type of multiple regression) will be used since we need to examine the dependent variable of entrepreneurial exit, which is binary (taking values of either 0 or 1). Another reason for choosing the logistic model is its ability to incorporate both quantitative and qualitative (categorical) independent predictors. This model can then be used to derive odds ratio estimates for each factor.

Based on the formula of all regression models expressed in the following form:

$$y = F(x_1, x_2, \dots, x_n)$$

It can be built formula of multiple regression, in which it is commonly assumed that the dependent variable is a linear function of the independent variables. Thus,

$$y = b_0 + b_1x_1 + b_2x_2 + \dots + b_nx_n, \text{ or}$$

$$\text{logit} = b_0 + b_1x_1 + b_2x_2 + \dots + b_nx_n$$

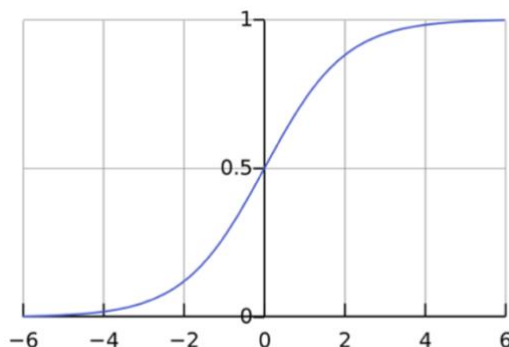
However, instead of predicting a binary variable, the aim is to predict a continuous variable with values in the interval [0,1] for any values of the independent variables (forecast a specific probability for each individual observation). To achieve this, a logistic transformation of the regression equation is necessary:

$$p = 1 / (1 + e^{-y}), \text{ or}$$

$$p = 1 / (1 + e^{-\text{logit}}),$$

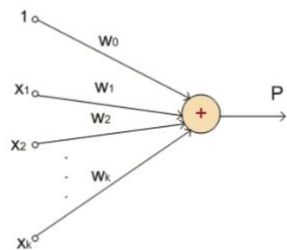
- where  $p$  is the probability of the binary outcome being a success,  $e$  is the exponential function (the base of natural logarithms) which equals approximately 2.71... (Euler's number), and  $y$  is the standard regression equation ( $y = b_0 + b_1x_1 + b_2x_2 + \dots + b_nx_n$ ).

The graph of regression is presented below (pic. 4).  $p$  takes values in the range from 0 to 1 inclusive.



Picture 4. Graph of regression equation.

In general, logistic regression can be represented as a single-layer neural network (pic. 5) with a sigmoid activation function, the weights of which are the logistic regression coefficients, and the polarization weight is the regression equation constant.



Picture 5. The simplest neural network.

## Data description

Initial dataset of GEM APS 2020 consists of 141403 respondents and 469 variables. However, before analyzing the reasons for leaving the business, it was necessary to take only those respondents who are or were entrepreneurs. The selection of such respondents was made using variables such as TEAYY (involved in Total early-stage Entrepreneurial Activity) and ESTBBUSO (established entrepreneurs which manage or own business more than 42 month). After the entrepreneurs were sorted out, those respondents who, when asked about the reasons for leaving the business, answered “I don’t know”, “Other” were also removed from the observations. Then all respondents with answers “I don’t know” on the other questions or with missing values also were removed from the observations. Total, after cleaning the dataset remained 11323 respondent and 14 variables.

Dependent variable. Before describing independent and dependent variable, it should be noted that the dependent variable *exreason* was recoded. The variable *exreason* has been recoded into a new variable *outcome* that contains the values 0 - non-exit from the entrepreneurship, 1 – exit from the entrepreneurship.

Variable	Which question/statement in original dataset	Type of variable	Data source
Entrepreneurial exit	What is the main reason you sold, closed, suspended, or abandoned the business you owned and operated?	Dependent	GEM APS
Fear of Failure	You will not start a business because you are afraid of failure.	Independent	GEM APS

Perceived self-efficacy	You have the knowledge, qualifications and experience needed to start a new business.	Independent	GEM APS
Perception of COVID	The coronavirus pandemic has provided new opportunities that you want to implement in this business.	Independent	GEM APS
Age	How old are you?	Control	GEM APS
Gender	Gender of respondent	Control	GEM APS
Higher education	What is your education (the highest level of education you received)?	Control	GEM APS
Size of family	How many people live with you, including you and all children?	Control	GEM APS
Social capital	How many people do you personally know who started their own business or became self-employed in the last 2 years? None, one, few or many?	Control	GEM APS
Status of entrepreneur	TEA/Established	Control	GEM APS
Assessment of government economic policy during COVID time	In the country, the government has responded effectively to the economic impact of the coronavirus pandemic.	Moderator	GEM APS
Income of country	Country of the respondent has low/middle/high level of income.	Control	GEM APS

*Table 2. Description and sources of variables.*

Variable	Name in original dataset	Name after data transformation	Description
Entrepreneurial exit	exreason	Outcome	0 means no exit, 1 means exit
Fear of Failure	fearfaill	fearfaill	1-5 Likert scale
Perceived self-efficacy	suskilll	suskilll	1-5 Likert scale
Perception of COVID	omcrnewopp	omcrnewopp	1-5 Likert scale
Age	age	age	
Gender	gender	Gender	0 – man, 1 - woman

Higher education	Uneduc97	Degree_dum	0 means “Do not have higher education”, 1 means “have higher education”
Size of family	hhsiz	hhsiz	The number of family the person live with
Social capital	knowentr	knowentr	The number of entrepreneurs the person know personally
Status of entrepreneur	Tea/estbbus	status	0 – tea, 1- established
Assessment of government economic policy during COVID time	SUCPGOVRES, OMCRGOVRES	govres_dum	0 – good, 1 – bad
Income of country	wbincrev	income	1-5 Likert scale

Table 3. Description of variables before and after data transformation.

The descriptive statistics for all variables which will be in the final model are presented below.

Variable	Number of observations	Mean	Std. Dev.	Min	Max
Outcome	22262	.0978798	.2971587	0	1
Age	22218	41.33923	13.06468	18	90
gender	22921	.40849	.4915653	0	1
Degree_dum	22545	.1950765	.3962684	0	1
hhsiz	22417	3.828434	2.172624	0	89
suskill	22721	4.222525	1.108365	1	5
fearfail	22545	2.663473	1.555454	1	5
knowentr	22592	1.531427	1.115397	0	3
Omcnewopp	13691	2.254547	1.468637	1	5
Status	22921	.3863269	.4869176	0	1
Govres_dum	20042	.4388285	.4962563	0	1

Table 4. Descriptive statistics

Dependent variable outcome consists of 9,7% of entrepreneurs who exited entrepreneurship and 90,3% entrepreneurs who are in entrepreneurship.

Age of the respondents in years (variable *age*). The minimum age of the respondents is 18, the maximum is 90. Mean age of the respondents is 41 years old. The earliest age of the entrepreneurs is 18 age and the oldest is 90.

Gender (variable *gender*), man or woman, of the respondents where 1 means male and 2 means female. The sample consists of 40,8% of women and 59,2% of men.

Fear of failure (variable *fearfail*). In particular, this variable shows the answer from 1 to 5 (where 1 is totally disagree and 5 is totally agree) of respondents on the statement “You will not start a business because you are afraid of failure”. The most popular answer about entrepreneur does not afraid of failure was done by 34,3% of all respondents.

The presence of Higher education of the entrepreneur (variable *degree*). The classification was 0 – does not have the higher education, 1 – has the higher education. Only 19,5% of all respondents said that they have higher education.

Perceived self-efficacy (variable *suskill*). In particular, this variable shows the answers from 1 to 5 (where 1 is totally disagree and 5 is totally agree) of respondents on the question “You personally have the knowledge, skill and experience required to start a new business?”. More than a half of all amount of respondents (54%) said that they totally confident in their abilities, knowledge and experience to open their own business.

Perception of COVID (variable *omcrnewopp*). In particular, this variable shows the answers from 1 to 5 (where 1 is totally disagree and 5 is totally agree) of respondents on the statement “The coronavirus pandemic has provided new opportunities that you want to implement in this business”. 65% of respondents do not agree with this statement and consider that there is no opportunities provided by COVID-19.

Status (TEA / established) of the respondents (variable *status*) shows 0 if entrepreneur is TEA and 1 if entrepreneur is established.

Size of the family of the respondents (variable *hhsiz*). In particular, this variable shows the answers of respondents on the question “How many people live with you, including you and all children?”. Assessment of government economic policy during COVID time by entrepreneur (variable *govres\_dum*). 0 was coded as answer “effective” and 1 was coded for “ineffective”.

Income of the country of entrepreneur (variable *income*). Variable was recoded into 3 categories: 1 - “Countries with low income”, 2 - “Countries with middle income” and 3 - “Countries with high income”.

Baseline category – no exit. Significance level is 5%.

## Running model

The table below shows the results of logistic regression with the respondent from countries where income of the country is middle or high. As it can be seen from the table, model is significant, because the p-value equals 0,000 (<0,05). Pseudo R2 reflects the percentage (proportion) of improvement and fit over a null model. The null hypothesis is that the regression coefficients are zero.

The coefficients in this model show the ratio of the probabilities that an event will occur compared to the probability that another event will occur, assuming that the two events are mutually exclusive. Confidence intervals in this model are normal for almost all coefficients, since the value 0 does not fall into them.

Logistic regression		Number of obs	=	11,281	
Log likelihood = -2625.7383		LR chi2 (14)	=	194.79	
		Prob > chi2	=	0.0000	
		Pseudo R2	=	0.0358	
outcome	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
age	-.0398717	.0173417	-2.30	0.021	-.0738609 -.0058826
c.age#c.age	.0004877	.0001939	2.52	0.012	.0001077 .0008677
2.gender	.0664349	.0785713	0.85	0.398	-.087562 .2204317
1.degree_dum	-.4562296	.1394124	-3.27	0.001	-.7294729 -.1829863
hhsiz	.0423667	.0148057	2.86	0.004	.013348 .0713854
suskil11	.1395743	.0523031	2.67	0.008	.0370621 .2420865
fearfaill	.1725456	.0426619	4.04	0.000	.0889298 .2561614
knowentr	.255471	.0362971	7.04	0.000	.18433 .326612
omcrnewopp	-.104218	.0381482	-2.73	0.006	-.1789871 -.029449
2.status	-.6779298	.081781	-8.29	0.000	-.8382176 -.5176419
govres_dum	.68582	.3929148	1.75	0.081	-.0842789 1.455919
c.govres_dum#c.fearfaill	-.0694611	.0503837	-1.38	0.168	-.1682113 .0292892
c.govres_dum#c.suskil11	-.18855	.0745653	-2.53	0.011	-.3346953 -.0424046
c.govres_dum#c.omcrnewopp	.1433822	.0525465	2.73	0.006	.040393 .2463715
_cons	-2.925834	.4673477	-6.26	0.000	-3.841818 -2.009849

Table 5. The result of binary logit model with coefficients.

Likelihood ratio equals 194.79, p-value equals 0.00, pseudo R-squared equals 0.0358. These parameters show that the overall model is statistically significant.

*Perceived self-efficacy* is a factor that has influence on the probability of the entrepreneurial exit (p-value is 0,008) and it can be stated that for every one unit increase on perceived self-efficacy the predicted logit increases by 0.139. Generally speaking, the perceived self-efficacy predictor has positive association with the dependent variable (the coefficient is 0.139) which means that entrepreneurs who scoring highly on perceived self-efficacy are more likely to exit entrepreneurship than the entrepreneurs who scoring lower on perceived self-efficacy. In the case

where assessment of government policy during COVID-19 times is considered as moderator on the relationship between dependent and independent variables, the moderator has significant influence on the relationship between perceived self-efficacy and entrepreneur exit (p-value equals 0.011). The moderator weakens the association between the independent and dependent variables.

*Fear of failure* is a factor that has influence on the probability of the entrepreneurial exit (p-value is 0,000) and has positive association with the dependent variable. In case of being more precise in the description of this kind of results, the interpretation should be: for every one unit increase on fear of failure the predicted logit increases by 0.173. Generally speaking, the fear of failure predictor has positive association with the dependent variable which means that entrepreneurs who scoring highly on fear of failure are more likely to exit entrepreneurship than the entrepreneurs who scoring lower on fear of failure. In case of implementing moderator, there is no significant moderation effect on the relationship between fear of failure and the probability of exit (because of p-value is 0.168).

*Perception of COVID* is a factor that has influence on the probability of the entrepreneurial exit (p-value is 0,006) and has negative association with the dependent variable (the coefficient is -0.104). In other words, entrepreneurs who scoring better the perception of COVID (more as an opportunity) are less likely to exit entrepreneurship than the entrepreneurs who scoring worse the perception of COVID (more as threat). For every one unit increase on perception of COVID the predicted logit decreased by 0.104. In the case where assessment of government policy during COVID times is considered as moderator on the relationship between dependent and independent variables, the moderator has significant influence on the impact of perception of COVID on the entrepreneur exit (p-value equals 0,006). The moderator strengthens the relationship between the independent and dependent variables.

*Assessment of government economic policy during COVID times* is not a factor that directly influence on the probability of the entrepreneurial exit (it has p-value equals 0.081), but it causes moderation effect between two independent variables and probability of exit.

Moreover, it should be mentioned that some control variables are not significant. For instance, age is not a factor that directly influence on the probability of the entrepreneurial exit (it has p-value equals 0.21 and can be significant at 10% level of significance) during crisis times. Gender is another control variable that does not directly influence on the probability of the entrepreneurial exit (p-value is 0.398). Other control variables as the presence of higher education (p-value is 0.001), size of the family (p-value is 0,000), status of the entrepreneur (p-value is 0,000) are significant and positively associated with the dependent variable – entrepreneur exit.

This model can be also assessed with a Hosmer-Lemeshow goodness of fit test. The Hosmer-Lemeshow test (HL test) is a goodness of fit test for logistic regressions. A goodness of fit test identifies how well data fits the chosen model. (Hosmer D. W. et al, 2013.)

```

number of observations =      11281
number of groups =         10
Hosmer-Lemeshow chi2(8) =       4.45
Prob > chi2 =              0.8144

```

Picture 6. The result of Hosmer-Lemeshow goodness of fit test.

Based on this output it can be concluded that the model is acceptable fitting. Moreover, the classification table can be used for better analyzing the model fitting (look at Limitation chapter).

However, for more accurate interpretation of the coefficients there is better to look at odds ratios in the same model. The odds ratio is a measure of the association between exposure and outcome and represents the probability that an outcome will occur with a given exposure, compared with the odds that the outcome will occur in the absence of that exposure (Szumilas M., 2010).

```

Logistic regression
Number of obs      =      11,281
LR chi2(14)        =      194.79
Prob > chi2        =      0.0000
Pseudo R2         =      0.0358
Log likelihood = -2625.7383

```

outcome	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]
age	.9609127	.0166639	-2.30	0.021	.9288009 .9941347
c.age#c.age	1.000488	.000194	2.52	0.012	1.000108 1.000868
2.gender	1.068691	.0839684	0.85	0.398	.9161621 1.246615
1.degree_dum	.6336683	.0883412	-3.27	0.001	.4821631 .8327796
hhsize	1.043277	.0154465	2.86	0.004	1.013438 1.073995
suskilll	1.149784	.0601373	2.67	0.008	1.037757 1.273904
fearfaill	1.188326	.0506962	4.04	0.000	1.093004 1.291961
knowentr	1.29107	.0468621	7.04	0.000	1.202413 1.386264
omcrnewopp	.9010288	.0343726	-2.73	0.006	.8361167 .9709804
2.status	.5076669	.0415175	-8.29	0.000	.4324807 .5959241
govres_dum	1.985399	.7800928	1.75	0.081	.9191749 4.288423
c.govres_dum#c.fearfaill	.9328965	.0470028	-1.38	0.168	.8451752 1.029722
c.govres_dum#c.suskilll	.8281591	.061752	-2.53	0.011	.7155561 .9584819
c.govres_dum#c.omcrnewopp	1.154171	.0606476	2.73	0.006	1.04122 1.279375
_cons	.05362	.0250592	-6.26	0.000	.0214546 .1340089

Table 6. The result of binary logit model with coefficients.

If the odds are greater than 1, it indicates that the exit event is more likely and the opposite, if the odds are less than 1, the exit is less likely. Based on the this relationship and on the numbers results of binary logit model which is above it can be stated that:



- Odds ratio for perceived self-efficacy predictor equals 1.149 and it means that for every one unit increase on perceived self-efficacy the predicted odds of an entrepreneur exit are multiplied by a factor of 1.149. This number is greater than 1, that means that the odds are increasing. Assessment of government policy has impact on the relationship between perceived self-efficacy and entrepreneurial exit and the odds are decreasing. For every one unit increase on the perception of COVID-19 predictor, the odds are multiplied by 0.828.
- Looking at odds ratios, it should be interpreted that, for instance, odds ratio equals 1.188 for fear of failure variable and it means that for every one unit increase on fear of failure the predicted odds of an entrepreneur non-exit are multiplied by a factor of 1.188. Because this number is greater than 1, that means that the odds are increasing. Moderator effect on the relationship between fear of failure parameter and entrepreneurial exit is not significant due to the fact that 1 is included in its 95% confidence interval.
- Regarding odds ratio of COVID-19 predictor, it should be mentioned that it equals 0.901, it means that for every one unit increase on the perception of COVID-19 predictor, the odds are multiplied by 0.901 and because this number is less than 1, the odds of passing are decreasing. Assessment of government policy has impact on the relationship between perception of COVID-19 and entrepreneurial exit and the odds are increasing. For every one unit increase on the perception of COVID-19 predictor, the odds are multiplied by 1.154.

Based on the findings above, the hypotheses table was updated:

Hypotheses	
<b>H1:</b> <i>Perceived self-efficacy of the entrepreneur is negatively associated with the likelihood of exit during crisis times.</i>	<b>Rejected</b>
<b>H2:</b> <i>Fear of failure is positively associated with the likelihood of entrepreneurial exit during crisis times.</i>	<b>Accepted</b>
<b>H3:</b> <i>Perception of COVID-19 is negatively associated with the likelihood of entrepreneurial exit during crisis times.</i>	<b>Accepted</b>
<b>H4.1:</b> <i>Negative personal assessment of government policy during crisis times negatively moderates the association between perceived self-efficacy and the likelihood of entrepreneurial exit during crisis time.</i>	<b>Accepted</b>
<b>H4.2:</b> <i>Negative personal assessment of government policy during crisis times positively moderates the association between fear of failure and the likelihood of entrepreneurial exit during crisis time.</i>	<b>Not supported</b>

<p><b>H4.3:</b> <i>Negative personal assessment of government policy during crisis times negatively moderates the association between perception of COVID-19 and entrepreneurial exit during crisis time.</i></p>	<p><b>Rejected</b></p>
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*Table 7. Hypotheses with results.*

## CHAPTER 3. RESULTS

### Discussion of the results

#### Expected results

The Hypothesis 2 regarding the relationship between fear of failure and entrepreneurial exit has been confirmed. It means that the higher the level of fear of failure, the more likely an individual is to leave the business during times of crisis. This finding is logical since individuals who acknowledge their fear of taking risks and experiencing losses are inclined to promptly close their businesses during unstable periods, such as the COVID-19 pandemic. The pandemic has significantly altered people's lives and rendered certain business sectors completely incapacitated for a period of time. Risk-averse individuals, characterized by apprehension regarding the potential failure of their businesses, seek to safeguard themselves by avoiding exposure to such conditions and ultimately exiting the business. On the other hand, another group of entrepreneurs who exhibit a calmer attitude towards risks and potential losses are less likely to abandon their businesses.

The Hypothesis 3.1 regarding the negative association between perception of COVID-19 and the probability of entrepreneurial exit has been confirmed. This indicates that the better the perception of COVID-19 (viewing it more as an opportunity rather than a threat), the lower the probability of exiting. Conversely, individuals who perceive COVID-19 primarily as a threat rather than an opportunity for their businesses are more likely to exit. This can be logically explained by the fact that perceiving the pandemic as a threat places individuals in a state of uncertainty, increases anxiety levels, and, according to this group of entrepreneurs, poses a significant risk of deteriorating economic conditions for business viability. Consequently, they make the decision to exit entrepreneurship. On the other hand, entrepreneurs who have a more positive outlook on the pandemic within the context of their business operations and identify potential opportunities during this challenging time are more likely to remain in entrepreneurship. They seek to seize these opportunities, especially considering that a significant percentage of competitors may withdraw, presenting an opportune moment to occupy niche markets and leadership positions while further developing their businesses.

Regarding Hypothesis 4.1, upon obtaining the regression results, it was found that indeed the Negative personal assessment of government policy during crisis times negatively moderates the association between perceived self-efficacy and entrepreneurial exit. This outcome can be justified by the fact that entrepreneurs with a high level of perceived self-efficacy, who assessed the government's economic policy during the pandemic as ineffective, are less likely to exit the business. They perceive the conditions for re-entry as challenging, given the country's unstable economy. Instead, they prefer to concentrate their efforts on the survival of their companies since

they believe they possess the skills, knowledge, and experience to navigate the situation, alter their business development strategies, explore new avenues of sales and implementation, reduce costs, and so forth. Conversely, entrepreneurs with a low level of perceived self-efficacy, who assessed the government's economic policy during the pandemic as ineffective, are more likely to exit their businesses. They do not consider themselves competent enough to sustain their companies at the required level during the pandemic.

### Unexpected results

Regarding Hypothesis 1, after conducting the regression analysis and obtaining the results, it was revealed that perceived self-efficacy and entrepreneurial exit are positively related. In other words, a higher level of perceived self-efficacy increases the likelihood of exiting the business during a crisis. The obtained results are in contrary to the previous studies by Drnovšek, M. and Glas, M. (2002), Lee, J. K., & Weaver, K. M. (2014), Harrison, R. T., Mason, C. M., & Muñoz, P. (2019) that may be due to the several reasons. The first reason can be that the hypothesis was formulated based on literature from previous years regarding the relationship between perceived self-efficacy and entrepreneurial exit. However, these studies utilized data from periods without a crisis or the COVID-19 pandemic. Therefore, it is understandable that the presence of such a significant environmental factor as a pandemic influenced the relationship between perceived self-efficacy and entrepreneurial exit. Another reason for the reversed relationship compared to the anticipated outcome is that this study did not account for the reasons for entrepreneurial exit and the specific industry of the current company. Consequently, it is possible that individuals with a higher level of perceived self-efficacy were more likely to exit the business in order to establish a new venture. Since according to several studies, the industry most affected by COVID-19 is tourism (Nasar A. et al (2021), Robert W. Fairley's (2020)) as hospitality, retail, hair care and aesthetic services, and arts (Etemad H., 2020). It can be that individuals who owned tourism-related businesses recognized the lack of prospects during the crisis and chose to exit their current business with the belief that they could replicate or multiply their past success after a year or two when the pandemic subsided (to avoid heavy losses) or that they could seize emerging opportunities by opening a successful business in a different sector immediately. That is why in subsequent studies it is necessary to analyze the industries of entrepreneurs in order to have an idea of how individual groups of entrepreneurs behave in a particular business industry, as described in Further research section. Conversely, an individual with a lower level of perceived self-efficacy would be less likely to believe in their ability to create a new successful business or replicate their current success. Therefore, they would be less inclined to exit the business during times of crisis to sustain their existing enterprise.

The Hypothesis 4.2 was not supported because the moderator in the form of personal assessment of government policy during crisis times was found to be insignificant. The combination of fear of failure and personal assessment of government economic policy during crisis times is not a possible factor influencing the likelihood of entrepreneurial exit. Perhaps this outcome can be attributed to the fact that personal evaluation of the effectiveness of the government's economic policy during a crisis is not as crucial in conjunction with the fear of failure factor when entrepreneurs make decisions about exiting. Furthermore, it can be observed that the personal assessment of government policy during crisis times, as a standalone factor, is also insignificant within the framework of the constructed regression.

The Hypothesis 4.3 regarding the influence of the personal assessment of government policy during crisis times on the relationships between perception of COVID-19 and the likelihood of entrepreneurial exit has been rejected. The factor "Assessment of government policy during COVID-19" is significant, but it positively moderates the association between perception of COVID-19 and entrepreneurial exit. Thus, an entrepreneur who perceives COVID-19 as an opportunity but assesses the government's economic policy as ineffective is more likely to exit entrepreneurship. This finding can be justified by the fact that the entrepreneur recognizes opportunities during a crisis but does not consider the government's policy effective enough to sustain the business in the future. Therefore, the decision to exit is made until either the government policy or the crisis situation (pandemic) improves. Simultaneously, an entrepreneur who perceives COVID-19 as a threat but evaluates the government's economic policy as ineffective is less likely to exit entrepreneurship. This could be attributed to the perception that COVID-19 already poses a threat to the existing business, and the government's policy is deemed ineffective. Consequently, uncertainty arises regarding job security, the country's economy, and entrepreneurs opt to remain in their current business to secure a minimal safety net in terms of financial stability and employment.

It is worth noting that the impact of COVID-19 cannot be called unambiguous and linear, so the results of hypotheses cannot always be confirmed. For instance, Robert W. Fairley's (2020) analyzed the impact of the COVID-19 pandemic on entrepreneurship and his first study of small business owners in the United States found significant early losses for small businesses, with 43% of small business owners reporting they would not be able to continue its activities if the pandemic lasts six months. In a second study by Robert W. Fairley, an update appeared that in April 2020, small businesses suffered significant losses in income and employment, however, there was a partial recovery in May 2020 when businesses began to reopen. Thus, at the time of interviewing people, their perceptions had the effect described in this section, and in a few months the relationship may already change. That is why it is important to further explore the topic of the

impact of subjective perceptions on entrepreneurial exit by measuring data over several periods (using panel data), as described in the Further Research section.

## Limitations

One of the main limitations found in this research paper relates to the subjective measurements of entrepreneurial judgments. Various assessments, including the assessment of the state's economic policy during the COVID-19 pandemic, self-efficacy, fear of failure, perceptions of COVID-19, rely on subjective judgments and interpretations. Thus, there is a possibility that respondents may intentionally or unintentionally give ratings that do not fully reflect their true point of view or experience. The use of self-reported indicators and surveys as data collection methods creates an inherent risk of biased or inaccurate responses, which can subsequently undermine the reliability and validity of the data collected. Factors such as the desire to appear better (bolder, riskier, more self-confident), respondents' fatigue, or different interpretations of the evaluation criteria may contribute to potential inaccuracy in the collected data. In addition, subjective assessments can be influenced by individual perceptions, personal biases, or external influences, making it even more difficult to accurately measure these constructs. therefore, it is essential to recognize and address the limitations associated with the subjective nature of the estimates used, ensuring that rigorous methodologies and analytical methods are used to mitigate potential errors and increase the overall reliability of study results.

Another limitation of this study is that this study examines the influence of only one group of factors (subjective perceptions) on exit from entrepreneurship. However, exiting entrepreneurship is a more complex and multifaceted decision-making process. The decision to exit an entrepreneurial activity involves a complex interplay of many different factors, each of which has its own influence. These factors primarily cover a wide range, ranging from financial aspects (such as profitability, cash flow and investment opportunities, as well as competition, fluctuations in demand and industry trends), to the personal motives and aspirations of the entrepreneur (even the mood of the entrepreneur can take place).

## Further research

Within the scope of further delving into the topic of "The Influence of Entrepreneur's Subjective Perceptions on Entrepreneurial Exit Decision: A GEM Data Based Study", it is essential to carefully examine the reasons for entrepreneurial exit resulting from a number of perceptions.

One of possible directions for advancement is to differentiate the causes of entrepreneurial exit into involuntary and voluntary factors. By conducting additional research, it will become evident which factors have led to involuntary exits from entrepreneurship, and where the attention of the government, parties, and entrepreneurial support groups should be directed to provide assistance and reduce the number of entrepreneurs who are forced to exit their businesses.

Another possible development in the current research is a more detailed approach. Categorizing the reasons for entrepreneurial exit (such as family circumstances, retirement, emergence of new opportunities, profitability issues, and others) will provide a clearer understanding of how subjective perceptions (perceived self-efficacy, fear of failure and perception of COVID-19) specifically influence the likelihood of entrepreneurial exit. The GEM data allows for such an investigation as it contains variables that provide the necessary information about the causes of exit. One more suggestion for improve current research is to add the context of each specific country in the framework of the following studies. In this study, a categorical variable is added that groups countries by income level (low, middle, high). Of course, it is better to study the context of each specific country in order to work out in more detail the weak aspects of entrepreneurship during a crisis and give more specific recommendations. It is also desirable that future studies take into account the profile (line of activity) of businesses by industries of the respondents, as this will give a more complete understanding of entrepreneurs in which industries need more attention and more support.

Additionally, regardless of the specific strategy chosen to deepen the research, it is necessary to incorporate the analysis of marginal effects and conduct additional tests and it is strongly advised to conduct further research employing objective and longitudinal data.

In terms of research into the impact of Entrepreneur's subjective perceptions on entrepreneurial exit during crisis time decision beyond GEM Data based analysis, it is worth confirming/expanding the results with in-depth interviews/surveys/focus groups. As a result of the implementation of a qualitative analysis of primary data, it will be possible to obtain a more complete understanding of the real reasons for exiting a business. Moreover, as part of the larger study Entrepreneur's subjective perceptions on entrepreneurial exit, a longitudinal analysis should also be conducted to examine how subjective perceptions of entrepreneurs change over time (over several crises) and how these changes influence exit decisions. This can provide valuable insight into the dynamic nature of views and their impact on business exit.

### Theoretical contribution

This research paper presents several theoretical contributions to the existing body of literature on entrepreneurship and exit decisions.

Firstly, this study enhances our understanding of the intricate relationship between subjective perceptions and the decision to exit a business, particularly in the context of the COVID-19 crisis. By examining subjective perceptions such as perceived self-efficacy, fear of failure, perception of COVID-19 as either a threat or an opportunity, and the assessment of government economic policies, this research sheds light on the psychological and cognitive factors that influence the decision-making processes of entrepreneurs. Consequently, it provides valuable insights into how entrepreneurs' subjective perceptions shape their inclination to discontinue their involvement in entrepreneurial ventures. In addition to the aforementioned contribution, this research paper further advances the theoretical understanding of entrepreneurs' exit decisions by placing emphasis on the significant role of subjective perception as a crucial determinant. Specifically, it underscores the significance of individual perspectives, viewpoints, attitudes, and beliefs in shaping entrepreneurs' decisions to exit their ventures, particularly in the midst of crisis situations. By highlighting the importance of psychological factors alongside external influences, this study adds substantial value to the existing literature on entrepreneurship. It underscores the necessity of considering the interplay between internal cognitive processes and external circumstances when examining the complexities of exit decisions. Thus, this research extends the theoretical framework by emphasizing the comprehensive exploration of subjective perception as a key determinant in entrepreneurs' exit decision-making during times of crisis.

Furthermore, this study makes a significant contribution to the existing literature on entrepreneurial behavior, particularly within the context of business exit decisions during crisis periods. While a substantial body of literature has explored entrepreneurship and exit patterns under normal non-crisis conditions, there exists a notable gap in the literature concerning the examination of entrepreneurial behavior and the interplay between entrepreneurs and the crisis context. As such, this research serves to bridge this gap and enhance understanding of how entrepreneurs navigate and respond to the unique challenges presented during times of crisis. By delving into the intricacies of entrepreneurial decision-making amidst crisis situations, this study sheds light on the nuanced behaviors employed by entrepreneurs in the face of adversity.

In conclusion, this study underscored the paramount importance of appropriate public policies for effectively managing and mitigating the effects of crises on entrepreneurs. The data obtained unequivocally indicate that entrepreneurs' perception of economic measures taken by the state influences their propensity to exit from entrepreneurial activity. Consequently, this study highlights the urgent need for policy makers to tailor policies carefully to meet the specific needs and circumstances of individual business groups. By recognizing the key role of government action and its impact on entrepreneurs' exit decisions, policy makers can actively create an enabling environment that promotes business resilience and continuity during a crisis. In addition, it



highlighted the need for further comprehensive study of the multifaceted factors and nuances that influence entrepreneurs' exit decisions in times of crisis. While this study uncovered noteworthy findings, it serves as a starting point for deeper exploration of the complex dynamics associated with the causes, motivations, and outcomes of entrepreneurs leaving during crises. By delving deeper into the underlying mechanisms and exploring the interplay between subjective perceptions, contextual factors, and exit decisions in more detail, future research may advance our understanding of this complex phenomenon.

### Managerial implication

The results of this study have important managerial implications for policy makers, government officials, and business support agencies involved in promoting entrepreneurship during times of crisis.

First, recognizing the influence of subjective perceptions in deciding to exit a business, policy makers should prioritize efforts to eliminate and shape such perceptions through targeted measures. This requires clear and transparent communication of government policies and initiatives, especially those aimed at mitigating the negative impact of the crisis on business. By instilling a sense of confidence and empowerment in entrepreneurs, policy makers can reduce the likelihood of exiting entrepreneurial ventures. In addition, business support organizations can provide important meaningful assistance to entrepreneurs during times of crisis. For instance, by providing timely and relevant information, resources and advice, they can help entrepreneurs navigate the challenges and uncertainties they face. Support networks, forums, and peer-to-peer learning platforms can also serve as valuable forums for entrepreneurs to share experiences, exchange ideas, and find comfort during difficult times. This is discussed in more detail in the Recommendations.

In addition, policy makers need to tailor their policies and support programs to the specific needs and challenges entrepreneurs face during a crisis. Understanding the various subjective characteristics of entrepreneurs, such as whether they perceive a crisis as a threat or an opportunity, can help develop targeted initiatives. For example, providing entrepreneurs with access to financial resources, training programs and mentoring opportunities to reduce their anxiety and boost their self-esteem can help them perceive the crisis more positively and make them less likely to leave.

### Recommendations

During the process of formulating recommendations, various stakeholder groups were identified.

The main group of stakeholders in this research work is entrepreneurs. In the context of the results obtained, the following recommendations were developed for entrepreneurs:

1. It is imperative to accord due importance to business forums, whether they entail a fee or are available free of charge, to acquire current information and seek guidance from subject matter experts across diverse domains. Moreover, prioritizing networking and fostering collaboration with fellow entrepreneurs is crucial for the purpose of exchanging experiences, sharing knowledge, gaining valuable insights, and extending mutual support (Nasar A. et al, 2021).

2. It is recommended to keep abreast of up-to-date information regarding entrepreneurship and related areas, including logistics, finance, law and other relevant areas. In addition, vigilance for changes in public policy and an understanding of prevailing economic trends, both locally and globally, are essential. By applying this practice, it becomes possible to anticipate certain crises by analyzing similar scenarios in other countries or by synthesizing many concomitant factors.

3. Furthermore, it is advised entrepreneurs to seek assistance from business support organizations in instances where they perceive a deficiency in expertise, knowledge, skills, or confidence required to address specific challenges. Entrepreneurs are also encouraged to engage in periodic participation in relevant training and development programs to enhance their competencies and update their knowledge. By leveraging external resources and investing in continuous learning, entrepreneurs can equip themselves with the necessary tools to overcome obstacles effectively.

4. An additional, more individualized recommendation for entrepreneurs is to cultivate a mindset that avoids excessive enthusiasm and refrains from adopting an overly simplistic perspective. It is vital to foster a proactive and adaptable mindset, enabling the ability to perceive not only threats but also potential opportunities during a crisis. By developing such a mindset, entrepreneurs can navigate challenges with resilience and embrace a broader spectrum of possibilities.

Consequently, the following recommendations have been devised for policymakers and public servants with the aim of enhancing the business environment for entrepreneurs:

1. Disseminate clear and transparent information regarding government policies and initiatives aimed at supporting businesses during times of crisis.

2. Introduce open online presentations/ discussions to elucidate the rationale behind specific government measures implemented during a crisis, addressing the motives and justifications for their implementation, and providing a platform for addressing inquiries.

3. Foster a more favorable evaluation of public policies by entrepreneurs through proactive measures: implementing public conferences where entrepreneurs can pose questions pertaining to the duration of the introduced measures, plans for tightening or easing, and other related matters. By doing so, it is likely to address the prevailing uncertainty that significantly contributes to a negative appraisal of government policies.

4. Also, politicians and legislators in the government need to regularly evaluate the effectiveness of government policies and programs for entrepreneurs (and various segments of the population) to make the necessary adjustments and improvements. In order not to bring the situation to the point of public discontent, negativity and a mass exit from entrepreneurship, it is better to monitor the dynamics of public policy assessment in advance and be able to correct the public assessment.

5. In the case of the prevalence of negative (low) assessment of the effectiveness of public policy, it is possible to introduce special initiatives that will enhance entrepreneurs' perceived self-efficacy and provide resources for skills development and learning, as well as a platform for socialization and networking of entrepreneurs, creating a favorable business environment and a sense of security and confidence (not aloneness) for the entrepreneur (Croteau M. et al, 2021).

The following group of stakeholders refers to federal corporations supporting small and medium-sized businesses:

1. Send entrepreneurs timely updates on new laws/revisions/restrictions, provide resources (for instance, legal) and guidance in times of crisis to help them cope with critical situations.

2. Develop targeted one-to-one mentoring programs to support entrepreneurs in developing coping strategies and build resilience during crises, and to provide professional support for aspiring entrepreneurs.

3. Facilitate (invite experts, provide financial support, promote events, etc.) offline forums and online peer learning platforms where entrepreneurs can share experiences, exchange ideas, concerns and find support. As part of such events, it can be created online chats for entrepreneurs to jointly solve problems, discuss news, share knowledge within the community.

4. Collaborate with politicians and government officials, and designate a representative to communicate with government agencies to communicate the current needs and concerns of entrepreneurs to formulate supportive policies and initiatives.

In relation to recommendations for researchers and academia there is a need for additional research to enhance comprehension of the association between subjective perceptions and exit decisions amidst a crisis (all research recommendations are delineated in section “Further research”).

- Furthermore, it is encouraged that academics and researchers collaborate with policy makers, government business support organizations, and entrepreneurs to facilitate the translation of research findings into practical strategies and policies. By establishing evidence-based connections, targeted interventions can be implemented to deliver appropriate assistance to entrepreneurs.

These recommendations are designed to provide guidance to stakeholders involved in developing entrepreneurship during times of crisis and create an enabling environment that helps entrepreneurs overcome challenges, make informed decisions, and promote economic recovery and growth during times of crisis.

## Conclusion

The present study conducted a comprehensive analysis of existing research on entrepreneurship, with a particular focus on investigating the influence of subjective perceptions on entrepreneurial exit during the COVID-19 pandemic. Through a review of the literature, several subjective perceptions were identified – perceived self-efficacy, fear of failure, perception of COVID-19, that were hypothesized to impact the decision to exit entrepreneurship and tested the moderation effect of assessment of government policy during COVID-19. Leveraging the established theoretical framework and utilizing available GEM data, a regression model was constructed and examined.

The outcomes of the regression analysis were then compared and contrasted with the existing literature, enabling the formulation of recommendations for entrepreneurs, government officials, business support organizations, and researchers. By accomplishing these objectives, this research study successfully achieved its aim of assessing and interpreting the relationship between subjective perceptions of entrepreneurs (including perceived self-efficacy, perception of COVID-19, and fear of failure) and the likelihood of exiting entrepreneurial activities during the COVID-19 crisis with testing moderation effect. Thus, the goal of this research work was achieved: the relationship between the subjective perception of the entrepreneur (as perceived self-efficacy, perception of COVID-19 and fear of failure) and the probability of exiting entrepreneurial activities during COVID-19 was assessed, interpreted and based on the conducted literature

review and studied theoretical frameworks, recommendations were developed for various groups of stakeholders.

The findings emphasize the significance of subjective perceptions in shaping entrepreneurial exit decisions, particularly within the context of the COVID-19 pandemic. These insights can inform the development of targeted interventions, policies, and support programs aimed at facilitating informed decision-making and enhancing resilience among entrepreneurs.

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