Saint Petersburg State University

Graduate School of Management

Master in Management

**The impact of COVID-19 crisis on women's entrepreneurial activity: the evidence from GEM data**

Master Thesis by the 2nd year student

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ЗАЯВЛЕНИЕ О САМОСТОЯТЕЛЬНОМ ХАРАКТЕРЕ ВЫПОЛНЕНИЯ ВЫПУСКНОЙ КВАЛИФИКАЦИОННОЙ РАБОТЫ

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02.06.2022

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I, Oksas Kira, (second) year master student, program «Management», state that my master thesis on the topic «The impact of COVID-19 crisis on women’s entrepreneurial activity: the evidence from GEM data», which is presented to the Master Office to be submitted to the Official Defense Committee for the public defense, does not contain any elements of plagiarism.

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02.06.2022

АННОТАЦИЯ

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| --- | --- |
| Автор | Кира Арвидовна Оксас |
| Название ВКР | «Влияние ковидного кризиса на женскую предпринимательскую активность в России (на примере данных GEM)» |
| Образовательная программа | Менеджмент |
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| Научный руководитель | Верховская Ольга Рафаиловна, к. э. н. |
| Описание цели, задач и основных результатов | Целью данной исследовательской работы является идентификация факторов, влияющих на женскую предпринимательскую активность до и во время ковидного кризиса в России. На основании обзора литературы выявлен пробел в исследованиях и сформулированы и протестированы гипотезы. 5 ключевых выявленных факторов – это возраст, уровень образования, уровень способностей, страх провала и знакомство с другими предпринимателями. Их влияние и важность были протестированы с помощью количественных моделей. Отклонения от ожидаемых результатов были обсуждены. Также, были предложены возможные меры для представителей власти и бизнеса. |
| Ключевые слова | Предпринимательство, женское предпринимательство, COVID-19, коронавирус, факторы предпринимательской активности |

ABSTRACT

|  |  |
| --- | --- |
| Master Student's Name | Kira A. Oksas |
| Master Thesis Title | The impact of COVID-19 crisis on women’s entrepreneurial activity: the evidence from GEM data |
| Educational Program | Master in Management |
| Main field of study | Management |
| Year | 2022 |
| Academic Advisor's Name | Olga R. Verkhovskaya, Associate Professor |
| Description of the goal, tasks and main results | The goal of the research paper is identification of factors affecting women's entrepreneurial activity before the COVID-19 crisis and during the pandemic in Russia. Following the literature review, research gap is defined, and hypotheses are stated and tested. 5 key factors influencing women’s entrepreneurial activity were determined: age, level of education, level of skills, fear of failure and acquaintance with other entrepreneurs. Their influence and significance were tested via quantitative models. Variation from expected results was discussed and possible measures for authorities and businesses proposed. |
| Keywords | Entrepreneurship, women entrepreneurship, COVID-19, determinants of entrepreneurial activity |

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# INTRODUCTION

In these times of rapid changes, which affect all areas of life, it becomes very important to respond quickly to the situation. When a business is influenced by external factors that are beyond their control, it is necessary to offer, as quickly as possible, algorithms for action that will be well developed, logically built and implemented in the shortest possible time. In 2020 the whole world faced such a phenomenon as the COVID-19 crisis.

During crisis periods of different nature, support measures implemented by the authorities and top-managers are usually aimed at everyone equally. However, such approach decreases the efficiency of steps taken. One of the factors that’s usually not taken into consideration when proposing the emergency measures is gender.

Despite crisis situations, women's entrepreneurship is a potential for economic and social development of any country. Based on the GEM 2021 study, the number of women involved in entrepreneurship, who start and continue to run their businesses, is increasing. At the same time, the gender gap in the labor market remains, and women entrepreneurs have to face high unemployment and low wages. (International Labour Organization, 2021) More than ever, in times of crisis, it is important to support and encourage women's entrepreneurship, as this makes economic growth and poverty reduction possible.

Majority of existing literature is covering the role and impact of crises on the economies of countries in general. However, it fails to examine the gender-driven influence on entrepreneurial activity, which is a vital part of overcoming economic crises.

Relevance of the study. Taking into account the increasing role of women in economic value creation and the driving force of small and medium-sized enterprises in Russian economy, especially in times of crises, and, what’s more, in time of COVID-19 crisis, it seems crucial to further study the main factors contributing to women's entrepreneurship in Russia and reasons that encourage and help women start their own businesses.

**The objec**t of this paper is women’s entrepreneurial activity during crisis periods in Russia.

**The subject** is behavioral specifics of women potentially involved in entrepreneurial activity in Russia.

The research goal of this paper is identification of factors affecting women's entrepreneurial activity before the COVID-19 crisis and during the pandemic in Russia. To achieve the above goal, the following research objectives were formulated:

1. Conduct a literature review on entrepreneurship;
2. Identify the characteristics of women's entrepreneurship in Russia;
3. Identify the peculiarities of COVID-19 crisis in Russia;
4. Select factors based on the peculiarities of women's entrepreneurship and formulate hypotheses;
5. Collect and restructure data;
6. Build models;
7. Analyze the results obtained;
8. Provide recommendations to various stakeholders based on the results obtained.

The master thesis comprises introduction, three main chapters and findings. The first chapter describes and analyses entrepreneurship in general and peculiarities of women's entrepreneurship, explains crises and its types, including off-system crises on the example of forged crisis, builds hypotheses based on the studied literature. The second chapter is dedicated to building quantitative models and using them to test the proposed hypotheses. The third chapter presents analyzing the results of hypotheses testing and forming managerial and practical implementation together with following discussion.

# Chapter 1. Women’s entrepreneurial activity in COVID-19 crisis

## Entrepreneurship

Entrepreneurship is an independent, proactive risk-taking activity, which is carried out with the aim of making a profit. Consequently, the main task of the entrepreneur is to supply the market with goods and services that will be in demand.

The main tasks of the entrepreneur are (Chernysheva, 2018):

* Organizing production and management;
* Assuming risk and responsibility for material results;
* Making economic decisions that will provide market power.

The functions of entrepreneurial activity are (Bird, 2019):

* Financing the various branches of the economy;
* Providing employment to the population;
* Increasing the state budget by paying taxes.

Entrepreneurs work under conditions of constant risk, competition, search, so they constantly need to improve the quality of products, introduce new technologies, and adjust to the surrounding economic situation.

**The hallmarks of an entrepreneur**

Let’s note the distinctive features of an entrepreneur: independence, courage, a developed sense of responsibility, a tendency to reasonable risk, initiative, the ability to create, innovation.

The difference between a potential entrepreneur and a non-entrepreneur are (Hassi, 2014):

1. Non-entrepreneur often takes care of his ego more than anything else: faced with difficulties, in which he is not very knowledgeable, such a person nevertheless pretends that he is an expert in it.

A person with an entrepreneurial mindset tends to ask questions all the time. When it comes to learning, he forgets about his ego. He is learning continuously.

1. Non-entrepreneur has a consumer mentality: when he is introduced to a new product, his first thought is how he would buy it.

A person with an entrepreneur mentality, when he looks at a new product, thinks about how he can start producing something similar, refine or improve the technology, how he can make money from it and where to invest it later.

1. The focus of a non-entrepreneur's vision is on his own desires and dreams, such as making a lot of money.

The entrepreneurial mindset encourages attention to factual information: such a person continuously analyzes his own and others' success, pondering how to adopt their experience and apply it to his own activity.

1. It is not the entrepreneur who thinks about why this or that idea he encounters will not work while the person with an entrepreneurial mindset looks for and finds limitless possibilities in fresh ideas. He finds out how he can make money from a given idea and invest in it, and then calculates the risks and considers the potential difficulties.
2. It is not the entrepreneur who struggles with change, does not accept it and experiences it.

And a person with an entrepreneur's mindset adapts to them, radiating new realities with interest and gratitude.

1. It is not the entrepreneur who is willing to give up his needs for the sake of stability.

The entrepreneurial person is on the lookout for opportunities to do things as well as possible, even if it goes against his comfort.

1. Non-entrepreneur is not an object under the conditions that reality presents to him.

The person with an entrepreneurial mindset is the subject; he or she creates the conditions for himself or herself.

An important characteristic of the human entrepreneur is the ability to stop being afraid and strive for freedom. Fear of losing a small but stable income, social guarantees (sick leave, vacation pay, official days off) stops people from making an important decision. The entrepreneur risks a lot when organizing his activity. All entrepreneurs - beginners and those in this position for a long time - have different goals: some start their business in order to get additional income for their retirement; others "hire" themselves and are employees in their own enterprise; and some build a full production with a clear structure of management and creation of benefits. All entrepreneurs have one thing in common: they are personally responsible for their own business; they alone are responsible for their well-being, the well-being of their family, and the success of their business. The entrepreneur voluntarily takes responsibility - both for the entire production in general and for each employee individually. He himself is responsible for the decisions he makes; he must also be willing to participate in the decisions of his employees. If he fails, the employees lose their jobs in the worst case, and the entrepreneur loses his entire business and the resources associated with it. Not every employee is willing to take this risk.

An entrepreneur differs from an employee in that he or she has an idea and a burning desire to put it into practice. An entrepreneur initially has an idea, then puts it into practice and spends his time and money on it. Employees come to the ready-made structure, some of them, of course, their important contribution - every business is created by people, and it is better that it was a good team of professionals.

An entrepreneur should go into all areas of his business, he must understand accounting, the law, the technology of the service or production, know all the characteristics of the products, be a manager, a marketer, a salesman, a manufacturer. A rank-and-file employee is usually a narrowly focused specialist and develops within the framework of his or her profession.

Another difference between an entrepreneur and an employee is the desire for financial freedom. (Brieger, 2020) The issue is not the amount of money, but the dependence of this amount on the work of the entrepreneur: the entrepreneur will receive exactly as much as and how he works out. An employee, on the other hand, is guaranteed to receive his wages (under ideal conditions and within the framework of a single enterprise). Even if the enterprise collapses, the employee can find another similar job and once again provide himself with a monthly salary. The entrepreneur, in the case of failure, will have to start from scratch: he will be forced to look for a new idea, to develop the whole process of creation from scratch, take into account all the difficulties and obstacles on the way. In this case, his unstable and conditionally cashless state can be much longer than the job searches for an ordinary employee.

### Women’s entrepreneurship

Women are being actively involved in various types of life activity conditioned by the demands of a market economy, including the entrepreneurial system. The gender aspect of contemporary market economic relations is especially important due to the fact that women are not only continuing to be one of the decisive factors in social production as a whole, but also due to the fact that it is the deployment of female entrepreneurship that today creates opportunities for building up the innovative potential of the contemporary Russian economy. (Sätre, 2016)

Female entrepreneurship is a special type of economic activity performed by women, aimed, in contrast to the activities of men, mainly at the realization of their social qualities, self-assertion in society, proving their abilities, by creating new forms and improving previous types of production, by independently chosen risk, despite the difference in starting positions compared to men and various business prerequisites.

Thus, female entrepreneurship has a special structure of motivations for doing business, which differs from men's motivations. (Solesvik, 2019) This gender difference allows us to consider women's entrepreneurship as a special type of entrepreneurial activity.

First, women have a different hierarchy of ranks in the system of entrepreneurial orientation. In the first place in their hierarchy is the desire for social self-fulfillment and achievement of an independent position. (Corrêa, 2021)

Secondly, women prefer to choose areas of business in which their inherent features of character and social behavior give them a certain advantage. (Arch, 1993) It is because of women to a greater extent than men succeed in industries such as trade, consumer services - beauty salons, hairdressers, catering and so on. Even when these enterprises are owned by men, in practice it is women who carry out the basic management and technology of these spheres of the economy.

Thirdly, in the initial period of transition in Russian society, when state property was privatized and new market relations were formed, women had a weak starting position. (Meroño-Cerdán, 2017)This is due to the fact that in the conditions of the former socio-political system women had mainly pedagogical, humanitarian, rather than technical education, they did not have the opportunity to manage production and technical cycles.

Finally, fourth, we cannot ignore such an important element in the implementation of modern business by women as the need to harmoniously combine entrepreneurial activity with the implementation of the social functions prescribed for her in the family, with the roles of wife, mother, housekeeping. (George, 2016)

In the data studied in the GEM survey, women entrepreneurs had a college education (Amanda B. Elam). However, higher education does not guarantee competence in financial and managerial issues. The criterion for choosing the field of application of entrepreneurial energy is either the profitability of the industry (when going into business is associated with material difficulties), or the attractiveness of this activity. However, despite the fact that basic vocational education was rarely taken into account when starting a business, women entrepreneurs consider higher education to be important, considering it a prerequisite for successful entrepreneurial activity. It also became important for women to have educational courses on business basics, as repeatedly in the studied literature there were references to errors of initial periods due to the lack of proper knowledge. However, at the same time, women entrepreneurs believe that success in business is least related to the degree of mastering this type of programs. (Desai, 2011)

It turned out that the majority of women entrepreneurs had no prior experience in managing an enterprise. It is important to note that the influx of women into the ranks of entrepreneurs was uneven over time. Women were most intensively involved in entrepreneurial activity in the second half of the 1990s. According to GEM data, women accounted for more than a third (33%) of those who entered business in 1996-97. (Amanda B. Elam) The least favorable period for women was 1989-91, when their share among those who joined the executive corps was almost half (17%). (Collins- Dodd C., 2004)

After disclosing the main reasons for women's transition to self-employment, it is possible to identify the distinctive features of women's entrepreneurship.

Entrepreneurship, as has been noted repeatedly, remains a predominantly male sphere of activity. According to expert estimates, among Russian entrepreneurs, women entrepreneurs are only 25-30% of the total number, and most of them are engaged in small business. (Amanda B. Elam) At the same time there is a peculiar division in the distribution of women and men in various sectors of entrepreneurship on a gender basis.

For example, women entrepreneurs are less involved in the construction and transport industries. The group of industries that do not have a pronounced gender component includes manufacturing, agriculture, wholesale trade, market support activities, and the financial sector, where the proportion of women entrepreneurs ranges from 13%, as in the industrial sector, to 20%, as in the financial sector. Lastly, retail, catering, science, culture and health care belong to the group of industries in which women entrepreneurs are the most involved. In these sectors, the proportion of women entrepreneurs ranges from 39%, as in retail trade, to 56%, as in science. In Russia, for example, women's initiatives in modern information technologies, education, the formation of new types of social services are actively developing. This is entrepreneurship of a modern type, which requires high qualifications, focused on the market of social, informational, educational and other services. It creates new highly qualified jobs for women, helps solve many social problems of the family and society.

After studying the literature, as well as personal conversations with women entrepreneurs, it was possible to identify several main reasons for prioritizing service and trade in their development. The first reason is women's previous experience, including domestic work, which forms the skills and knowledge that are useful for working in these industries. The second reason is women's lack of technical education, which prevents them from establishing enterprises in construction, transport and industrial production.

The third reason is the insufficient amount of borrowed capital; it is the "non-traditional" industries that require more initial capital for women. And finally, the fourth reason is the temperament of women, which often leads to a softer attitude to colleagues. On the psychological side, a woman is more susceptible to external factors, such as people's communication with each other, the influence of their interests on their daily needs. Also a woman is more sensitive to analyze the condition of real customers, which mainly applies to the service and trade, as the success of business development in these areas is directly dependent on emotions, comfort and understanding between the client and the one who provides the service itself.

If we consider the turnover and the number of employees, the proportion of small businesses in women's business is much higher than in men's business. Among all small enterprises headed by women, the share of enterprises with up to 20 employees is 80%, with 21 to 100 employees - 15%, more than 100 employees - 5%. for comparison, among enterprises headed by men, these figures are 58, 26 and 17% respectively) (George, 2016).

This trend in female entrepreneurship can be explained by several features:

First, female entrepreneurship is mainly concentrated in those industries whose technology does not claim to have a large number of employees.

Second, women entrepreneurs are focused on controlling their time, rather than on increasing profits. The very attempt to find the right balance between work and home acts as a limiting factor in the expansion of enterprise, since a woman entrepreneur can never give priority to any one thing.

Thirdly, due to the fact that women entered entrepreneurship much later than men, they are not very knowledgeable in many aspects of business, and also the average age of women starting a business for the first time depends mainly on the degree of their involvement in business processes and understanding of entrepreneurship, its goals, planning and the main tasks facing the entrepreneur himself.

Based on the level of business development, women entrepreneurs can be divided into **several groups**.

The first group is women-owners, and often, they may be simultaneously heads of large joint-stock companies, which, as a rule, were created by privatization of state property. For the most part, these are light industry enterprises, because for women the management of such enterprises is a legacy of tradition, rather than a result of the implementation of women's private entrepreneurial initiative.

The second group are women founders of newly created small enterprises. Sometimes it happens that they are also the heads and managers of such institutions. It also happens that their private entrepreneurial activity is connected with their former profession. That is, former specialists of large state enterprises have some experience and the necessary resources to run this kind of business, and thus it is easier for women entrepreneurs to create their own production of similar goods and services. Examples are small businesses producing certain goods - textiles, leather, etc., sewing shops and workshops, restaurants, hairdressing salons, dentistry, cosmetology offices, and so on. However, it also happens that women change their occupation and open new, previously not yet present in the market activities, such as travel services, securities transactions, marketing services, etc.

The third group is women who are engaged in self-employment. As a rule, these can be highly qualified accountants, financiers, architects, teachers, women who are self-employed as auditors, designers, tutors, consultants.

It has also been revealed and mentioned in a number of articles that women entrepreneurs often have higher or specialized secondary education, are highly qualified specialists of middle and mature age. It is this group that is a potential risk group for unemployment[!]. Even so, it is women who show initiative and creative activity, having high qualification and the necessary material resources and connections to start and promote their own business. As a result, we can conclude that we are talking about women with high competitive advantages, and the proportion of such women entrepreneurs in society is not so high.

In many cases, women are motivated to become entrepreneurs by the numerous problems and discriminatory factors that exist in the labor market. These include discrimination against women in wages, career advancement, and hiring. Women are very often forced out into the field of less qualified and prestigious work, they prevail in the public sector, where the level of wages is lower. Thus, according to Rosstat, the average salary of women in Russia is 64% of the average salary of men. In addition, it is often difficult for women to move up the career ladder, due to the interruption of women's careers caused by the period of maternity leave, as well as discrimination against working women by male heads of state. Lack of career advancement causes a woman to feel dissatisfied with her work and subsequently desire to start her own business. It is in her own business that there will be no obstacles to growth on the part of the management. In this case her own successful business is an opportunity for a woman to fulfill herself and apply her own business and creative potential. All of this would not be possible in a wage job.

All of the above makes it clear that discriminatory factors play an important role in the development of women's entrepreneurship, in part it can even be concluded that this process of transition from wage labor to running their own business, is a forced measure.

The main **problems of doing business** by women entrepreneurs

The main problems and obstacles that also prevent women entrepreneurs engaged in small business are:

1. Lack of available credit for socially important commercial projects;
2. There is no opportunity to lease new production technologies;
3. An inflexible and complicated system of taxation, licensing and reporting prevails;
4. There is corruption and bureaucracy;
5. The state does not sufficiently support small business;
6. There is no effective system of risk insurance;
7. There are systematic non-payments under contracts;
8. It is difficult to find guarantees when getting credits.

However, some of the above can be directed not only at women's entrepreneurship, but at barriers in general for both women and men. Therefore, it is also possible to identify barriers that exclusively target women's entrepreneurship. These include:

1. Women have a low status in society, politics and culture, which narrows certain opportunities for starting any business;
2. Society has certain gender stereotypes that prevent women from participating in business in the same position as male entrepreneurs. Gender inequality affects the perception of women in the leading role, both on the part of employees and on the part of business partners;
3. Women entrepreneurs may lack the necessary experience in running a business;
4. Women entrepreneurs face a shortage of time to run a business. They have to combine their professional activities with child-rearing and housekeeping, which occupies a large part of their lives;
5. There is a certain problem in obtaining funds for business implementation and its successful functioning, because compared to men, women have unequal access to credit and financial resources.

After all of the above, we can conclude that a woman who seeks to open or continue to develop her own business has to overcome not only the basic problems that are characteristic of running a small business in Russia, but also the specific barriers that define their belonging to the weaker gender. For this reason, the activity of women in entrepreneurship is quite low, because they have to make huge efforts in overcoming all barriers on a double scale.

### Factors affecting the entrepreneurial activity of women

According Fossen and Büttner article written in 2013, young entrepreneurs come into entrepreneurial activity by "pushing" them. As for older people, they are looking for new opportunities to develop. Studies have been conducted in a number of cities in Russia, which revealed the average age of women among small entrepreneurs. In general, the average age of women entrepreneurs is over 40 years, with a high proportion of women who are divorced or widowed women. This group developed their business without financial support or start-up capital, in rare cases a bank loan was used. That is, they started the business from their own investments. In this case, all incomes coming from women's entrepreneurial activity are spent for family consumption. Women are engaged in entrepreneurship primarily to provide for their families and children, not considering the profit from business as a source of wealth.

After the above about the average age of women entrepreneurs above 40 years, we can conclude that the age before the crisis has a positive effect on women's entrepreneurial activity.

*H1.1.: Before the crisis, age has positive influence on the involvement of women in entrepreneurship*

Regarding the education of entrepreneurs, we can conclude that those entrepreneurs who have the opportunity have a higher level of education than those who have the need for education. Family background is also important, especially when it comes to starting a business. Family background dictates a certain amount of financial and social support. This statement has been confirmed in many articles, for example, Amit and Muller's 1995 article discussing the encouragement by family members to start their own businesses for those people who have a certain social status. Those entrepreneurs who take advantage of opportunities have more income than those who take advantage of necessity. (Stefan et al., 2015).

Several studies have noted the tendency of women to attach greater importance to the knowledge they acquire through informal and formal education. (Markovic et al., 2012). It is generally believed that education is a key factor in choosing a profession, including the choice of entrepreneurial activity. Researchers tend to divide education into primary, secondary, which is obtained by going to school, and higher education, which is obtained after going to university. As mentioned above, education does have a positive effect on entrepreneurship, but researchers are still not entirely sure which level of education has the greatest impact on career choice. A university education is more in-depth, immersing you more deeply in entrepreneurial activity, while providing practical knowledge. At the same time during primary and secondary education there is a formation of mentality and formation of personal characteristics of an individual, it is this base that forms entrepreneurial characteristics. Thus, we can conclude that all stages of education are important for the future entrepreneur.

In 2007 a Handy sample from India found a correlation between primary, secondary education and female entrepreneurship. Also in the U.S., they found a correlation between the performance of women entrepreneurs and their level of training in business. Moreover, the ability to learn is seen as a factor that improves practice in women's business ventures (Seuneke and Bock 2015).

It is clear that the education of women before the crisis had a positive impact on their involvement in entrepreneurial activity, this became clear after analyzing the articles on this topic.

*H2.1.: Before the crisis, education has positive influence on women's involvement in entrepreneurship*

In an article by Hisrich and O'Brien said that women are more susceptible to risk, this aspect has a negative impact on how they conduct their business, what decisions they make. Women entrepreneurs are less likely to take risks, more conservative in their choice of business growth strategies, most likely this is one of the reasons for less confidence in the abilities of women to enter into entrepreneurship. These statements have been confirmed in several articles, for example, the 2008 article by Boohene, Sheridan and Kotey, as well as in the 2006 article by Mezies et al.

Women entrepreneurs are afraid of taking risks, this fact is reflected by many researchers in their articles, so we can conclude that the fear of failure has a negative impact on women's entrepreneurship before the crisis.

*H3.1.: Before the crisis, fear of failure has negative influence on women's involvement in entrepreneurship*

There is evidence that business and entrepreneurship education has a more positively effect on women than on male entrepreneurs. This is due to the fact that women are more likely to doubt their skills and knowledge in entrepreneurship, as well as less confident in their own abilities. Therefore, through taking courses related to entrepreneurship at school, university will contribute to increasing the confidence of women entrepreneurs in their knowledge and skills, as well as help them to choose entrepreneurial activity as their main, thus opening their own business. (Oosterbeek et al., 2010).

After the analyzed articles we can conclude that the more women entrepreneurs invest in their education, have a certain level of education, they have more confidence in running their business, having a certain set of knowledge and skills. And that is why they are more involved in entrepreneurial activity.

*H4.1.: Before the crisis, level of skills has positive influence on women's involvement in entrepreneurship*

As mentioned above, women are more susceptible to risk and less confident in their own entrepreneurial abilities than men, so the high pressure of government regulations and policies that must be followed has a greater impact on women entrepreneurs.

There is also a study by Allen, conducted in 2000, where he investigated on the basis of a survey of adult repsondents from Wisconsinite, USA, the relationship of a large circle of acquaintances, as well as acquaintances-entrepreneurs included, and how this factor affects the entrepreneurial activity. It was found that having a large circle of acquaintances, which also includes the number of acquaintances-entrepreneurs, correlates with the desire to start their own business. It is also important to clarify that knowledge has a greater influence on the decision than acquaintances with other entrepreneurs. (Allen 2000).

In 2005 a study of entrepreneurship by Minniti and Arenius was conducted, in which the GEM database was used as the basis. It was found that having a community of entrepreneurs was positively associated with the need to engage in entrepreneurship. The researchers suggested that having a role model as a business owner and belonging to a network could reduce ambiguity. A similar study was conducted 2 years later by Autio and Ax in 2007. They also used the GEM database, where the sample consisted of 500,000 interviews over six years. As a result, it was shown that having an acquaintance with entrepreneurs increases the chances of a person becoming self-employed and is associated with business growth. (Autio and Acs 2007).

The men meant to form broader community networks that significantly supported them in creating or doing business (Aldrich, Reese and Dubini 1989 Chromie and Birley 1992).

There were significant variations revealed between networks compiled separately by women and men (Aldrich, Reese and Dubini 1989). It was presumed that women are not as active in intrapersonal communication as men, so the networks they build are weaker. (Chromie and Birley 1992). According to studies, there is a positive correlation between networking and necessity-based entrepreneurship (Minniti and Arenius 2005) and opportunity-driven entrepreneurship (Allen, 2000). Despite women's low engagement in networking, though, Langowitz and Minnity found a positive correlation between network presence and women's propensity to be entrepreneurs (Langowitz and Minniti 2007). As noted in academic research, networking is a factor that provides more extensive availability of funds. Therefore, we can test whether networking should have a positive effect on women's entrepreneurial activity.

*H5.1.: Before the crisis, acquaintance with other entrepreneurs has positive impact on the involvement of women in entrepreneurship*

## Crisis

In 2020, the whole world faced an unforeseen COVID-19, which affected every aspect of everyone's life, entrepreneurship was no exception. To begin with, we need to deal with such a phenomenon as crisis.

Broadly speaking, a crisis is an intense complication of a situation, in some cases spontaneous and unforeseen, in others slow and natural. A crisis period is not only a time of stress and decline, but also a convenient moment to make a decision that has been hanging in the air for a long time and can help overcome this crisis. (Kitching, Blackburn, Smallbone, & Dixon, 2009)

In practice, this is what happens most often: crises turn out to be unequal - both in their preconditions and results, and in their very essence. It seems quite possible and even necessary to draw up a branched system of crises - it is needed to distinguish the methods and ways of resolving them. The moment there is an awareness of the essence of the crisis, more resources are generated to reduce the time spent on the solution of the problem and to make the course of the crisis period less fatal.

Crises are divided according to their scale:

* general - included in the entire socio-economic system;
* local - affecting a part of the system.

This classification is rather conventional, because when considering each specific case, it is important to take into account the framework of a given socio-economic system, its construction and context of functioning.

According to the problematics, there are:

* macro-crises - large-scale;
* micro-crises - affecting a single problem or several problems.

The peculiarity of the crisis is as follows: even if it is local and belongs to the group of "micro", it still has the ability to absorb the whole system or to embed itself in the general problem of development, since any system is an organic interaction of various elements. The problem within the system cannot be solved in isolation. This happens when the crisis situation is not managed properly, when there is no understanding of what actions are needed to localize the crisis and to reduce the tension connected with it, or, on the contrary, when a special provocation is made to provoke a crisis.

Crises can also be divided according to the structure of interactions in the socio-economic system:

1. An economic crisis highlights the lack of unity in the management of the economy of a state or an individual company. Such a crisis is most often characterized by problems in the manufacture and sale of goods, in the relations of representatives of economic systems, untimely payments, the loss of positive competitive properties, bankruptcy and so on

In the class of economic crises there are financial (monetary) crises, reflecting the problems of the financial system of the country or enterprise.

1. A social crisis manifests itself when difficulties between the interests of various social groups, strata or formations (for example, employees and their employers, trade unions and private business owners, specialists in various fields, employees and managers (Latham & Braun, Economic recession, strategy, and performance: A synthesis., 2011)) become more acute. Often, social crises are the development of economic crises. However, they can also appear on their own: there may be conflicts associated with aversion to the methods of leadership, dissatisfaction with the conditions of the working environment, because of the difference in attitude toward environmental issues, patriotism and other.

Unique in the class of social crises are political crises that arise in the presence of contradictions in the political structure of society. It can also be a crisis of government, meeting a wide range of needs of different social groups and classes.

In most cases, political crises affect the most different sides of the development of society and turn into economic crises. (Hessels, Rietveld, Roy Thurik, & Van Der Zwan, 2018)

1. Organizational crisis is associated with complications in the integration of an activity, its functioning, problems in the distribution of responsibilities, at the state level, for example, in the form of separation of administrative units and regions, and on a more private - branches or subsidiaries, the regulation of rules for the performance of tasks by individual units. (Latham, Contrasting strategic response to economic recession in start-up versus established software firms., 2009)

In the organizational structure of any socio-economic system, organizational relationships can become aggravated. This is expressed in the emergence of confusion, turmoil, conflicts, difficulties in controlling the situation, etc. This happens when the socio-economic system grows too rapidly, when the conditions of its functioning and development change, when wrong decisions are made in the reconstruction of a business or system, or when organizational restructuring generates bureaucratic tendencies. This type of crisis is a kind of paralysis of all organizational activity. Sometimes its configuration also becomes its inordinate bureaucratization.

1. A psychological crisis is also a fairly frequent story in the current conditions of socio-economic development. Such a crisis is characterized by problems in the psychological state of the person and is manifested in stress, the emergence of a sense of uncertainty, panic, fear for the future, dissatisfaction with activities, legal security and social position. This type of crisis reflects the tension in the socio-psychological climate of society, collective or individual group.
2. Technological crisis occurs as a crisis of new ideas, provided that the need for them is high. This type of crisis manifests itself in the problems of technological incompatibility of production, non-acceptance of innovative technological solutions. In a broader sense, these crises take the place of acute problems in scientific and technological progress - the disagreement between its trends, opportunities and results becomes more acute.

The following classification of crises is based on the immediate causes of occurrence:

1. Natural crises are usually provoked by conditions of human activity and life, aimed at the human environment, or have a direct impact on it. For example, large-scale earthquakes, hurricanes, fires, climatic changes, floods will affect the economy, human psychology, social and political processes.
2. Social relations in their various manifestations can also be the cause of a crisis.

Also nowadays the awareness of ecological crises, i.e. those which arise when the natural conditions caused by human activity - depletion of resources, pollution of the planet, development of dangerous technologies, disregard for the laws of natural equilibrium - has acquired great importance. (Papaoikonomou, Segarra, & Li, 2012)

In addition, crises are divided into predictable (a certain stage of development that can be predicted and occurs due to objective reasons) and unexpected, unpredictable (as a consequence of errors in the organization of economic processes, or the sudden expansion of local crises, plus the result of any powerful natural events).

A subtype of predictable crises is crises that manifest themselves in development processes "in a circle" (Weber & Geneste, 2014) - such difficulties arise in periods, their start and the stages of their course are known in advance.

Then there are acute and soft crises. The former lead to the destruction of the socio-economic system, last for a long time, are difficult to overcome and proceed unevenly, often contain a lot of confusion and contradictions. The latter have a clearer, more regular life cycle, proceed almost painlessly. They can be quite predicted and are easier to manage.

In conclusion, there are also such types of crises:

* Crisis as a consequence of an "external" shock: in this case, the crisis is a situation in which economic development in a certain geographical community becomes impossible because of a lack of resources; (Deans, 2009) it is most frequently associated with natural or economic disasters;
* Cyclical crisis - a stage of resolving issues and problems, balancing out differences accumulated in economic and social processes;
* Structural (major) crisis is every instance in which the pace of economic and social development becomes at odds with the capabilities of society, impulses for development are ignored, and the contradictory nature of the long-term reproduction of the system is demonstrated in full force;
* Crisis of the regulation system consists in the inability of internal regulatory mechanisms to influence negative conjectural processes, while the state of accumulation may remain very persistent;
* Crisis of the mode of production - it aggravates the contradictions that grow in the underlying institutional forms responsible for the state of accumulation. In the course of the crisis, the most basic principles of the organization of production become unviable, on which, in turn, the potencies of the profitable use of capital, the distribution of finance and the structure of social demand are based. In this type of crisis, the whole dynamics of reproduction of an economy is blocked.

**Stages of crises**

Crises that originate and develop within a company cannot be isolated - they are closely interconnected and form a chain reaction, interacting with each other and with other elements of the system. They can be survived and overcome, or suffer bankruptcies and business liquidation because of them. (Chattopadhyay, Glick, & Huber, 2001) The crisis is expressed stage by stage, and with illiterate management, each successive stage exacerbates the development and results of the crisis.

As part of its development, the crisis can be (Robbins & Pearce , 1992):

* Strategic crisis - the development of the organization is threatened;
* Crisis of results - it becomes increasingly difficult to achieve goals and attain objectives;
* Liquidity crisis - risk of a budget deficit;
* Bankruptcy crisis - evident illiquidity of business and budget deficit.

The crisis process is divided into stages (Sternad, 2012):

1. Stage of potential crisis - crisis is possible, but has not come yet; there are no reliable symptoms of crisis, therefore, the state of organization looks quasi-normal.
2. The stage of hidden (latent) crisis - the crisis has already arrived, but is not yet fully manifested. Signs of the crisis at this stage can be identified if the company has clear mechanisms to recognize them - in this case preventive actions are taken, an active influence is exerted on the latent manifestation of the crisis phenomena.
3. The stage of an acute but surmountable crisis - at this stage it is clearly noticeable what negative impact the situation has on processes. Real destructive actions become more intense, resources are scarce, there is nervousness in society (the team), the leadership makes mistakes in decision-making, there are fewer and fewer options to exit the crisis. To overcome the crisis at this stage it is necessary to urgently mobilize all the resources and reserves of the firm. It is still quite realistic to overcome difficulties, but only if effective mechanisms of anti-crisis management are applied.
4. The stage of acute insurmountable crisis is the stage of final bankruptcy: here it is necessary to take radical measures, for example, to liquidate the organization or declare bankruptcy.

Analysis of the causes and nature of different types of crises, you can see that there is also an adaptation crisis - the position of the company, caused by its inability to adapt to dramatic changes in the external environment. Let’s highlight the factors that directly affect the adaptability of the organization: (Snow & Miles, 1978)

1. The company has the capacity to implement the necessary changes for sustainable development at the expense of intellectual potential (the level of qualification and competence of the organization's personnel and management, experience, education).
2. The firm has the technological potential and is able to use innovative developments.
3. The company has free (reserve) financial resources, i.e. the ability to make additional expenses on advertising, marketing, audit, consultants, new specialists

These factors are not always in close correspondence with each other. The most serious danger is presented by changes in the external environment, which cause the need for internal changes in the system of the organization, but the possibility of such changes no longer exists.

### COVID-19 crisis

The COVID-19 pandemic caused an unprecedented crisis in human resources and health care. The measures required to contain the spread of the virus triggered an economic downturn. At this point, there is tremendous uncertainty about its depth and duration. The financial system has already been hit hard, and further worsening of the crisis could affect global financial stability.

Prices of risky assets have fallen precipitously since the onset of the pandemic, with prices of risky assets at the low end of the recent surge selling off at half or more of the declines seen in 2008 and 2009. For example, many stock markets, both large and small, have recorded price declines of 30 percent or more at the low point. Credit spreads jumped, especially for lower-rated companies. There were also signs of stress in major short-term funding markets, including the global U.S. dollar market.

A consequence of the economic crisis is a decrease in the real gross national product, mass bankruptcies and unemployment, a decrease in the standard of living of the population.

Both the population and the business community have roughly the same view on the problem of the economic crisis - how long it will last, what its causes and consequences are. True, it is noted that the owners of their own business are more optimistic about their ability to recover.

A large part of society notices how the current crisis affects it: it is on one hand purchasing power has decreased, on the other hand there is no ability to save money. (Soomro, 2021) Many Russians correlate the crisis with rising prices and the instability of the ruble. The end of the crisis will be marked by an increase in purchasing power and stabilization of the ruble.

Purchasing behavior is changing, some changes in the habits of ordinary people will be long-term, it will affect the structure of demand.

The population tends not to spend more than what it earns, getting used to frugal behavior, mastering different techniques of saving: for example, buying less, switching to cheaper products, choosing promotional goods. This model is likely to remain after the crisis is over, and the nature of consumer demand will change its essence for a long time. Corporate customers are also changing their behavior, so the impact of this trend is also noticed by B2B companies. (Rakshit, 2021)

Real income is shrinking, so more and more citizens who used to belong to the middle class can no longer be considered middle class. Even people who have managed to maintain their earnings and remain in the middle class are changing their habits: limiting themselves in the purchase of daily necessities, postponing expensive purchases due to a lack of confidence in the future, and spending less on entertainment. All of this suggests that the middle class is losing its well-established role as a driver of economic growth.

Companies are also feeling the effects of the crisis: less profit, less opportunity to launch and maintain new projects.

For most companies, the main negative consequences of the crisis are lower demand and higher production costs, which have a direct impact on profitability. Also an important and serious problem is the lack of financing for innovative projects. All this becomes a risk for the long-term growth of the company, especially when you consider that more and more shareholders are relying only on short-term prospects. There are companies operating in Russia - among them many producers of consumer goods - that note the positive impact of devaluation on their prices relative to those companies that have a large share of imports in their purchases. (Koroleva, 2021)

As a result, firms often resort to tactical measures, such as reducing direct costs and cutting advertising budgets.

These measures are not always rational, nor are measures to optimize logistics and production only within the current organizational structure, because they do not provide a fundamental, systemic transformation. Since some of the current business conditions will remain for quite a long time, all companies take fundamental transformational measures.

Based on own analytical data and forecasts made by other organizations, it is very likely that after the crisis ends in Russia there will be a period of slow growth, which will become the "new normal", as was the case, for example, after the crisis in Europe in 2009 (Gavlovskaya, 2022). Demographic factors such as the decline in the share of the working-age population, which will accelerate over the next few years (due to the extremely low birth rate in the 1990s (Klimanov, 2021)), will also partly play a role here. This "new norm" will have its own distinctive features:

* Sustained change in consumer behavior: more attention will be paid to value for money;
* Excess supply due to falling demand will put increasing pressure on prices.

This means that companies will have to adjust their value propositions to meet the changed consumer expectations. On the other hand, they will have to rethink the way they create value for consumers (i.e., their operating model) to ensure that profitability does not decline. This will require fundamental changes in business processes.

Only such steps will allow companies to respond adequately to structural changes in the economy and properly change their operating model: from focusing on rapid growth to focusing on profits and market share.

Companies are more optimistic about the speed of recovery from the crisis than consumers. Various statistics show that the Russian economy is going through a crisis. Between January and April 2015, GDP declined 2.4 percent from the same period in 2014, accelerating the decline to 4.2 percent in April (compared to April 2014), the inflation rate rose to 16.4 percent, and the consumer confidence index was at a very low level (Singh, 2021). Eighty-three percent of our surveyed consumers and 74% of company representatives believe that Russia is in crisis (Gurkov, 2022). Most people associate the crisis with rising prices and currency instability, so a sign of the end of the crisis for them would be an increase in purchasing power and stabilization of the ruble against foreign currencies.

Companies and consumers mostly agree that the crisis will last about two more years. Representatives of companies interacting with large corporate clients in industries such as construction, metallurgy or mining are of a different opinion. They were affected by the crisis later than other market participants, but they expect a recovery in their industries at a later date - no earlier than three years from now. Most of those surveyed shared the view that the current crisis is deeper and more protracted than in 2009 (Singh, 2021). Nevertheless, both consumers and companies believe that some improvement can be expected in six months and tangible improvement within the next year. (Koroleva, 2021)

The view that improvement will come within six months seems overly optimistic, given that the Ministry of Finance estimates that the economic crisis will peak in the third quarter of this year, while the assumption that improvement can be expected in a year coincides with current forecasts. (Gavlovskaya, 2022)

**Market tensions**

With uncertainty about the economic impact of the pandemic, there has been a surge in volatility, in some cases to levels last seen during the global financial crisis. With the surge in volatility came a significant reduction in liquidity in markets, including markets that are traditionally viewed as capacious, such as the U.S. Treasury market, contributing to sharp spikes in asset prices.

Central banks around the world have become the first line of defense, taking steps to preserve the stability of the global financial system and sustain the global economy. (Popkova, 2022) First, they have significantly liberalized monetary policy by lowering policy rates - in the case of advanced economies to all-time lows. And half of the central banks in emerging market and low-income countries have also cut policy rates. The impact of lower interest rates will be reinforced by central bank guidance on the future trajectory of monetary policy and the expansion of asset purchase programs. Second, central banks have provided additional liquidity to the financial system, including through open market operations. Third, a number of central banks agreed to provide liquidity in U.S. dollars through swap-based credit line facilities. Finally, central banks renewed programs used during the global financial crisis and launched a number of new large-scale programs, including to buy riskier assets such as corporate bonds. By entering these markets essentially as "buyers of last resort" and helping to contain upward pressure on the cost of credit, central banks are ensuring that households and businesses can maintain access to credit at an affordable price. (Rakshit, Effects of the COVID-19 pandemic on stock market returns and volatilities: evidence from selected emerging economies, 2021)

As is often the case during financial turmoil, risk tolerance in emerging markets takes the biggest hit. Indeed, emerging markets are experiencing the worst turnaround in portfolio flows in history, amounting to about $100 billion, or 0.4 percent of their GDP (Vakulenko, 2020), creating enormous challenges for the more vulnerable countries.

As companies face increasing difficulties and default rates rise, credit markets may experience a sudden halt in activity, especially in riskier segments such as high-yield instruments, syndicated loan markets and private debt markets. These markets have expanded rapidly since the global financial crisis, reaching $9 trillion globally (Vakulenko, 2020), while credit quality, as measured by the financial health of borrowers, underwriting standards, and investor protection mechanisms have weakened. Since early March, spreads on high-yield instruments have risen rapidly, despite recent declines, especially in sectors that have been hit hardest by the pandemic, such as passenger airlines and energy. Similarly, the prices of syndicated loans fell sharply - at one point, the drop was about half of the decline seen during the global financial crisis. (Koroleva, 2021)As a result, rating agencies revised their default forecasts upward to recessionary levels; the probability of default embedded in market prices also rose sharply.

## Factors affecting the entrepreneurial activity of women in times of crisis

Worldwide, women were the most affected throughout the pandemic, with a majority (87%) of women entrepreneurs reporting that the COVID-19 crisis had a negative impact on their businesses. (The Mastercard Index of Women Entrepreneurs) Moreover, some factors lead to women being particularly vulnerable, such as driving businesses in industries most affected by the economic downturn, falling behind men in taking advantage of digital technology, and being burdened by childcare responsibilities.

As in earlier GEM studies, it was found that the highest rates of involvement in entrepreneurship for both women and men appear to be in the 18-34 age group, with gender parity observed in all regions except Central and East Asia. The youngest female and male entrepreneurs are found in low-income countries, as about 60 percent of female and male entrepreneurs are between the ages of 18-34. (GEM Report,2021)

Taking into account the fact that only people with high human and social capital and ready to use niches that opened during this period could start a business in a pandemic, we believed that they would consider the impact of the pandemic on their business as less negative than owners of young or already established businesses. But it turned out that this was not the case: owners of young businesses (1-2 years old) were the most resistant to the pandemic, while business owners with a longer history and newcomers were less resistant to new shocks and risks.

All of the above contributes to the following conclusion, that after the COVID-19 crisis, younger entrepreneurs began to be involved in business, and the average age of entrepreneurs decreased. It follows from this that age in the crisis has a negative impact.

*H1.2.: In a crisis, age has negative impact on women's involvement in entrepreneurship*

Effective businessmen during this pandemic showed a general attitude: they left their routines and comfort zones and investigated ideas to find solutions to current problems. Ketchell (2020) resumed this as a rediscovery of their entrepreneurial spirit. Sustainability as an entrepreneurial feature emerges from individual, organizational, and institutional factors. (Korber and McNaughton, 2017).

At the same time, the pandemic has made it clear that in times of crisis, inequalities in access to quality education can increase dramatically. However, with thвe possession of a sufficient number of skills and abilities in the population contributed to the preservation of entrepreneurs' own business. (Portuguez Castro, 2021)

Conservation -> more businesses stay afloat -> higher activity

All of the above suggests that education in crisis has a positive impact on women's involvement in entrepreneurial activity. As education affects the development of certain skills and knowledge, and they in turn contribute to the preservation of business and its successful development. This suggests that more businesses will remain "afloat" and therefore entrepreneurial activity will be higher. Consequently, the education crisis has a positive impact on the involvement of women in entrepreneurship.

*H2.2.: In a crisis, education positive influence on women's involvement in entrepreneurship*

These fears, triggered by perceived threatening incentives, have already been observed during previous epidemics, such as those caused by SARS (Reynolds et al., 2008) or the Middle East respiratory syndrome coronavirus (MERS-CoV; Bukhari 2016). Considering the grave worldwide risk and impact of the COVID-19 pandemic on different areas of human survival, health, well-being, and development, Ahorsu (2020) developed a scale to measure fear of this pathogen based on the existing scientific literature: the COVID-19 Fear Scale (FCV-19S).

Fear of failure is actually much greater than actual failure, and the former emerges irrespective from the latter (Engel et al., 2021). Additionally, fear of failure is not only an anxiety-ridden individual experience in itself, but also affects multiple entrepreneurial outcomes, from entrepreneurial orientation (Martins et al., 2018), opportunity individualization (Wood et al., 2014) and exploitation (Welpe et al., 2012), to entrepreneurial entry (Arenius & Minniti, 2005; Wennberg et al., 2013), entrepreneurial actions and behaviors in the course of entrepreneurial activity (Cacciotti et al., 2020).

Hence, as risk bearers, entrepreneurs accept and handle the perception of risks that they think they can handle, which means that fear of failure is a crucial factor in entrepreneurship (Cacciotti et al., 2016 (Cacciotti et al.,2020 Kollmann et al., 2017). Hence, fear of failure can create a perceptual bias, a negative cognitive bias that reduces expectations for starting a new enterprise.

While the crisis and the economic response had a serious effect on entrepreneurial businesses, the failure of entrepreneurs to change and adjust was the main reason for the discontinuity. Sustainability, as explained by Castro and Zermeno (2020), is the result of relationships to crisis, business and entrepreneur attributes, institutional attitudes, social and human capital, and strategic management. This view is supported by success stories of entrepreneurs.

*H3.2.: In a crisis, fear of failure has negative influence on women's involvement in entrepreneurship*

The results of the survey show that the necessity of eliminating skills shortages is now more relevant than ever. A plurality of responses (58%) claim that eliminating skill spaces in their firms' workforce has been a greater focus since the pandemic began. And of the top five key activities to address these spaces - recruitment, hiring, retooling, releasing, and skill building in the incumbent payroll - skill building is more widespread now than in the lead-up to the pandemic. Organizations are doing more skills development now than before the COVID-19 crisis, sixty-nine percent of respondents say their organizations are doing more skills development now than they were before the COVID-19 crisis. This survey was conducted from May 14-24, 2019, and collected responses from 1,216 participants representing all regions, industries, company sizes, functional specialties, and years of service. (Daniella Seiler, 2021)

During the 2020 crisis, the skills and knowledge of women entrepreneurs played an important role. It was the level of knowledge and skills that influenced the success of enterprises and businesses run by women. This has been confirmed in many articles and studies.

The Oliver Wyman Forum touched on the topic in one of the articles on the impact of COVID-19 on women's entrepreneurship. On average, Russian firms are 70% dominated by women, where they manage or control the work of women. During the covid crisis, when the government decided to introduce a regime of limited isolation, women entrepreneurs made the most of their communication skills and emotional intelligence when organizing missions to respond to unforeseen Covid-19 situations. With the support of partners, the company immediately decided to go online. (Oliver Wyman Forum, 2022)

The survey of this forum, where more than 100,000 people took part in 10 countries, confirmed the opinion that today women pay more attention to their health, learn new skills and skills. They perform these actions in order to get a more reliable job, they have to quickly master digital technologies in order to stay safe, thus combining work and household chores. (Zidhna, 2021)

In an article by the Higher School of Economics Research Center, they found that in the conditions of self-isolation caused by the pandemic coronavirus infection, knowledge and skills, in particular skills related to "agency" ("active independence") (P.S. Sorokin, 2020) and maintaining health, both physical and mental, are crucial to success.

The World Economic Forum survey identified 8 key behavioral archetypes that arose after the COVID-19 crisis. (Kreacic, 2022) It is they who will contribute to the formation of the economy and society in the coming years. Women entrepreneurs also entered each of the archetypes, for example, women who avoid using digital technologies before the pandemic, have now become involved in the digital sphere, and a new archetype called "new collars" has appeared, these are those former workers who received new skills precisely during the pandemic. That is, the crisis of 2020 influenced the acquisition of new knowledge and skills for all entrepreneurs, including women entrepreneurs, since it is this factor that directly depends on the success of the company during the crisis.

During and after the pandemic, many projects were created to improve the skills and knowledge of entrepreneurs. For example, in Jakarta, Indonesia in 2021 article by International Labour Organization collected knowledge sharing activities on skills needs and employment opportunities in the information technology sector jointly funded by the Japanese government (Japan funded Skills Project) and Fast Retailing Co., Ltd (protection project) from unemployment or UNIQLO). ((ILO), 2021) These projects invite inspiring young people to share their success stories in building careers in the digital age. These projects aimed at improving knowledge and skills in the IT field have contributed to attracting a large number of people to the digital workforce, a positive impact on the national economy, and also opened up market opportunities for the industry with further higher income for workers, as was said by Tauvik Muhamad, ILO's Technical Officer for Skills Development.

*H4.2.: In a crisis, level of skills has positive influence on women's involvement in entrepreneurship*

Women communicate, learn from each other, and are motivated to follow their example. This is why "women's" businesses often find themselves within a cyclical economy and form communities. As a company that works with dozens of small rentals, we see plenty of such examples - about 80% of such businesses are founded by women. (UN Women 2020)

Those working in the services, in the informal sector, or in undeclared employment are particularly at danger of missing out on their networks, as these sectors have been hit the most by COVID-19, it was mentioned in Williams & Kayaoglu article in 2020. Several of these businesses were displaced during the crisis, some were not covered by federal government furlough programs and, as a follow-up, may not be able to reinvent themselves.

In an appendix to his report to the president of the Russian Federation, Boris Titov stated that the coronavirus pandemic left ⅓ of Russian companies at a loss, and one million businesses shut down completely. (Presidential commissioner for the protection of entrepreneurs' rights , 2021)

According to the auditing company FinExpertiza, in the spring of 2020, more than a third of organizations were at a loss of 1.65 trillion rubles, while the rest earned 3.05 trillion rubles. As a result, the profit of Russian business amounted to 1.4 trillion rubles, which is 67% less than last spring. (FinExpertiza, 2020) It was also said that 1.16 million small and medium-sized businesses closed in Russia in 2020, 2.3 times more than a year earlier.

RBC in its report in 2020 said that the pandemic COVID-19 in Russia affected about 4.17 million companies and individual entrepreneurs from a total of 6.05 million, that is up to 67% of small, medium and large enterprises and individual entrepreneurs. (RBC, 2021) Experts from the PwC audit network reported that the COVID-19 pandemic led to an economic downturn that affected women more than men. (RBC, 2021)

All of the above leads to the conclusion that women do, in fact, through their acquaintance with other entrepreneurs, draw conclusions about business involvement. Because of the great negative impact on business and entrepreneurship in the crisis, women have become less involved in entrepreneurial activities.

*H5.2.: In the crisis, acquaintance with other entrepreneurs has negative impact on women's involvement in entrepreneurship*

# Chapter 2. Empirical Research

In order to test proposed hypotheses, quantitative models were built. To evaluate the differences between pre-COVID and COVID entrepreneurial behaviors, two data samples were used. Both samples derive from Global Entrepreneurship Monitor (GEM) reports, dating to 2019 and 2021.

Global Entrepreneurship Monitor is a joint project of Babson college (USA) and London Business School. Now, GEM consists of more than 500 researchers from more than 120 countries. On contrary to most of other entrepreneurial research ventures, GEM is focused on individuals’ behaviors rather than businesses. Being a valid data source and consultant for well-known UN (United Nations), World Bank and OECD (Organization for Economic Co-operation and Development), there is no doubt in relevance of GEM as a data source for current research.

GEM report is published annually and provides a comprehensive analysis of entrepreneurial activity both locally (by countries) and globally. It takes into consideration not only macroeconomic, demographic and industrial specifics, but also entrepreneurial stages, profiles and local details.

Apart from other projects dedicated to entrepreneurship, GEM’s peculiarity is that it gets the data directly from entrepreneurs, instead of outsourcing or from data aggregators. This lets the systemic analysis be more objective and data be more correct.

In context of the research, GEM database provides an opportunity to build a model, which will have the potential to statistically predict individuals’ behaviors to a certain degree.

## Data

Based on the hypotheses, several variables were selected out of the data samples for 2019 and 2021. Both are results of GEM questionnaires performed to estimate entrepreneurial activity Russia and its underlying reasons.

The original data samples have 438 variables each. However, a lot of them are scenario-produced – the interviews are scripted, thus some questions (hence, data) are eradicated. Considering, that the research requires a generalized view, such variables are not included in further choice. Choice of variables was conditioned by the hypotheses stated in Chapter 1. Moreover, in order to lessen the possibility to miss out any important data, several variables were added, based on author’s personal opinion.

However, the original samples coved both men and women entrepreneurs. Due to research revolving around women’s entrepreneurship in crises, the data related to men had to be deleted. The variable **gender**, not included into the final list, was in the sample used during data refurbishing.

The final list of variables is as follows:

**TEAFEM** – total entrepreneurial activity (covering only females). In this research, TEAFEM is the dependent variable. In original data sample it takes values of 0 (not involved in entrepreneurial activity) and 1 (involved in entrepreneurial activity). This leads us to the point, that our dependent variable is binary, which will play its role when choosing the regression type.

* **Age** – all the respondents are from 18 to 64 years old. Age is the first independent variable for our research.
* **UNEDUC** – UN education level of the respondent. Data ranges from 0 (pre-primary education) to 8 (PhD or equal).
* **Futsup** (19/21) – “Expects to start-up in the next 3 years”. Respondent’s plan to start a new business in the upcoming 3 years. Takes values of 0 (no) and 1 (yes).
* **Suskil** (19/21) – “Has the knowledge, skill and experience required to start a new business, agree/disagree”. Respondent’s perception of own knowledge, skills and experience to start a business. Takes values of 0 (doesn’t have) and 1 (has).
* **Frfail** (19/21) – “Would not start a business for fear it might fail, agree/other”. Represents respondent’s risk-aversiveness. Verbatim, the data shows, whether fear of business failure will stop the respondent from starting one. Takes values of 0 (would start a business despite fear) and 1 (would not).
* **Easyst** (19/21) – “In your country, it is easy to start a business, agree/disagree”. Shows respondent’s perception of macroeconomic conditions in the country in regards starting new businesses. Takes values of 0 (hard to start a business) and 1 (easy to start a business).
* **Knowen** (19/21) – “"How many people do you know personally who have started a business or become self-employed in the past 2 years?”. Displays whether the respondents are surrounded by people of entrepreneurial ‘nature’. Takes values of 0 (none) and 1 (at least one).
* **Nbgood** (19/21) – “In your country, most people consider starting a new business a desirable career choice, agree/disagree” – respondent’s perception of social attitude to entrepreneurship. Takes values of 0 (don’t consider starting a business desirable) and 1 (do consider).

1. List of variables used in empiric research



### Refurbishing data

Before moving to model construction, the data has to be fit to be used further. This consists of two major activities. Firstly, it is required to make sure that the binary variables take only values of 0 and 1, as was described before. Secondly, it is required to check whether there is multicollinearity in the data.

**Checking binary variables**

Originally, data samples consisted of 1062 and 1051 observations for 2019 and 2021 samples respectively. However, the number of observations is gradually reduced after ‘cleaning’ each variable. The order is the same as the one before.

Variables TEAFEM, Age and UNEDUC are all in limits (0/1; 18-64; 0-8, respectively).

Futsup – originally, takes values of -2 (refused to answer) and -1 (don’t know) as well. Such observations are deleted from the samples. The samples are down to 1040 and 1023 units respectively.

Suskil - originally, takes values of -1 (don’t know) as well. Such observations are deleted from the samples. The samples are down to 891 and 934 units respectively.

Frfail – as this variable is reached, all unfit values were eradicated. Originally, there were values of 8 (don’t know) and 9 (refused).

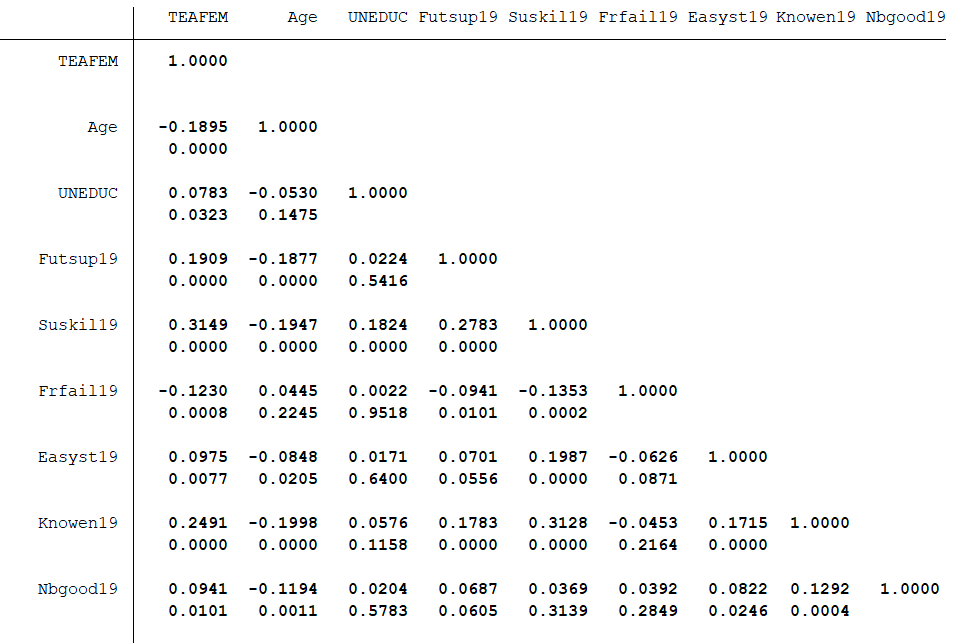
Eayst - originally, takes values of -1 (don’t know) as well. After deletion, the samples are down to 758 and 747 units respectively.

Knowen – in 2019 sample, there were observations without values for the variable. Instead of assigning values, such observations are deleted in order to keep the objectiveness of the model. In 2021 sample, there are also values of -1 (don’t know), which are also removed. After deletion the samples are down to 747 and 740 observations.

Nbgood - as this variable is reached, all unfit values in 2019 sample were eradicated. Originally, there were values of -1 (don’t know) and -2 (refused). The 2021 sample was reduced to 644 observations.

**Multicollinearity**

There are two ways of checking data for multicollinearity: checking correlation coefficients between variables and investigating variance inflation factor (VIF). Pairwise correlation matrices (with p-values for significance evaluation) are built in Stata via the command “**pwcorr, sig**”. To take a look at VIF, it is required to build linear regressions via function “**regress**” and then perform function “**vif**”.



1. Pairwise correlation matrix for 2019 data

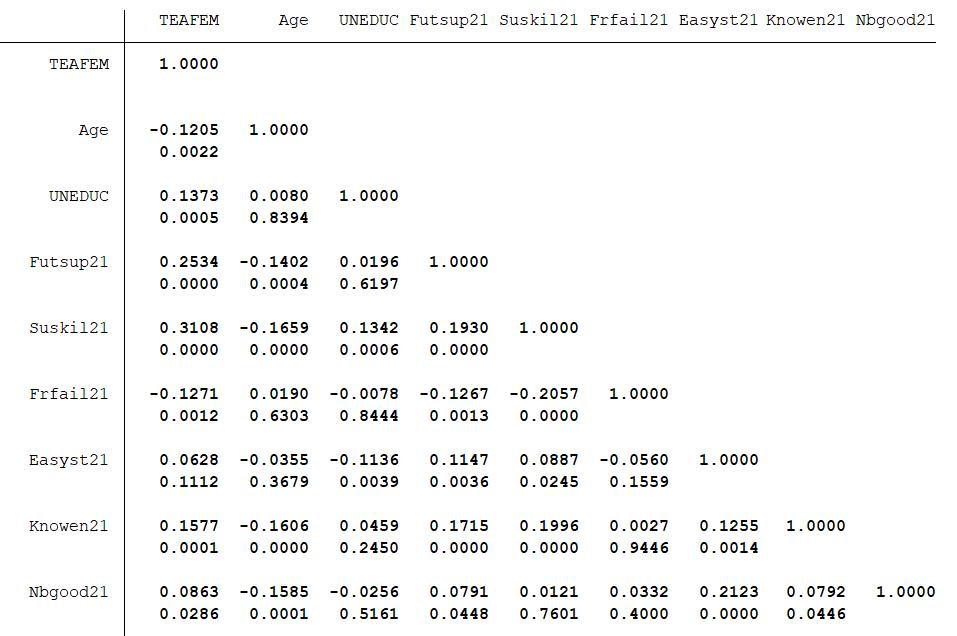
As seen from above, for 2019 sample correlations between variables are not high enough to classify the correlation noteworthy. The highest correlation coefficient between independent variables is 0,3128 between Knowen19 and Suskil19. It may be classified as weak, but moderate dependency, however, future tests will show, that it is not spawning multicollinearity problem for data.

Изображение выглядит как стол

Автоматически созданное описание

1. Variance inflation factor values for 2019 data

Linear regression results are not significant for the study, so there is no use in including it in the paper. However, performing “**VIF**” command for 2019 sample gives the results as above. Generally, VIF values below 10 are considered enough to accept that there is no multicollinearity. As seen, all VIF values for 2019 sample are around 1, thus it is concluded that no multicollinearity is present.



1. Pairwise correlation matrix for 2021 data

Изображение выглядит как стол

Автоматически созданное описание

1. Variance inflation factor values for 2021 data

For 2021 sample, results are the same as for 2019. None of correlation coefficients are signifying notable dependency. VIF values are showing no sign of multicollinearity as well.

Thus, it is concluded that data is ready to be processed and analyzed.

## Model construction

Dependent variable (TEAFEM) of research model is binary, taking values of 0 and 1. In econometrics, when such a variable is studied – a logistic regression is used. Regular linear regression is not appropriate in this case, as it is better fit for researching continuous variables, and the accuracy of the model will be jeopardized. Another possible type of regression is Poisson regression, which is very similar to logistic, but is primarily used for count data. In case our research was studying rate of occurrence of women entrepreneurs among all women – it would be suitable. But as we are focused on changes in factors influencing women entrepreneurship activity – the case is different.

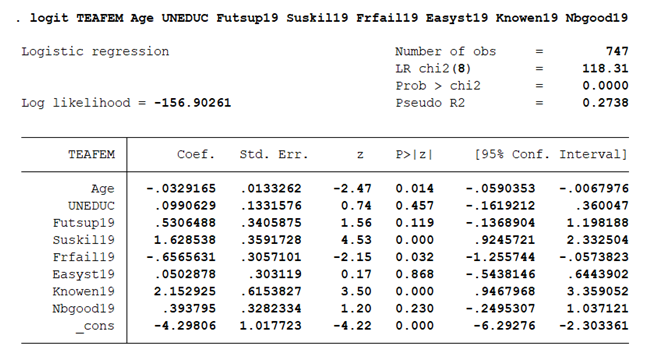
After deciding on logistic regression as a way to study the data, it is required to choose between logit and probit approaches. The first uses the cumulative distribution function of the logistic distribution. The latter – cumulative distribution function of the standard normal distribution. Logistic and standard normal distributions are very similar , the difference lies mainly in the ‘tails’.

However, interpretation of differences in tails would be a subjective criterion to make a choice. A more objective approach is proposed by Chen and Tsurumi (2010). They are suggesting to build both models and then compare them by one of information criteria:

1. DIC – Deviance information criterion
2. PDIC – Predictive deviance information criterions
3. USSE – Unweighted sum of squared errors
4. WSSE – Weighted sum of squared errors
5. AIC – Akaike’s information criterion.

There are two important restrictions related to the data. Firstly, it is required to check if the data is ‘unbalanced’ (i.e. the number of 0s and 1s in the sample is not roughly equal). In case it is ‘unbalanced’ – the DIC and AIC criteria will be effective. Secondly, the number of observations. To reach the maximum effectiveness of the test – there should be at least 1,000 observations in the data sample. Unfortunately, there are only 758 and 644 observations for 2019 and 2021 data samples respectively. However, for the sake of research it is assumed that there is enough data.

Thus, to decide on whether logit or probit is better for the research, all possible models will be built, and AICs (gotten via command “**estat ic**”) compared. For example, the first model we build is logit for 2019 sample. As seen, there are several variables, that have p-values of more than 0,01, 0,05 or 0,1: UNEDUC, Futsup19, Easyst19, Nbgood19. This means, that these variables may be considered insignificant and omitted from the regression.



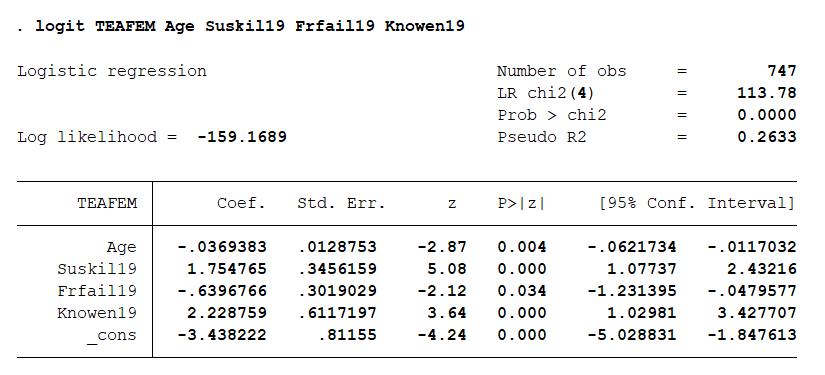
1. Logit regression model for 2019 data

Изображение выглядит как стол

Автоматически созданное описание

1. Akaike’s information criterion value for logit regression model for 2019 data

However, if we build the regression without insignificant variables, the AIC value changes. Thus, to make evaluation more objective, it is required to compare models both with and without insignificant variables.



1. Logit regression model for 2019 data, without insignificant variables

Изображение выглядит как стол

Автоматически созданное описание

1. Akaike’s information criterion value for logit regression model for 2019 data without insignificant variables

The table below summarizes the AIC values for all possible models:

1. AIC values for possible regression models



Unfortunately, this method doesn’t provide an undoubtable solution, as in case of 2019 sample logit model is better (AIC values are lower), and in case of 2021 sample – probit is better. However, an assumption can be made: as difference between AIC values is greater for 2019 sample, while for 2021 they are almost the same – it is possible to assume, that logit approach to model construction is at least slightly better than probit.

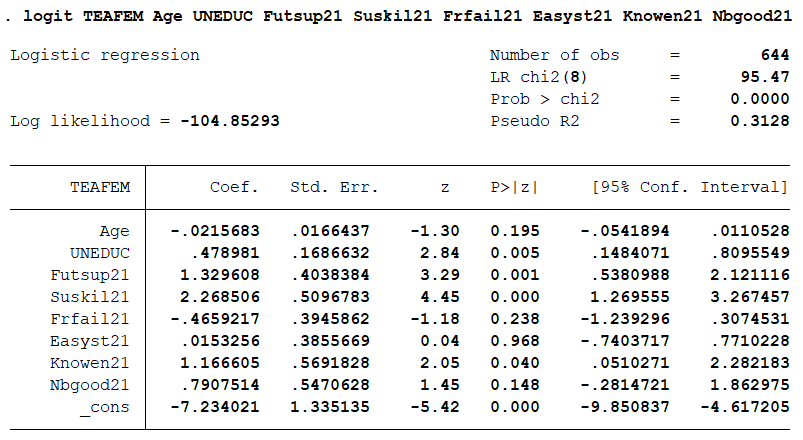
## Models

Logit models for samples of 2019 and 2021 are presented below.

Изображение выглядит как стол

Автоматически созданное описание

1. Regression model (logit) for 2019 data



1. Regression model (logit) for 2021 data

As seen, both models are significant, due to p-value being 0. “Prob>chi2” statistic is a test, null hypothesis of which is that all of regression coefficients are equal to 0. Probability of this hypothesis being accepted is 0 for both models, thus the models are significant for all significance levels (90%, 95% and 99%). Pseudo R-squared are 0,2738 and 0, 3128 for 2019 and 2021 respectively. These values are generally considered as quite low, signifying that the models explain only approximately 30% of dependent variable’s deviation. However, due to, firstly, complexity of psychological process of entrepreneurship, and, secondly, irrationality or human choice, these R-squared values are considered acceptable for this research. They might be boosted by including more independent variables in the model, but, due to chosen list of hypotheses, additional variables will only overburden the models.

Before, the issue of variables in 2019 sample being insignificant was touched upon. However, 2021 sample also includes such variables: Age, FrFail, Easyst and Nbgood. So, transforming the regressions (removing insignificant variables) into formulas, the models look as follows:

Unfortunately, due to having an abundancy of variables, making a graphical representation of the model is impossible.

## Hypotheses testing

**Hypothesis 1**

*H1.1.: Before the crisis, age has positive influence on the involvement of women in entrepreneurship*

*H1.2.: In a crisis, age has negative influence on women's involvement in entrepreneurship*

To check these hypotheses, it is required to take a look at the significance of the variables Age in 2019 and 2021 samples and the coefficients before them. In case of 2019, the coefficient is significant on all confidence intervals, except 99% (p-value is equal to 0,014) and negative. In case of 2021, the coefficient is insignificant due to p-value being equal to 0,195. Thus, both hypothesis H1.1 and H2.1 are rejected.

**Hypothesis 2**

*H2.1.: Before the crisis, education has positive influence on women's involvement in entrepreneurship*

*H2.2.: In a crisis, education has positive influence on women's involvement in entrepreneurship*

To check hypotheses H2.1 and H2.2 – it is required to take a look at the coefficients before the variables UNEDUC. As the hypotheses suggest that education has positive influence on entrepreneurial activity, the coefficients should be positive.

P-value for UNEDUC coefficient for 2019 sample is 0,457, meaning it is insignificant on all confidence intervals. For 2021 p-value is 0,005 (hence, significant) and the coefficient value is 0,478981. Thus, hypothesis H2.1 is rejected and H2.2 – accepted.

**Hypothesis 3**

*H3.1.: Before the crisis, fear of failure has negative influence on women's involvement in entrepreneurship*

*H3.2.: In a crisis, fear of failure has negative influence on women's involvement in entrepreneurship*

The way of testing hypotheses H3.1 and H3.2 is similar to the previous ones, but with the variables FrFail and they should be negative.

For 2019 sample, p-value is 0,032 and the coefficient value is -0,6565631. For 2021 - 0,238 and -0,4659217, respectively. Coefficient before FrFail19 is significant on all confidence intervals and is negative, while before FrFail21 – insignificant. Thus, hypothesis H3.1 is accepted and H3.2 – rejected.

**Hypothesis 4**

*H4.1.: Before the crisis, level of skills has positive influence on women's involvement in entrepreneurship*

*H4.2.: In a crisis, level of skills has positive influence on women's involvement in entrepreneurship*

Hypothesis 4 is tested via evaluating the coefficients before variables Suskil19 and Suskil21. Both are significant, hence it is needed to check the values. The coefficients are 1,628538 and 2,268506 respectively. Subsequently, it is possible to conclude that the importance of skill is rising in crises - it is more likely, that a skilled person will be involved in entrepreneurship during the crisis, than before it. Hypotheses H4.1 an H4.2 are both accepted.

**Hypothesis 5**

*H5.1.: Before the crisis, acquaintance with other entrepreneurs has positive impact on the involvement of women in entrepreneurship*

*H5.2.: In the crisis, acquaintance with other entrepreneurs has negative impact on women's involvement in entrepreneurship*

The last hypothesis is tested the same way as the 4th one, by checking the values of coefficients. In 2019 regression, it is 2,152925, while in 2021 regression it is 1,166605, both significant. Thus, H5.1 is accepted and H5.2 is rejected.

1. Results of hypotheses testing



# Chapter 3. Discussion of results and Managerial implications

## Discussion of the results

*H1.1.: Before the crisis, age has positive influence on the involvement of women in entrepreneurship –* ***rejected due to negative coefficient***

The number of young entrepreneurs in Russia is increasing, all conditions for this have been created. (Eastern Economic Forum, 2021)

In 2019, according to surveys of the Ministry of Labor and Social Protection of the Russian Federation, more than 56% of young people see prospects and the future exactly in entrepreneurship, coupled with the mode of work in freelancing, the generation of any products and ideas. This activity, it is expressed both in dynamics and in figures. According to statistics for 2019, among the entrepreneurial community, 30% are young people. The average age of an entrepreneur is about 38 years old. (Rosscongress, 2020)

And in 2019 the most active group of young people was 24-29 years old of women, and in 2020 it's already the 18-24 age group of women. This trend has been noticed by the ministry.

Indeed, the trend for entrepreneurship is very big, and there is a huge interest in entrepreneurship among schoolchildren. This is confirmed by the fact that in 2018 the finalists of the competition (the competition for pupils "Big Change") proposed to introduce an additional direction in the competition - "Entrepreneur", and this year it became one of the most massive, and of the 2.5 million participants in the Big Change 400 thousand are those who came to the track of entrepreneurship. This is reported by the head of the Federal Agency for Youth Affairs Ksenia Razuvaeva.

Young people take risks more easily, i.e. they have more free time and fewer responsibilities. Moreover, there is a unique opportunity to turn a hobby into a business.

In studying the articles in the first chapter before forming a hypothesis showed that articles were selected that spoke not only about Russia, but also about Europe as a whole, and less focus was placed on young people and schoolchildren, and was taken a general cross-section of the middle age of entrepreneurs. Therefore, in a clearer and more specific study of articles and analysis on this topic, it became clear that the younger the age of women, the more they are involved in entrepreneurial activity.

*H1.2.: In a crisis, age has negative influence on women's involvement in entrepreneurship –* ***rejected due to insignificance***

Research Inc.Russia in 2019 found that the most popular business segment among women was the service sector - according to analysts, it employs 57% of entrepreneurs. And in second place was retail trade, which employed 26.4% of entrepreneurs. The average age of Russian businesswomen before the crisis is reduced by 5 years - the limits were established in the range of 30-35 years. (IncRussia, 2019)

In 2020, the project "My Business" put up an article which says that among Russian entrepreneurs under the age of 35, the most popular area of activity is the service sector. (Mybusiness, 2020) However, Sberbank's report on entrepreneurship in 2021 provides a ranking of the industries in which women were most likely to start a business in 2020. It says that the service sector (9.7%) is only in 3rd place, while wholesale and retail trade companies are in first place (28.9%). (Sberbank bussiness, 2021) Going back to Inc.Russia, retailing only ranked 2nd in 2019 with a percentage of 26.4%. This means that the younger generation of women became less involved in business during COVID-19, while the influx of entrepreneurs caused the older generation to enter the wholesale and retail industry. Confirmation of this can be found in an article by Banki.ru, where the chairman Maksim Solntsev says that the majority of the wholesale and retail trade is the older generation of women who have a certain level of knowledge and experience, which is what helps them successfully run their business. (Solntsev, 2021)

All of the above confirms the hypothesis that age does not play a role in the involvement of women in entrepreneurship in times of crisis.

*H2.1.: Before the crisis, education has positive influence on women's involvement in entrepreneurship –* ***rejected due to insignificance***

According to the empirical study, education before the crisis does not affect the involvement of women in entrepreneurial activity.

Initially, women start their own business to maintain forced, that is, they had to earn money themselves to provide for the family. Dimeroglu N.B.'s article "Women's Entrepreneurial Activity: Problems and Solutions" in 2020 named the reasons that encourage women to start their own businesses. These are financial independence, changing situations around, fulfilling dreams, and fees. This reason was given by 92% of respondents in the NAFI study, which has been tracking the dynamics and prospects of women's entrepreneurship in Russia for five years. That is, women despite their level of education before the crisis enter into entrepreneurial activity. (Niiara, 2020)

In a 2019 study on women's entrepreneurship and its peculiarities, E.E. Makhmetova said that basic professional education was rarely taken into account when starting a business, although women entrepreneurs appreciated having a higher education, considering it a necessary condition for successful entrepreneurial activity. (Makhmetova, 2021)

According to a study of the all-Russian public organization of small and medium-sized enterprises "Opora", half of the female entrepreneurs surveyed (50%) received additional business education in the last 6 months. The most popular formats are online learning and self-education. (OPORA RUSSIA, 2019) That is, at the time of entry into entrepreneurial activity they had no professional education. And only after a certain amount of time spent managing their business did they find it necessary to improve their knowledge in order to run it better.

*H3.2.: In a crisis, fear of failure has negative influence on women's involvement in entrepreneurship –* ***rejected due to insignificance***

Before the hypotheses were built, articles were found stating that the fear of failure negatively affected women's involvement in entrepreneurial activity, that is, because of the fear of failure, women did not want to engage in entrepreneurial activity. However, after conducting an empirical study, it turned out that the fear of failure does not play a role in women's entrepreneurship.

COVID-19, in turn, contributed to the transition to the online sphere of many activities. In a study of women's entrepreneurship in Azerbaijan, VISA in 2020 said that 37% of respondents to their survey are going to adapt their business to the online environment. That is, women entrepreneurs need to master the digital sphere. (VISA, 2020)

Hence, digitalization and the use of information and communication technologies are increasing opportunities for women entrepreneurs to grow themselves and their ventures and to access equal opportunities with men in business creation (Afrah & Fabiha, 2017; Pappas et al., 2017; Shah & Saurabh, 2015).

Therefore, when improving their digital skills, women entrepreneurs are less afraid of failure, because they adapt better to changes by applying their skills and knowledge.

The Committee for the Development of Women's Entrepreneurship of the Russian Federation conducted a survey of women entrepreneurs to 93% of women surveyed said that they continued to develop their business. (Opora Russia, 2021)

60% noted that they were able to quickly adapt to new realities - women are the ones who quickly adapt to situations and the changes we face. 40% noted that they not only continued to develop their business, they not only recovered, but also returned in terms of their business turnover to the level before the crisis year. That said, about 12% of respondents said they were able to increase their business volumes as early as 2021. This suggests that they looked at the limitations and were able to see opportunities in them.

That is, it became clear that women entrepreneurs, due to the improvement of their skills and knowledge during the crisis, began to experience less fear of failure, and at the same time become involved in entrepreneurial activity.

*H5.2.: In the crisis, acquaintance with other entrepreneurs has negative impact on women's involvement in entrepreneurship –* ***rejected due to positive coefficient***

Prior to the formation of hypotheses, evidence was revealed that acquaintance with entrepreneurs in COVID-19 crisis had a negative impact on the involvement of women in entrepreneurial activity. However, after conducting an empirical study, it became clear that if before the crisis the indicator "KNOWEN19" had a value of 2.1529, that is, it was significant and important for women entrepreneurs, then in 2021 the same indicator "KNOWEN21" had a value of 1.1666, that is, it was also significant, but its significance decreased.

Therefore, even without an additional search for confirmation, it became clear that the influence of dating other entrepreneurs has decreased, but not so much as to become negative for women in making a decision to engage in entrepreneurial activity.

So we can conclude that getting to know other entrepreneurs in 2021 after the crisis is still important for women entrepreneurs.

## Managerial implications

Results of the study and further discussion open an opportunity for proposition of steps and programs for policymakers and existing companies to boost entrepreneurial involvement for women. They may be divided by addressees of propositions and the hypotheses tested.

**Policymakers**

*Age*

* Business schools for high schoolers – younger generation gets more involved, skilled and experienced

As mentioned earlier, women entrepreneurs consider education an important component in the success of the business. The formation of the level of education takes place in schools, as well as universities, but it is at the initial stage of determining their future trajectory, that is, the earlier will be taught entrepreneurship, to introduce a child's age in the business field, younger people will be involved in entrepreneurial activity or be able to avoid many mistakes at the initial stages of building their business.

* Subsidizing businesses for youngster involvement – excursions, case competitions for schoolers

In addition to specialized institutions aimed at teaching entrepreneurship and business in general, the state can also focus on promoting the involvement of the younger generation in entrepreneurship through excursions to companies, as well as through case championships. In the first variant at the expense of excursions the company can lose time on their carrying out, and in a consequence and money, however, thus it can promote increase in interest from youth, and their further involvement in business sphere. And in the second case, the output of the holding will not cost a lot of money, however, also be able to achieve their goal, mentioned above. It is by focusing on the segment of the future women entrepreneurs Russia will be able to improve its economy, as in recent times it was women's entrepreneurship has shown a big jump in development.

On May 26-28, 2022 the free spring campaign "Day without Turnstiles" is taking place. (День без турникетов, 2022) The Entrepreneurship Week includes guided tours of companies in the service and service industry, manufacturing, education, creative industries and innovation, as well as visits to leading museum and sports venues in Moscow. This project with the help of excursions, master classes and interactives, introduced residents and guests of Moscow of all ages to the innovative platforms of the city, and combined companies and the younger generation with entrepreneurial activity.

However, a project involving girls in entrepreneurship has not yet emerged in Russia, so this proposal has great potential for development.

There are already successful examples that were aimed at supporting women's entrepreneurship. On March 7, 2017, the Government approved the "National Strategy of Action for Women" prepared by the Ministry of Labor, the implementation of which is envisaged in the period from 2017 to 2022. (Ministry of Labor of Russia, 2017) In order to implement the program, the following measures are envisaged:

* Creation of specialized forms of grant support and professional contests for women innovators to encourage women's participation in high-tech industries and innovative activities;
* Organization of professional training for women and the formation of new competencies and qualifications in them, including in the field of entrepreneurial activity;
* The Council under the Government of the Russian Federation, chaired by Olga Golodets, coordinate measures within the framework of the Strategy.

This example confirms the need, in times of crisis, for the state to support women's entrepreneurship.

*Education*

* Government-funded education programs – says for itself

On the part of the state, programs to develop their education will give a big boost to the involvement of girls in entrepreneurship. So they can open specialized courses aimed specifically at women. Such courses could cover any branch of the business sphere, marketing, finance, IT, HR, etc.

There is SME Corporation: Project "Mom is an Entrepreneur" (SME Corporation, 2016), which was implemented since 2016. (SME Corporation, 2016) Some insight of this project:

* 40 hours of full-time training (over 5 days) in the basics of entrepreneurship and business management for women on maternity leave, mothers of young children, and women registered with the employment service;
* Partners and co-organizers: "Opora Russia" Committee for Women's Entrepreneurship Development, Amway Charitable Foundation "In Charge of the Future", Bank "Uralsib".

Already being implemented educational courses for entrepreneurs, State Budgetary Institution "Small Business of Moscow" (MBM.MOS, 2018):

* SBU conducts free seminars, master classes, trainings, online academy functions, profile events on the topic of women's entrepreneurship;
* 55.6% of trainees are women (SBU survey, August 2018).

*Fear of failure*

* Subsidizing – would let cover the small failures, which arise all the time

Allocation of subsidies for women entrepreneurs during the crisis in Russia will help women's businesses to stay afloat or even to develop them. That is, a certain amount of money will allow women to avoid the fear of failure, so they will be confident that their business is safe and they can safely continue to do it no matter what.

* Exemptional funding – the worse the debt conditions – the higher the fear of failure. Special conditions will reduce this fear

The state's subsidized funding can also help to reduce the fear of failure among women entrepreneurs in times of crisis. Thus, special offers for women entrepreneurs will also contribute to greater confidence in the future of their business, will be able to focus more on running and less on their fear of failure.

*Level of skills*

* Bureaucratic support/courses/hotline – women are afraid of paperwork, taxes and etc. – an accessible and easily reachable help is required

Bureaucratic support from the state or the introduction of courses on important business skills in the public domain will also help to improve the quality of business conduct by women. Since it has been repeatedly mentioned that women entrepreneurs indicate their lack of knowledge and skills for business, poor or no understanding of finances and everything related to them, the development of specialized courses or support from professionals can help women entrepreneurs in Russia to conduct their business.

*Acquaintance with other entrepreneurs*

* Third-party trustee – ensures reliability of networks

The state itself can act as a third trustee, so women entrepreneurs will also have confidence in the conduct of their business. In this option, women entrepreneurs, concluding a contract or doing business with other entrepreneurs / companies, can be calm about correctness and clean cooperation. After all, the government will always be able to back up, control the entire process, and if there is a situation in which the business of women entrepreneurs will be at risk.

So there is already a black list of suppliers, which is annually updated and includes irresponsible or law-breaking companies, whose founders are also included. That is, there is a list with a list of companies and clear information about each of them, so when drawing up a contract, projecting work, all entrepreneurs or companies can check this or that company to avoid unwanted situations.

**Businesses**

*Age*

* Lectures on business structures and processes for schoolers and universities

In order to attract more and more women to entrepreneurial activity, it is necessary to address their interest in entrepreneurship from an early age. Thus, lectures by the companies themselves, as well as the introduction of their various activities (for example, guest lectures, various tasks, solving cases in schools and universities) will contribute to this. In this case, the difference is that this initiative comes from the companies themselves, because they are interested in new employees, as well as raising entrepreneurial activity in Russia.

Global Rus Trade implemented the project "Girls Decide" in 2018. (Global Rus Trade, 2018) This project was a free regional program to develop digital skills: programming, working with data, creating their own website, etc. This program is designed to form a desire to specialize in IT for girls during the early career guidance. The project is implemented in Kurgan, Ulyanovsk regions and the Sakha Republic.

The project is headed by Anna Nesterova, General Director of Global Rus Trade and Head of the Working Group on the Digital Economy of the BRICS Business Council.

*Education*

* Targeted education

Targeted education on the part of Russian companies is already in full use, but specialization specifically for girls will play a big role. Thus, companies interested in the development of women's entrepreneurship will be able to invest in education and receive employees with a high level of education. In the future, these employees will also be able to open their own business, and with the proper level of education and the necessary number of skills acquired over the years in the company, will increase the level of women's entrepreneurship in Russia.

Bank Uralsib: The Women's Entrepreneurship Support Project, which has been implemented since 2017, has already shown results. (Bank Uralsib, 2017) About the project:

* The Bank's Business University conducts educational online seminars for women entrepreneurs that teach them how to start and run a business without disrupting their family and personal development;
* Awarded the Women Who Matter Award in the category "Best Educational Projects for Career Development" (2017) and the Trainings 2018 Human Resources Award.

*Fear of failure*

* Widening the range of suppliers and contacts during crisis periods - widening the market for new entrepreneurs

In this case, we can consider increasing the company's list of suppliers and partners. Every company has established partnerships with certain partners, and even if there is a crisis in the country, companies do not consider alternative options. There is a suggestion in which the most important fact is that by expanding their list of suppliers and partners, the company can behave in a more socially responsible way. That way they can emphasize, support and develop women's entrepreneurship. In that case, any company would be able to share the range of services they have been using for some time from trusted partners, and give some of the tasks to women entrepreneurs. So the company will show flexibility and most likely will even be able to improve existing processes, because women entrepreneurs on their part will be able to put more effort into a particular task, because they have a certain level of responsibility, and also in a time of crisis will need work, support and new cooperation. In this case, even one specific platform will be useful, on which all interested companies will be able to lay out their tasks, as tenders, but only aimed at women entrepreneurship.

*Level of skills*

* IT systems trainings and help with integration –help with meeting them – positive influence

In this case, the company will contribute to improving the skills of women entrepreneurs by improving the skills they need to solve a particular situation. That is, the company does not immediately cut off women entrepreneurs who do not have a certain level of skills, but helps them to acquire them, thus investing in the entrepreneurs themselves, as well as in the success of their business.  For example, this is what companies can do when they put out tenders, where they lay out the necessary tasks that need to be dealt with. And if they receive a request to perform a tender, they receive from a woman entrepreneur all the necessary solutions to tasks, but which may be missing a few points due to lack of skills, they do not reject the request, but contribute to its implementation. Thus, the company receives a responsible performer, who also will be able to pick up for themselves in those or other skills. Also this list may consist of not mandatory, but desirable items, so the company can initially assess their strengths, in what direction they can help to acquire the necessary skills, and this list will not scare women entrepreneurs, and cause even more interest.

The company "Vkontakte" has already created a program to support female entrepreneurs. This program was held in March-May 2018. (Vkontakte, 2018) It included master classes for women entrepreneurs on legal aspects and brand promotion and a contest for the distribution of grants to promote business in the social network. What is not insignificant, 5 grants were awarded for a total amount of 550 thousand rubles. The partners of this project were Otkritie Bank, the publications Rusbase, SNC and Elle Girl, and Opora Russia's Committee for the Development of Women's Entrepreneurship.

*Acquaintance with other entrepreneurs*

* Supply chain members gatherings (networks creation), as it has positive influence on involvement

Companies will also be able to facilitate introductions between entrepreneurs, so that their number will grow and subsequently benefit the company itself. In this way, any company that accepts this offer can become a platform where entrepreneurs can find partners.

So in a situation where there are several entrepreneurs already working for a company but they do not know each other, it is possible to facilitate getting to know women entrepreneurs and between them, so they can create a process together or even be able to discover something in common, based on the personal specifics of each business. Since getting to know other entrepreneurs is important, this is confirmed in the work, it will be important for them to find a place where they are like-minded.

A similar program was attempted by Yandex called “Support for the Women Who Code community”. (Yandex, 2014) In August 2014 Yandex supported the first Russian meeting of the Women Who Code community. This program aims to form a global community among women in IT, where they will be able to advance technical skills with other engineers at 2,000 events annually. However, no other community meetings have ever taken place in Russia.

All of the above-mentioned proposals from the government and business are relevant at the moment for women's entrepreneurial activity in Russia. Since crises such as COVID-19 may still occur and in such a case both the state and the business structure will need to support women entrepreneurs in difficult times, based on those very indicators that have influenced the involvement of women in entrepreneurial activity.

# CONCLUSION

Entrepreneurial reaction to crises is one of the key fields of studies in business research. However, the research of entrepreneurship based off gender specifics is undermined. The goal of this paper was to identify factors affecting women's entrepreneurial activity before the COVID-19 crisis and during the pandemic.

The first chapter served three purposes: defining women entrepreneurship, outlining the specifics of COVID-19 crisis and setting ground for further empiric research. To achieve these purposes, a ‘narrowing’ approach was used – to figure out what differs women entrepreneurship, a general definition of entrepreneurship is required, as well as for COVID-19 and crises in general. Based off these differences, it became possible to outline the factors most influential to women’s involvement in entrepreneurial activity – age, education, skills, fear of failure and social capital (acquaintance with other entrepreneurs). Consequently, the hypotheses for further testing were formulated.

The second chapter was devoted to building quantitative model, best fit to data specifics. Several variables were added to the model to check (plans for starting a business, perception of macroeconomic conditions and social perception of entrepreneurship), whether any factors were missed in the first chapter. However, it turned out to not be the case. During hypotheses testing, several were, unexpectedly, rejected, for example, that age has negative influence on women’s entrepreneurial activity in crisis. The logistical regressions for 2019 and 2021 samples were built – logit models were chosen instead of probit based on Akaike’s information criterion. Both models turned out to be significant on all significance levels. Thus, despite relatively low R-squared value – further research was decided to be relevant. Based off these models, 5 paired hypotheses, which were formulated in Chapter 1 were tested. Several were, unexpectedly, rejected, for example, that age has negative influence on women’s entrepreneurial activity in crisis.

The third chapter revolved around discussion of the research results and their policy and managerial implications. The discussion was focused on explanation of reasons for hypotheses to be rejected, revealing information, which was missed or misinterpreted during the formulation step. Furthermore, in order to enhance women’s involvement in entrepreneurship, several propositions to authorities and businesses were made. They were divided by the addressed factor. For instance, government’s involvement in inter-business relationships as a trusted intermediary might enhance the reliability of existing and emerging networks of entrepreneurs, thus boosting women’s involvement in entrepreneurship.

The paper achieved the stated goal and solved the objectives. Moreover, the process of research revealed the limitations of this study and grounds for further research. Majorly, they revolve around, on the one hand, broadening the spectrum of factors researched, widening the study to both men and women, and, on the other, diving deeper into details like life cycles of businesses.

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