

# ANALYSIS OF THE STARTUP EXPERT SURVEY RESULTS IN LATVIA

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## **Abstract.**

**Purpose and aim of the study:** *The aim of the research is to assess the environment for start-ups in Latvia and to identify the opinions of startup experts about factors influencing the start-ups. The tasks of the research are the following: Carry out a theoretical analysis of information about Latvian start-ups; To select experts and conduct a survey on startups; To summarize the results of the survey. Research period – December 2022 - February 2023.*

**Design / Methodology / Approach:** *General scientific research methods were used in the research: the monographic or descriptive research method, the survey method and a non-parametric statistic for rank correlation or Kendall's W (Kendall's coefficient of concordance).*

**Main Findings:** *The research has concluded that the most important factors, which affect startups, are financial management and finding/solving the real problem of the customer. Almost half of the respondents considered that the regulatory framework in Latvia was complicated. The author concludes that strategic management skills and financial competencies are the most important competencies to start a new business. The experts involved in the survey were relatively unanimous.*

**Originality:** *The originality of the research is based on the increase the total number of startups and the dynamic development of start-up companies in Latvia. So far there are just few scientific papers in Latvia about the topic of start-ups. Startup expert interviews are very important in the industry in order to evaluate the environment for startups.*

**Implications:** *The paper will promote startup research in Latvia.*

**Key words:** *start-ups, experts, surveys, economy, entrepreneurship.*

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## **Introduction**

The Latvian start-up ecosystem consists of more than 500 start-ups, of which more than half operate in the information and communication services sector, and more than 20% in goods production and in the field of professional, scientific and technical services. In recent years, the number of people working in start-ups has also grown rapidly, increasing by 12% from 2016 to 2020, i.e. up to 6000 employees. In addition, the wage of employees in start-ups is almost twice as high as the average in the country. In 2022, Latvian start-ups attracted

investments of 61 million euros, the largest financing rounds were Juro, Giraffe360, Aeronos, Colizeum and SaltoX. According to the results of the "Global Startup Ecosystem Index 2022" study by StartupBlink, the Latvian startup ecosystem ranked 43rd among 150 countries of the world, and it has the potential to become a technological centre with access to the European market (Ministry of Economics, 2023). The relevance of the research is based on the increase the total number of startups and the dynamic development of start-up companies in Latvia. The aim of the research is to assess the environment for start-ups in Latvia and to identify the opinions of startup experts about factors influencing the start-ups. The tasks of the research are the following: Carry out a theoretical analysis of information about Latvian start-ups; To select experts and conduct a survey on startups; To summarize the results of the survey. Research period – December 2022 - February 2023. General scientific research methods were used in the research: the monographic or descriptive research method, the survey method and a non-parametric statistic for rank correlation or Kendall's W (Kendall's coefficient of concordance).

The main driving force of economic growth is productivity-based competitiveness, the increase of which requires specific actions in five main areas: investments, innovations, human capital, the business environment and increase in export capacity (Ministry of Economics, 2022). A new company is not necessarily a start-up, that is, a start-up does not mean "young", but uncertainty about the business model and about the success of the new products and services offered in the market.

When developing MVP's and business models, start-up firms have to define and implement new products and new services, develop new markets, establish logistic chains, look for financial resources, etc. A technological start-up firm can be organized as a portfolio of projects in a project-based organization. In a start-up firm, the business model is being validated by the market, so it is necessary to be very efficient when introducing new "minimum viable products" (and services) into the market (Pajaresa et al., 2016). Start-ups must provide bankers with factual information about their businesses to retain a strong connection with them during these uncertain times. Proactively sharing well-quantified negative situations and response strategies is essential to controlling lenders. The lender management factor is purely based on the opinions of experts (Sreenivasan & Suresh, 2023). The opinions of the experts are a very important factor in company action.

## **Methodology**

For the faster growth of start-ups, the government offers a wide range of support, such as innovation vouchers, favourable regulation for start-ups and start-up visas, which is also positively evaluated by the industry. In autumn 2022, the Startup Ecosystem Development Strategy 2022-2025 was approved with the aim of promoting the development of a strong and unified ecosystem of start-ups, introducing activities and attracting talents to start-ups. On the other hand, promoting the development of research and the commercialization of research products, the Law on the Support of Start-Ups has been developed and a temporary residence permit has been created for the founders of start-ups, which allows citizens of third countries to obtain the right of residence in Latvia with the aim of establishing a start-up and carrying out work on the development of their product and attracting investment from a qualified venture capital investor (Ministry of Economics, 2023). In order to promote the growth of startups, leading institutions in Latvia have developed various strategically important documents that provide significant support and advice.

The Latvian startup ecosystem is young and dynamic. It is big enough to ensure all advantages of a regional entrepreneur-friendly business hub, but it is small enough to provide sample networking opportunities and a sense of belonging. The growth of this ecosystem has been facilitated by a range of stakeholders in the public and private sectors, non-profit organizations and academia (Investment and Development Agency of Latvia, 2022a). In order to assess the environment for start-ups in the Latvian business ecosystem, an expert survey was developed. The experts were selected according to the following criteria: connection with start-ups, length of professional activity and experience. The experts were selected from the following institutions: the Ministry of Economics, the Ministry of Finance, LIAA, Start in.lv, LVCA, LATBAN, Riga TECHHUB, Magnetic Latvia, Labs of Latvia, LLKC, Altum, Business incubators.

At the beginning of the survey, the expert's name, surname, position, the expert's experience in the business sector were identified.

Seven experts from various Latvian institutions were surveyed in the expert survey. An analysis of the experts' profiles in Table 1 reveals that the average length of work of the surveyed experts with start-ups was 8.7 years, which is a long period to be able to objectively assess the factors influencing start-ups.

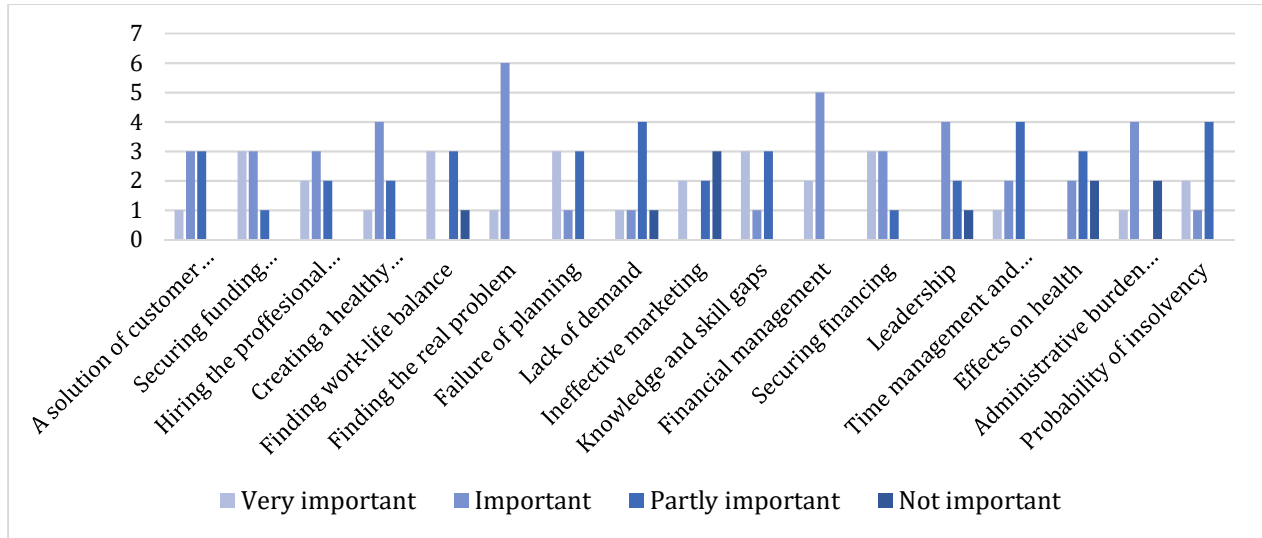
**Table 1. Expert profile** (compiled by the author)

<b>Expert</b>	<b>Experience</b>	<b>Position</b>	<b>Years</b>
A	Development of business ideas and promotion of export capacity of companies	Head of the business incubator	7
B	Analysis and forecasting of economic development, including business and enterprise development, in the context of the overall economic development of Latvia	Deputy manager in the state administration	>5
C	Development of policy documents	Deputy manager in the state administration	5
D	Work experience with startups that gives the opportunity to see their challenges, wins and losses.	Senior project manager	7<
E	Business consulting, project management, management of organizational units in business support institutions	Head of the business incubator	10
F	Have experience in work with start ups	Professor	15
G	Participation in projects, both scientific and practical	Professor	12

The questions of the expert survey revealed the challenges faced by start-ups, as the experts were asked to assess the regulatory framework for business in Latvia (legislation, regulatory acts); they were asked to evaluate the skills/competencies that are important in the professional activities of start-ups, they were asked to indicate which of the business models is the most effective for start-ups; factors that would improve the formation and development of start-ups were identified; the probability and impact of risks were assessed; which of the start-up sectors was the most important was assessed, as well as the opinions of the respondents on the support needed for start-ups and the current role of start-ups in the business ecosystem.

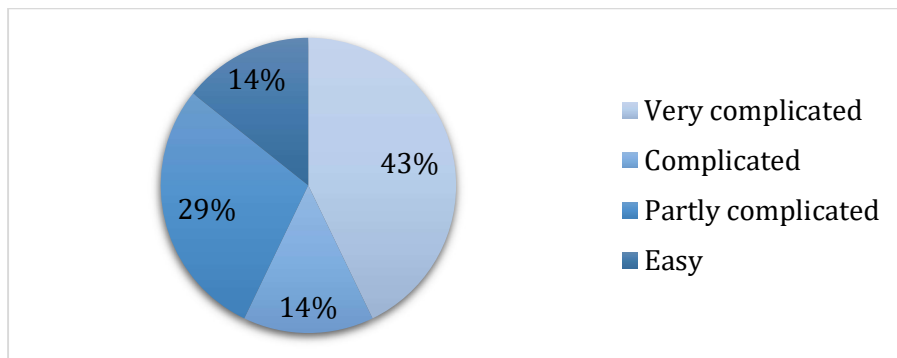
### **Results**

The expert survey asked to assess the challenges faced by start-ups. As the most important factors, the experts indicated financial management (30% very important and 70% important) and finding the real problem of the customer (20% very important and 80% important), while ineffective marketing, lack of demand, the administrative burden and other factors were indicated as insignificant factors.



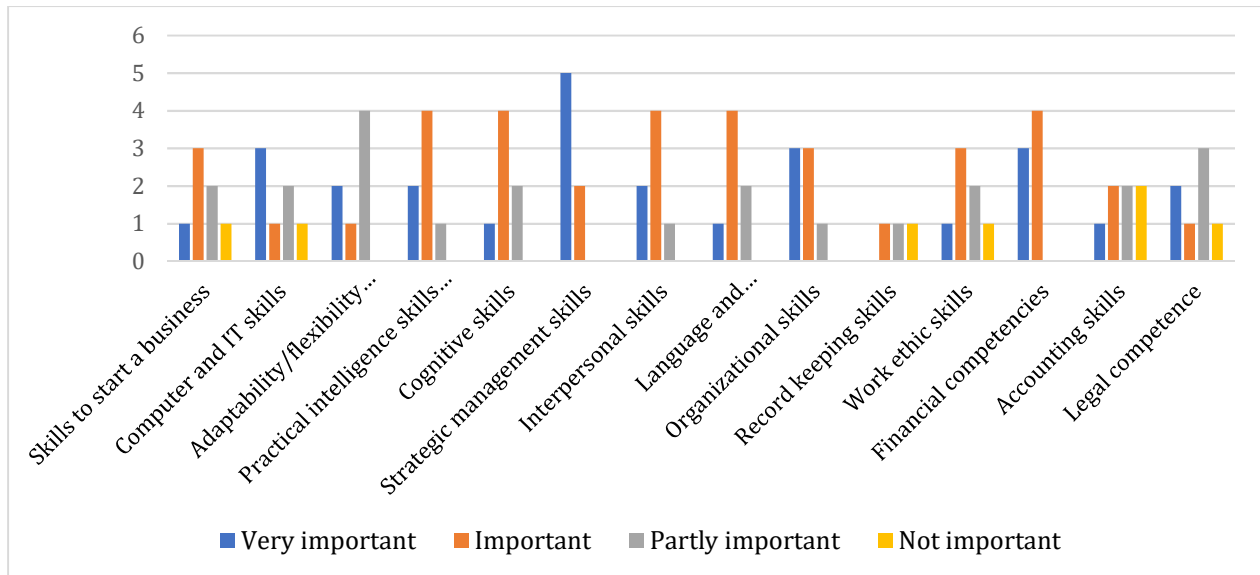
**Fig.1 Challenges for start-ups** (compiled by the author)

As additional answers, the experts indicated other challenges faced by start-ups - exchange of experience between start-ups, building a community where challenges can be shared and support received. Complex regulatory legislation, lack of information/complexity about start-up regulation and development opportunities, complex administrative procedures and tax payment procedures. Confidence in yourself that You can do it, fear of taking risks and think more broadly. Lack of appropriate education, lack of knowledge and experience.



**Fig.2 Regulatory framework for business in Latvia** (compiled by the author)

The experts were asked to evaluate the regulatory framework for business in Latvia: legislation, current regulatory acts. Of the respondents, 43% answered that the regulatory framework in Latvia was complicated. This shows that when starting a business, you have to carefully follow legal aspects and face various obstacles and challenges.



**Fig.3 Skills and competences of start-ups** (compiled by the author)

In the question of skills/competences, the experts assessed which ones were important in the professional activity of start-ups: as the most important, the experts noted strategic management skills, organizational skills and financial skills, practical intelligence skills (solving complex problems), while cognitive skills, interpersonal skills language and communication were also noted as important. Skills to start a business, computer and IT skills were marked as insignificant, and record-keeping skills and work ethic skills were marked as insignificant.

The scientific literature includes an important indicator to evaluate the overall association for more than two rankings, i.e., the so-called Kendall's coefficient of concordance (Kendall & Smith, 1939; Kendall 1962). The value of the coefficient of concordance may vary within a range of  $0 \leq W \leq 1$ ;  $W=0$  if there is no agreement among experts and  $W=1$  if all the experts are unanimous. It is assumed that a sufficient value of the coefficient of concordance is  $W \geq 0.50$ , which means that the experts' unanimity is high enough (Kendall, 1955). The Kendall's Concordance Coefficient  $W$  is a number between 0 and 1 that indicates interrater agreement (SPSS Tutorials, 2023).

In order to evaluate experts' unanimity, the author of the paper made calculations (see Table 2) of evaluation criteria: the skills and competences of startups based on the results of the survey of experts. The period of the research was December 2022 - February 2023, and 7 experts were interviewed.

**Table 2 Expert ratings of competences of startups, December 2022 - February 2023.** (author’s calculations based on the results of the survey of experts)

Evaluation criteria	Experts							L <sub>i</sub>	D <sub>i</sub>	D <sub>i</sub> <sup>2</sup>	R	Place (L <sub>i</sub> rank)
	A	B	C	D	E	F	G					
	Rank R <sub>i</sub>											
Skills to start a business	4	4	3	2	5	4	3	25	21	441	4	II
Computer and IT skills	5	3	5	2	5	3	4	27	23	529	4	II
Adaptability/flexibility skills	5	4	5	5	3	3	3	28	24	576	4	II
Practical intelligence skills	4	4	5	5	3	4	4	29	25	625	4	II
Cognitive skills	4	3	4	5	3	4	4	27	23	529	4	II
Strategic management skills	4	5	4	5	5	5	5	33	28	784	5	III
Interpersonal skills	4	4	4	5	3	4	5	29	25	625	4	II
Language and communication	4	4	4	5	3	3	4	27	23	529	4	II
Organizational skills	5	4	4	4	5	5	3	30	26	676	4	III
Record keeping skills	4	3	3	3	3	3	1	20	17	289	3	I
Work ethic skills	4	4	3	5	3	4	1	24	21	441	3	I
Financial competencies	5	4	4	5	5	4	4	31	27	729	4	III
Accounting skills	4	2	3	3	5	4	2	23	17	289	6	I
Legal competence	5	3	3	3	4	4	2	24	21	441	3	I
n=14	m=7							∑L <sub>i</sub> =377		S=7 503		

A, B, C, D, E, F, G – experts

L<sub>i</sub> - sum of ranks

D<sub>i</sub> - sum of the ranks minus the mean of the sum of the ranks

D<sub>i</sub><sup>2</sup> - D<sub>i</sub> in a square

R - rank (Racene, 2017)

Average calculation of the rank sum L<sub>average</sub>

$$L_{aver} = \frac{\sum L_i}{n} = \frac{377}{14} = 27 \quad (1)$$

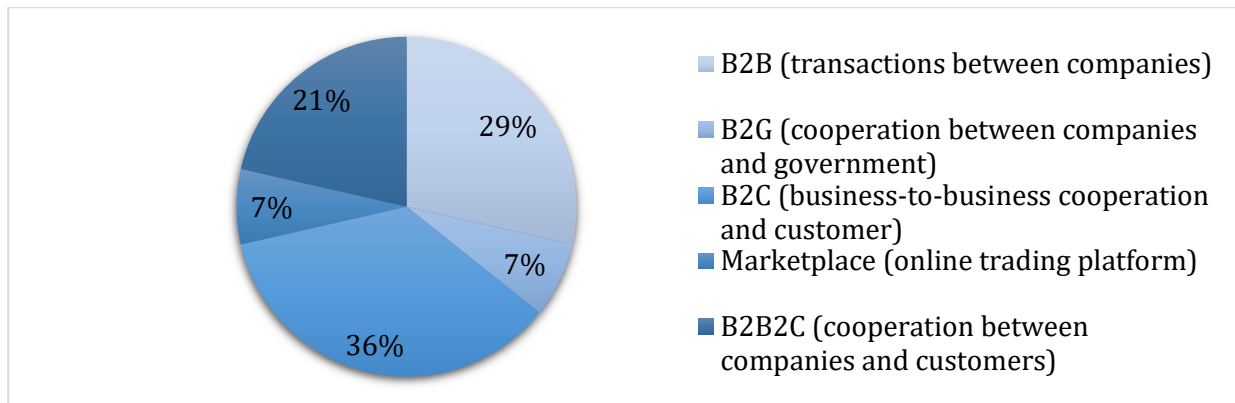
∑ L<sub>i</sub> -sum of all ranks

n- number of evaluated factors

Calculation of the concordance coefficient W

$$W = \frac{12S}{m^2 n(n^2 - 1)} = \frac{12 \times 7503}{7^2 \times 14 (14^2 - 1)} = \frac{90036}{134456} = 0.669 \quad (2)$$

The performed calculation revealed that the experts relatively unanimous  $0 \leq 0.669 \leq 1$  have assessed the competences of startups (see 1., 2. formula), which is indicative of the surveyed respondents' concurrence of opinions. Analysing the given answers (Table 2), the author concludes that strategic management skills and financial competencies are the most important competencies to start a new business.



**Fig.4. Models of start-ups** (compiled by author)

The experts were asked: In your opinion, which of the business models for start-ups is the most effective? To the question, 36% respondents answered that B2C (cooperation between a company and a customer) and 29% answered B2B (transactions between companies), while the mentioned business models, according to the experts, indicated the efficient operation of companies.

The Investment and Development Agency of Latvia defined Top Start-up Industries: Saas, Fintech, HealthTech, Hardware, BioTech, EdTech, Crypto, AdTech, eCommerce, Medtech, ICT, Aerospace, IoT, FoodTech, DeepTech, CleanTech (Investment and Development Agency of Latvia, 2022c). The Latvian tech sector in Europe is booming. In 2022, Latvia raised 6.5 million dollars in capital (after raising 9.9 million dollars in 2021). Whether you are an experienced investor, a determined founder, or a resourceful operator, this year's list of top 34 tech start-ups is worth exploring. It includes companies of various sizes, ranging from those experiencing rapid growth to smaller, creative start-ups (Investment and Development Agency of Latvia, 2022b). The experts defined the most popular start-up industries: Advanced Manufacturing (57.1%) and Bio tech (42.9%), also Agri Tech, AI, Big data, Deep Tech, Health Tech, Med Tech, Robotics, Space Tech, Sustainability (28.6%) industries were very important.

To the question about potential risks in work with startups, the respondents answered in the survey that the highest potential risks in work



with startups were lack of finances, personnel risks (inability to work, non-performance), a price rise, risks of losing cooperation partners/investors. Personnel risks are named as the highest potential risk impact in the operation of startups.

As additional answers, there were mentioned: self-sufficiency and the idea that I am ready, perfect. A product, service is never ready, it is in perpetual motion. And the previously mentioned psychological state of entrepreneurs, which is very poor, or not at all, talked about in Latvia. Because an entrepreneur psychologically has to go through many moments - financing, responsibility towards employees, cooperation with partners, customers, family. Business is 25h/8 days a week. It is a very stressful occupation. The other risks are subordinated. It is also important that in Latvia, we have a relatively weak base of scientists for the creation of innovative products, or more precisely - there is no meaningful controlling mechanism so that the entrepreneur does not waste time waiting for the scientist to finally develop a prototype. We have come across several examples of scientists killing the whole idea because their work on the products is taking too much time. And in the case of innovation/technology issues, time is what allows you to overtake your competitors faster. Lack of knowledge, education, when it "gets into your head" and achievements.

## **Conclusions**

The Latvian startup ecosystem is young and dynamic, it can ensure all advantages of a regional friendly business environment, but the ecosystem is too small to provide sample networking opportunities. In order to assess the environment for start-ups in the Latvian business ecosystem, an expert survey was conducted. As the most important factors, the experts indicated financial management (30% very important and 70% important) and finding the real problem of the customer (20% very important and 80% important). As additional answers, the experts indicated other challenges faced by start-ups - exchange of experience between start-ups, building a community where challenges can be shared and support received. Complex regulatory legislation, lack of information/complexity about start-up regulation and development opportunities, complex administrative procedures and tax payment procedures.

Of the respondents, 43% answered that the regulatory framework in Latvia was complicated. Analysing the given answers, the author has concluded that strategic management skills and financial competencies are the most important

competencies to start a new business. The performed calculation showed that the experts were relatively unanimous, as 36% respondents answered that B2C (cooperation between a company and a customer) and 29% answered B2B (transactions between companies) business models for start-ups were the most effective. The experts defined the most popular start-up industries: Advanced Manufacturing (57.1%) and the Bio tech (42.9%) industry. As concerns the risks, the highest potential risks in work with startups were lack of finances, personnel risks (inability to work, non-performance), a price rise, risks of losing cooperation partners/investors. In general, the startup environment needs to be developed and improved more intensively in order to attract potential investors.

### References

1. Sreenivasan, A. & Suresh, M. (2023). Readiness of financial resilience in start-ups. *Journal of Safety Science and Resilience*, 4(3), 241-252. <https://doi.org/10.1016/j.jnlssr.2023.02.004>
2. Investment and Development Agency of Latvia (2022a). *Latvian Start up guide*. [https://startuplatvia.eu/files/resources/resource\\_file/LIAA%20Startup%2016.03%20.pdf](https://startuplatvia.eu/files/resources/resource_file/LIAA%20Startup%2016.03%20.pdf)
3. Investment and Development Agency of Latvia (2022b). *Startup fact sheet 2022*. [https://startuplatvia.eu/files/resources/resource\\_file/Startup%20Latvia.pdf](https://startuplatvia.eu/files/resources/resource_file/Startup%20Latvia.pdf)
4. Investment and Development Agency of Latvia (2022c). *Relocation guide to Latvia*. [https://startuplatvia.eu/files/resources/resource\\_file/Relocation Guide LIAA 2022.pdf](https://startuplatvia.eu/files/resources/resource_file/Relocation%20Guide%20LIAA%202022.pdf)
5. Kendall, M.G. (1962). *Rank correlation methods*. Grifn & C, London.
6. Kendall, M.G. & Smith, B.B. (1939). *The problem of m-rankings*. *Ann Math Stat* 10: 275-287
7. Kendall, M. G. (1955). *Rank Correlation Methods*. New York, Hafner PublishingCo.
8. Ministry of Economics (2023). For the development of start-ups in Latvia, there are opportunities for support in the coming years <https://lvportals.lv/dienaskartiba/349488-jaunuznemumu-attistibai-latvija-tuvakajos-gados-pieejamas-plasas-atbalsta-iespejas-2023>
9. Ministry of Economics (2022). Jaunuzņēmumu ekosistēmas attīstības stratēģija 2022.-2025.gadam. <https://www.em.gov.lv/lv/media/15203/download?attachment>
10. Pajaresa, J., Lopez-Paredesa, A. & Hernandez, C. (2016). Technology start-up firms as a portfolio of projects: The case of DIMA 3D. *Procedia - Social and Behavioral Sciences*, 226, 59-66. <https://doi.org/10.1016/j.sbspro.2016.06.162>
11. Racene, A. (2017). *Career Development for Women in Professional Crisis Situations in The Context Of Lifelong Education*. Doctoral thesis. [https://llufb.llu.lv/disertacijas/education/Anita Racene prom darbs 2017 LLU TF IM L.pdf](https://llufb.llu.lv/disertacijas/education/Anita%20Racene%20prom%20darbs%202017%20LLU%20TF%20IM%20L.pdf)
12. SPSS Tutorials (2023). *SPSS – Kendall's Concordance Coefficient W*. <https://www.spss-tutorials.com/spss-kendalls-concordance-coefficient-w/>