To Invest or not to Invest: The Start-Up Investment Decision-Making Process

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ABSTRACT

This article discusses the five stages involved in securing financing for a start-up business. The first stage involves market analysis to determine the potential for development, including estimation of the addressable market, analysis of the competitive environment using tools like the Five-Forces Model, and identification of the ideal customer and/or consumer. The second section focuses on the business model, which involves determining whether the product is technological or service-based, and conducting a product description, numerical estimation, and definition of the technological dimension. The third section outlines the growth strategy, including identifying competitive advantages and developing a roadmap with the main commercial and technical characteristics to be developed in the future. The fourth stage involves determining the amount of investment required and how the funds will be used. The evaluation of the start-up is a crucial step in this process. The article identifies two fundamental principles for evaluation, namely, that the earlier the start-up, the less sophisticated the evaluation methods, and that since start-ups are not listed on the stock exchange, evaluation is eminently subjective and a continual negotiation process. The final stage involves auditing the existing situation to determine whether the company presents legal or financial risks and whether financing can take place or not.

KEYWORDS: *competitive advantages, Five-Forces Model, growth strategy, investment, risks.*

JEL CLASSIFICATION: *M13, D25, D70, D81*

1. INTRODUCTION

The decision process is a main element in the entrepreneurial and, in fact, organisational world mainly because it directly influences the chances that a company has to survive. The accuracy of the decision is considered as the main significant measure of a manager's performance (Koziol-Nadolna et al., 2021).

During the creation of new ventures, the decisional process is coagulated around the entrepreneur that makes decisions in all the areas from funds seeking to creating positions and choosing employees. As Koller et al. (2022) have noted, the decision logic is mainly driven by the mental representations of the decision structure that is determined by two aspects: decision complexity and perceived costs. It is therefore no wonder that the decisional process of investing in a start-up is a complex process that takes several stages and develops itself during several months, as will be discussed in the paper below.

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2. LITERATURE REVIEW

Decisions are taken in all organisations at all levels of management. Therefore, they are considered an attribute of the managerial domain. The decisions can be classified into a multitude of categories, an example being the programmed decisions – repetitive and routine driven – and non-programmed decisions – they take place in unforeseen conditions and are less structures (Koziol-Nadolna et al., 2021). The existing literature review underlines that the determinants influencing the decision-making process include psychological (personality, intelligence), personal, social, economic, and legal factors; therefore, it is a highly subjective process and making an important decision should follow a detailed analysis of the decision problem and all its aspects.

The role of intuition in the process of decision making has been widely researched, although the findings were mixed, being associated either with cognitive biases, when focusing on individual information in a background of uncertainty or has been found to be beneficial under conditions of ambiguity (Constantioua et al., 2019). Considered as an alternative to the rational model or a shortcut to reduce the decision maker's cognitive burden in situations of uncertainty, the usage of intuition is hindered by the organisational model that tends to rely on analytical processes and by the newer information technologies such as business analytics.

In recent years, in big organisations, intuition has been replaced by artificial intelligence, which is currently changing the organisational decision-making process. A company's potential to effectively use information during day-to-day decision making in order to optimise activities, reduce risks and improve decisional process and therefore increase productivity representing a mandatory step of the future of organisational decisional process (Niu et al., 2021). Identified with the ability to self-learn and to improve the quality of the decisions, artificial intelligence has taken over responsibilities that were previously human driven, although its' efficiency is still uncertain (Vincent, 2021). A specific case is represented by the entrepreneurial decision-making process. Widely defined as a process of identification, evaluation, and exploitation of opportunities through which the entrepreneur intends to create value through innovation (Pérez-López et al., 2019), entrepreneurship emphasises individual behavior and the influence on the social cognitive process. In the case of entrepreneurial ventures and entrepreneurs, the beliefs, and expectations of others regarding the entrepreneurial leader and his behavior are of upmost importance because the beliefs and expectations of those around him influence how they are evaluated and whether they are able to gain legitimacy (Rudiac et al., 2021). The decisional process of an entrepreneurial leader is therefore under a magnifying glass that determines not only the success/ failure of the business, but also the way the leader and the company itself will be perceived.

As Marcum et al. (2011) have noted, entrepreneurs, especially in the early stages of their business, must take quick decisions on a daily basis under a level of uncertainty and many times under a lack of knowledge. Many of these decisions have legal implications, but due to the limited cognitive resources, they often decide based on easily accessible factors such as comparison of similar factors, costs, or other measurable factors. While gaining experience, the decision-making process becomes more complex.

As Maine et al. (2015) have noted, entrepreneurs have cognitive preferences and mental frameworks that impact their decision-making, and in turn explain why only some people recognise and exploit entrepreneurial opportunities, and others don't. The manner of interaction with their external environments also plays an explicit role in creating and recognising opportunities.

There is evidence that personality influences several aspects of the decisional process, not only related to risk avoiding decision making (as in the case of anxiety), but also extending to the performance of decision making, considering the six personality types: realistic, investigative, conventional, social, enterprising and artistic (Gudonavicius et al., 2014). As entrepreneurs are mainly considered rational, cognitive, and intuitive, the intuitive decision model tends to be preferred, with entrepreneurial types tending to range from social to artistic personalities.

Table 1. Conceptualised decision styles and typology of personalities

<table>
<tr><th>Decision making styles</th><th>Conceptual classification of decision-making styles</th><th>Personality types</th></tr>
<tr><td>Analytic</td><td rowspan="9">Rational</td><td rowspan="3">Realistic</td></tr>
<tr><td>Dependent</td></tr>
<tr><td>Avoidant</td></tr>
<tr><td>Rule-based</td><td rowspan="6">Integrative</td></tr>
<tr><td>Rational</td></tr>
<tr><td>Systematic</td></tr>
<tr><td>Internal</td></tr>
<tr><td>Introvert</td></tr>
<tr><td>Thinking</td></tr>
<tr><td>Feeling</td><td rowspan="6">Cognitive</td><td rowspan="2">Conventional</td></tr>
<tr><td>Cognitive</td></tr>
<tr><td>Extrovert</td><td rowspan="4">Social</td></tr>
<tr><td>Vigilance</td></tr>
<tr><td>Automatic</td></tr>
<tr><td>Associative</td></tr>
<tr><td>Heuristic</td><td rowspan="8">Intuitive</td><td rowspan="4">Enterprising</td></tr>
<tr><td>Spontaneous</td></tr>
<tr><td>Explicit</td></tr>
<tr><td>External</td></tr>
<tr><td>Fast</td><td rowspan="4">Artistic</td></tr>
<tr><td>Avoiding</td></tr>
<tr><td>Brooding</td></tr>
<tr><td>Anxious Intuitive</td></tr>
</table>

Source: developed by the authors following Gudonavicius et al. (2014, p. 28)

Emotions are a vital predictor of risk perception and an influence influences the attitude of the entrepreneurial leader toward risk (Akinboye et al., 2022) that influence the decision-making process through a series of interactions between mind, environment, and action. In a study of 2020, Engela et al. have pointed out that the psychological drivers, such as values, prior knowledge, motivation, self-efficacy, and affective basis, can enhance the decision-making process, in relation to entrepreneurship and ecological sustainability, a part of the economic perspective or the institutional requirement.

The way that entrepreneurs take decisions has been analysed through many theoretical frameworks, such as effectuation theory (Sarasvathy, 2001a, quoted by Koller, 2022, p. 1), a non-predictive type of decision based on the use of existing means to create new effects, and the causation theory (Dew, 2005, quoted by Koller, 2022, p. 1), a highly predictive decision where the entrepreneur seeks to foresee the future and plan accordingly. These are not opposite theories but alternating according to the very nature of the decision logic, and a hybrid between the two is also possible.

Generally, a five-step model is identified as being part of the decisional process (Koziol-Nadolna et al., 2021).

- Step 1 - Identifying the problem or goal. It is mandatory to be able to find the decision purpose.
- Step 2 - Gather relevant information and resources such as money, people, time, materials, etc. As well as identifying constraints.
- Step 3 - Identifying the alternatives as general there are several options to be considered as well as potential consequences.
- Step 4 - Take action and implement the decision.
- Step 5 - Review the decision and evaluate the results.

In fact, Lin et al. (2022) have stated that both highly rational entrepreneurs and those that have a high need for cognitive closure are likely to put more emphasis on retrospective factors and less on prospective factors. A reason could be the fact that entrepreneurs tend to make decisions under high levels of uncertainty.

Taking decisions under ambiguity and uncertainty conditions is one of the prerogatives of entrepreneurship, although the context of experimental situations makes possible consequences almost impossible to identify (Mc Vea, 2009). An entrepreneur investing in a business bears significant risk, both external, but mostly idiosyncratic risk that can cause entrepreneurial decisions (investment decision or exit decision) as well as household decisions (Zhang et al., 2021). As Zhang et al. (2011) have underlined, a factor to be considered is the assumption that the entrepreneurial firm profitability is well known to the entrepreneurs and market investors, whereas the reality is that they can only learn about it through observation of their realised income once they obtained it. The profitability uncertainty delays the decisional process within entrepreneurial ventures, including the exit decision.

A specific subject related to the decisional process is represented by the investors and their own decision to invest or not within an entrepreneurial venture. As financial capital is a crucial element needed to transform a business idea into reality opened to a broad public, in often cases external support is needed. A strategic factor is the interaction between the investor and the entrepreneur, a challenge for the entrepreneurs that intend to attract, convince, and win over the potential investors. The language entrepreneurs use when trying to obtain investors is ingratiation rhetoric as investors control the resources entrepreneurs need to move their projects forward (Tedeschi et al.,1984 quoted by Sanchez-Ruiz et al., 2021 p. 3). Although the existing literature shows that quantifiable metrics such as past performance and current credentials have a big impact on the decision to invest, as they give signals on the qualification and quality of the entrepreneur, empirical studies have shown that it relies heavily on softer elements, such as "gut feel" and "chemistry", pointing towards charisma as being a moderator of the decisional process. Furthermore, the communicative aspects of the entrepreneur's rhetoric are brought forward, aside to the performance and charisma.

A study performed in 2020 by Wanga et al. on the investment decision in entrepreneurship through crowdfunding has concluded that although the criteria might vary from case to case, the entrepreneurs' profiles through the founder generated content (such as education, skills, awards, reputation) and the creativity behind the project tend to influence the investment decision. Despite the lack of a definition of creativity, there is a consensus that a creative solution is characterised as being both new and useful.

Therefore, the decision-making within the entrepreneurial arena is a complex process that implies psychological and causal specificities, going from quick thinking intuition-based decisions to more complex models that imply specific steps and a designated timeframe.

3. RESEARCH METHODOLOGY

To complement the literature review, a case study of a decisional model was showcased, aiming to clearly state the steps and timeframe of an investment decisional process.
This study has practical implications for the entrepreneurs in Romania, as well as for the next generations that can understand how to better think, argument and showcase their decision of investing in an entrepreneurial venture.
The methodology used in the article is the case study of a decision-making process for investing in a startup company. It involves several steps, including market analysis, business model analysis, definition of the growth strategy, and assessment of the startup. The market analysis involves determining the addressable market, the competitive environment, and the ideal customer/consumer. The business model analysis involves description of the product, assessment of the promoters and the technology, and the estimation of financials. The growth strategy involves identifying the competitive advantage and key success factors. The assessment of the startup involves evaluating the company's legal and financial situation and conducting a preliminary investigation. The evaluation of the startup involves methods such as the quality of the founding team and development prospects, as well as negotiation between the entrepreneur and the investor. The study has the following limitation:

- limited generalisation, as it is limited to a theoretical approach.
- the possibility that the author's own opinions influence the results interpretation.

4. CASE STUDY: INVESTMENT DECISION-MAKING PROCESS IN A TECHNOLOGY START-UP

The decision-making implies a five-stage process, with related sub-steps, starting from the market need until the signing of the investment contract. Schematically, this process is shown in Figure 1. From the very beginning, it must be noted that the stages are successive and conditional on each other.
The first step of the decision-making process obviously starts with a market analysis. In the absence of a relevant market, there cannot exist a viable product with potential for development. The analysis starts with the addressable market estimation, determined by several specific indicators: size, growth, and profitability level. The next step is a complete analysis of the competitive environment. This exercise poses great difficulties for entrepreneurs, as both direct and indirect competitors must be estimated. In this context, Michael Porter's Five-Force Model is a classic but extremely current and powerful tool in analysing the competitive environment. The final stage of the market section is the determination of the ideal customer and/or consumer as accurately as possible. The distinction between the two terms is very important here: The customer is the one who pays for the product, but the consumer is the one that actually uses it.
The second section refers to the business model. From the very beginning, it is verified whether there is really a technological product or only a service that is provided. If this is achieved, it is passing to a product description of three key aspects: benefits and how the product responds to customer/consumer needs, how to solve this need in a relevant and unique way, the operating model and revenue generation. In this case too, classic Canvas tools can be used, very suggestive for a complete presentation of the business model. After the descriptive step, the numerical step follows, in which the promoters of the business are reviewed with the help of the main indicators – revenue, paying/free customers, customer dynamics (new/leave),

customer acquisition costs, life and value. Many start-up companies do not have this data, so their correct estimation is very important. The third stage of the business model refers to the technological dimension, by defining the main technical characteristics and a product demo.
If the second section provided the current image, the third section defines the future. It is basically the most important stage, in which the entrepreneur sells to the investor precisely this future in the form of a growth strategy. The first step is to determine the competitive advantage, or, as it is called in the industry jargon, the secret sauce. It can take concrete forms such as quality, skills, patents, brand, access to resources, partnerships, innovation, etc., generally anything unique to the start-up or entrepreneur. The advantage must be sustainable in the long term and protected, in one way or another, from potential competitors. The growth strategy is based on exploiting competitive advantage and identifying key success factors and potential barriers. Given the technological dimension of the product, a roadmap with the main commercial and technical characteristics to be developed in the future must also be clearly defined.

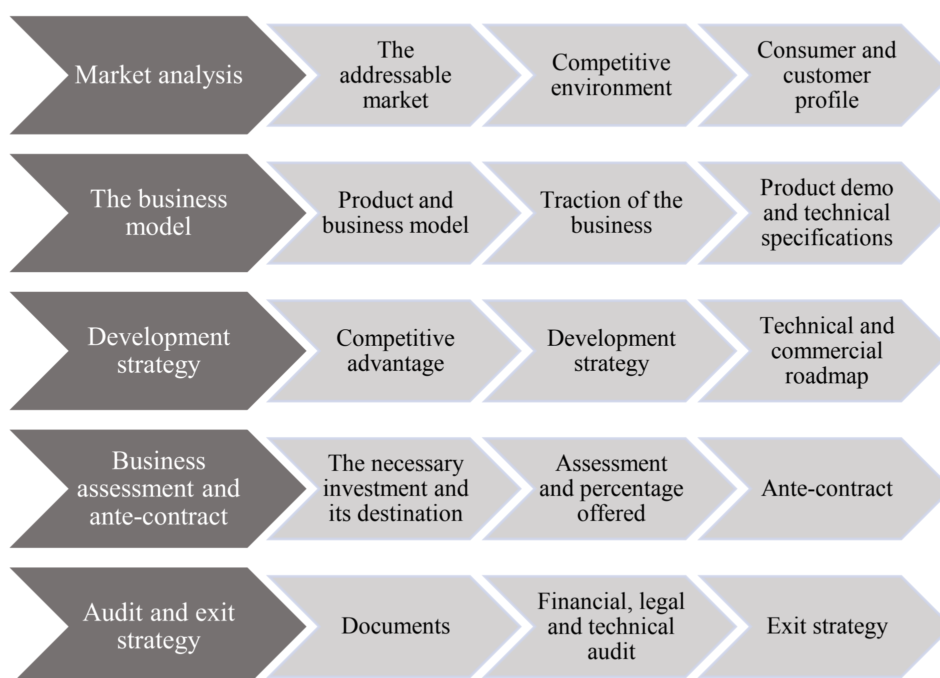

Figure 1. Investment decision-making process in a technology start-up
Source: Developed by the authors

The first three sections are therefore dedicated to the investor's knowledge and understanding of the entrepreneur's business. If a common interest is identified in these sections, the fourth section can be started. The first step is to establish the amount needed to be invested in the business that is just starting. This is basically the difference between the revenues and expenses planned for a time horizon agreed by the parties. Usually, a financing round covers an interval of about 12-18 months, on the principle that a subsequent round will occur after this period. At this stage, it is also determined not only the investment need, but also how the respective amounts will be used, by large categories of expenditure. In general, investors require that the focus be on product development and marketing, either through their own employees or by outsourcing these functions. In exchange for the amount received and requested, the entrepreneur yields to the investor a percentage of the company's share capital. This means, by default, that a start-up assessment must also be made using various methods. Their exhaustive presentation is extended, but two fundamental principles can be mentioned:

A. The earlier the start-up, the less sophisticated the evaluation methods are. Criteria such as industry standard, similar financing, development prospects, technical development, quality of the founding team, etc. are used.
B. Since the companies are not listed on the stock exchange, the evaluation is therefore eminently subjective and a continual negotiation process. Obviously, the entrepreneur offers a smaller percentage, and the investor demands more. Many investors, however, fall into the trap of asking (and getting) too much, thereby excessively diluting the company's founders. This can significantly hinder the start-up's future journey, making it difficult to finance in the next rounds.

The agreement between the parties is materialised by signing a pre-contract or a term sheet agreement. It shall comprise the main terms of the transaction and shall include clauses on the evaluation of the company, due diligence, the conditions for making the investment, the corporate governance of the post-financing company, and the sale of the company or investors' holdings and shall be binding on the parties only in these respects. The agreement in principle also provides for a deadline by which the transaction must be finalised, as well as the usual obligation of confidentiality and non-negotiation of the entrepreneur.

The actual signing of the contract and the closing of the transaction is done after the successful completion of the fifth section. In fact, this is an audit of the existing situation, both from the point of view of the company and the founders. The purpose of these investigations is to identify whether the company presents certain legal or financial risks and to determine whether the financing can take place or not. In most cases, the results of the preliminary investigations are decisive for the implementation of the funding. After collecting all the documents, the audit is carried out on three levels:
1. Financial – contracts, invoices, financial statements are checked. Generally, a classic accounting audit is carried out, without going into detail.
2. Legal – the legal documents of the company (statute, articles of incorporation) and of the founders (criminal and tax records) are checked. Very important in the legal part is the intellectual property audit; the investor wants to check whether it exists and how it is protected.
3. Technical – being a technology company, the technical area is checked. The entrepreneur gives an expert access to code, programs, processes, etc. to demonstrate that the product is developed according to previous discussions.

If this audit has been successfully carried out, a subscription and shareholders' agreement (subscription and financing agreement) is negotiated, which confirms the successful completion of the transaction. This document will detail how the share capital increase and the entry of investors into the company will be carried out, but also general corporate governance issues, such as the composition of the management bodies (usually investors will ask for representation in them), the way the decisions are adopted in the company and the protection of investors. Investors' rights are, in most cases, more notable than the percentages they hold, to protect them and ensure, at least theoretically, the return on investment.

The process described above takes place over three/four months and involves several discussions between the parties. During this time, the two actors share not only the necessary information, but also establish human compatibility and a sincere desire to work together. Unlike a simple bank loan, this type of collaboration involves total openness, trust, and transparency on the part of both parties. The investor has no guarantee that he will recover the invested amount unless he is decisively involved, and the entrepreneur must make the most not only of the money but also the expertise and relationships of the investor.

5. RESULTS AND DISCUSSIONS

The decision-making process in investing in a startup is a multi-step process that requires careful consideration and analysis. The decision-making process for startups typically involves five stages, starting with market analysis. The market analysis consists of three stages: determining the addressable market, analysing the competitive environment, and defining the ideal customer and/or consumer. In the first stage, the size, growth, and profitability of the market are estimated. While the final stage of the market section involves determining the ideal customer and/or consumer as accurately as possible.

The second section of the process is the business model, which begins by checking whether the startup is offering a technological product or a service. The next step is to describe the product in terms of its benefits, uniqueness, and revenue generation. This section also includes a numerical analysis of the startup's indicators such as revenue, customer acquisition costs, etc. The third stage of the business model involves defining the main technical characteristics and showcasing a product demo.

The third section defines the future and is the most important stage, as the entrepreneur sells the future of the company in the form of a growth strategy. The first step is to determine the competitive advantage and develop a roadmap with commercial and technical characteristics to be developed in the future.

The fourth section is dedicated to the investor's knowledge of the business and begins with establishing the amount needed to be invested. This section also includes the evaluation of the startup, which is subjective and often involves negotiation between the entrepreneur and the investor. The agreement between the parties is materialised by signing a pre-contract or term sheet agreement.

The final stage of the decision-making process is the audit of the existing situation, carried out on three levels: financial, legal, and operational. The purpose of these investigations is to identify any legal or financial risks and determine whether financing can take place. The results of the preliminary investigations are usually decisive for the implementation of funding.

Finally, the decision-making process for start-ups involves five stages, starting with market analysis and ending with an audit of the existing situation. The process involves defining the market, the business model, the future, the investment, and the evaluation of the company. Each stage is important and requires the entrepreneur to provide the investor with a clear picture of the business and its potential for growth and success.

6. CONCLUSIONS

In conclusion, decisions play a vital role in the functioning of organisations, and their importance extends from top-level management to entrepreneurship. The decision-making process is influenced by a variety of factors, including psychological, personal, social, economic, and legal factors, making it a highly subjective process. Despite its subjective nature, the decision-making process should still follow a detailed analysis to ensure optimal results. The role of intuition in decision-making has been widely researched, with various results. Although intuition has been found to be beneficial under conditions of ambiguity, it is often hindered by the organisational model that relies on analytical processes and by the advancements in information technologies such as business analytics.

Recently, artificial intelligence has replaced intuition in decision-making processes in large organisations. Artificial intelligence has the power to self-learn and improve the quality of decisions, taking over responsibilities that were previously human driven. However, the efficiency of artificial intelligence in decision-making is still uncertain. In the case of entrepreneurship, the decision-making process is closely monitored as it determines the success or failure of the business and the perception of the entrepreneur and the company. Entrepreneurs, especially in the early stages of their business, must make quick decisions daily under uncertainty and limited knowledge. Personality, mental frameworks, and interaction with external environments also play a crucial role in the entrepreneurial decision-making process. Therefore, decision-making is a complex process that is influenced by a multitude of factors. The role of intuition, artificial intelligence, and entrepreneurship highlights the importance of decision-making in organisations and its impact on the future of organisational decision-making processes. Therefore, it is imperative to understand the determinants of the decision-making process to ensure optimal outcomes.

In the end, the decision-making process of entrepreneurial leaders is influenced by a series of interactions between their emotions, environment, and actions. The psychological drivers, such as values, prior knowledge, motivation, self-efficacy, and affective basis, can enhance the decision-making process, particularly in relation to entrepreneurship and ecological sustainability. Two theoretical frameworks, effectuation theory and causation theory, have been used to analyse the way entrepreneurs take decisions. The decision-making process generally follows a five-step model, including identifying the problem or goal, collecting relevant information and resources, identifying alternatives, acting, and reviewing the decision. Entrepreneurs may make decisions differently, depending on their level of rationality and the need for cognitive closure. Decisions made under ambiguity and uncertainty conditions are a prerogative of entrepreneurship, and investors play a crucial role in the decisional process of entrepreneurship by providing the financial capital necessary to turn a business idea into reality. The investment decision in entrepreneurship is influenced by various factors, including the entrepreneur's profile and creativity behind the project, as well as the communicative aspects of the entrepreneur's rhetoric. Therefore, the decision-making process in the entrepreneurial arena is complex and involves psychological and causal specificities.

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