Public funding - a solution for technological SMEs and entrepreneurs

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Abstract. Technological SMEs are in a constant struggle for growth or sometimes maintaining the production capacity, increase market share, supporting tax burden, ensuring employees’ salaries, profit growth. They constantly consider short-term survival of the company, with trying to maintain a long-term uptrend for the business. Entrepreneurs are again in a position to access public financing under quite favorable conditions. The paper aims to analyze the opportunity of accessing these external financing options, which have both advantages and a series of long-term constraints which should not be excluded before the final decision to access this funding. New research is required, thus sustainable development can be maintained for the business environment in order to increase efficiency, competitiveness, sustainable development strategies that generate job security, regional growth and rewarding the risk-taking of the entrepreneur.

1. Review of SME Financing Possibilities on Projects / Grants

Companies have the possibility to access different possible sources of funding, which are coming from institutions or governments, such as: the European Union (Structural Funds and Cohesion, research and development, European Defense Agency); North Atlantic Treaty Organization (initiatives for cooperation and development, science for world peace and security); Romania / East-European countries (public-private partnerships and other national programs) and other different possible regional sources (grants programs from Nordic countries, bilateral cooperation).

European Union cohesion policy involves implications for SMEs through research and innovation, economic competitiveness, information and communication technology or environmental protection [1]. These implications were drawn for 2014-2020 year interval, by the entrepreneurial operational programs, involving increased competitiveness through innovation [2,3].

1.1. Considerations on public funding

European funds represent a complex and very appealing financial instrument. Identifying funding solutions implies following strict rules by the laws and European practices. By applying the Europe 2020 strategy, it is aimed to stimulate competitiveness for SMEs / companies, states, and even small businesses, sustainable development and research with emphasis on rewarding the performance of the entrepreneur.
Expanding financing solutions represents, at the macroeconomic level, an element of flexibility and efficiency.

New lines of research should be directed towards the most captivating segments of interest, for example: highlighting the specific moments that are most likely for strategic moves, including a detailed analysis of the pros and cons for investing in the specifier area; the potential for obtaining financing; identifying funding source for obtaining higher yields; identifying the role of utility functions for value creation; underlining how business models affect strategic success and sustainability by designing an inappropriate manner the number of hierarchical levels.

Management structures of SMEs are characterized by low bureaucracy compared with the large organizations and a team of stakeholders to support innovation within the company. Spin-offs help SMEs go beyond research and development encountered. The knowledge generated in large organizations is used and developed in the spin-off, which is marketed. Entrepreneurial nature of the organization and its ability to innovate include: the type of innovation (products, services) industry, generated by innovation and technological change management process that supports innovation. Measuring technological change can be effected by various indicators such as R & D. SMEs can more innovation in areas such as IT, while large firms, which have funds, are leading innovators in the pharmaceutical industry or aviation. For both, finding the best funding solution is mandatory in order to succeed on the market.

1.2. The purpose of public funding
Europe 2020 priorities relate to: intelligent development (digital agenda, innovation); sustainable growth (resource efficiency); inclusive growth (new skills). EU cohesion policy have implications on companies through research and innovation, economic competitiveness, information and communication technology, environmental protection, in terms of regional development and social robust implications.

| Nr. crt. | Objectives | Implications for SMEs |
|---------|------------|-----------------------|
| 1       | Raising the employment rate | - raising the employment rate for above 75% of the active population<br>- reducing unemployment after graduation<br>- assisting people over 50 in finding a job |
| 2       | Raising R & D | - allocation 3% of EU GDP for R & D<br>- stimulating R & D by creating special programs for researchers and fiscal facilities |
| 3       | A more efficient use of energy | - a minimum of 20% reduction in emissions of greenhouse gases<br>- a minimum of 20% increase in energy efficiency<br>- increasing the share of renewable energy sources to 20% both for companies, but also for private houses |
| 4       | Education | - reducing early school leaving rate to under 10%<br>- increasing the share of graduates to 40% for people aged 30-35<br>- easier access to professional reconversion<br>- ease of access to education for the rural area population |
| 5       | Poverty reduction and social exclusion limitation | - reducing by 20 million the number of people suffering from poverty or at risk of suffering<br>- cultural awareness and limitation of discriminatory treatment |
Proposals aimed at improving the entrepreneurial business environment, entrepreneurial culture, education, access to finance and contracts awarded by state regulation and taxation, coordinated support. Possible solutions are considering substantial improvement in the absorption of European funds, developing public-private partnerships PPP, reducing the share of social spending in the budget to increase fiscal space for public investment dedicated, multi-annual budgeting and prioritization of investments [7]. Entrepreneurs’ investments can be founded in various manners. The ones that are often used are obtaining financing from a credit institution / bank, obtaining a loan from a business angel, from the government, from the European programs. There is a connection between bank lending and financing through European funds in order to provide co-financing; eligible costs can be funded by grants (up to cashing them from the managing authority), expenses representing customer contribution; there is the possibility of co-financing. For start-ups, bank financing conditions are more drastic given that this history cannot be presented. In those cases, other solutions need to be looked for.

2. Time frames regarding public funding
In order to create a more quantitative view over the process of public funding accessibility, we propose a model that analyses the time frames that the process deals with. These time intervals are very valuable to the SME / company that is aiming at obtaining funds in this manner, because of the speed that information, technology and culture face.

Figure 1. Time intervals that occur when aiming at financing through public funds

The moments that occur during the process of accessing public funds are:
- \( t_i \) – the initial time, the one when the company takes the decision to research and develop a new project and needs financing it from public funds. This moment is called “the call” and is the same as the launch of the competition for projects; this moment must be preceded by market evaluation and opportunity studies of the project;
- \( t_1 \) – represents the deadline, the moment when the project must be submitted (announced from the beginning of the programme);
- \( t_2 \) – is the moment when the results are communicated on the online platform;
- \( t_3 \) – represents the contracting and the actual start of research and development;
- \( t_4 \) – is the time at which the planned R & D is completed;
- \( t_f \) – is a constant moment in time; it is the moment when the results of the project can be effectively commercialized on the market.
2.1. Funding efficiency
Choosing to obtain public funding and not looking for other financing solutions is a matter of intense reflection and close look on the efficiency of the project. Different other criteria need to be considered, such as:
- Difficulties in accessing bank loans;
- Access requirements to credits: guarantees (sometimes including personal possessions), unfair terms / constrictions imposed by banks, high penalties etc.
- The chances of success in obtaining public funding for the project, considering the funds allocated and the number of projects that will be proposed for funding on the same field of interest;
- Analysis on the difficulties involved with project management;
- Capacity of handling multiple controls and dealing with a number of bureaucratic papers;
- Consideration of the public authority’s decision to reduce funds, following the signing of the contract;
- A realistic planning on the SMEs expansion (capital growth, increasing market share, turnover, profit).

Public funding is not in all cases, contrary to appearances, the most advantageous solution for a company. An entrepreneur aims a fundamental condition for the project to be a success and for an efficient spending of public money, regardless of their source. He’s target is to obtain profit. Therefore, including verification as the one proposed, for the data in the assessment criteria for publicly funded projects would lead to a more accurate assessment of them.

2.2. The need to implement this solution for SMEs
Technological entrepreneurship represents the sequence of processes through which organizational resources are assembled, and technological systems with the strategies of targeting the opportunities. Technological entrepreneurship involves the identification of high potential, of commercial opportunities associated with intensive technologies, superior resource fructification and prudent management of fast dynamics through elite decision-making skills. Technological Entrepreneurship fructifies unique abilities (the agility in a constantly changing environment, team spirit, openness to innovation, passion for top areas) (Roberts, 1989). Motivation is essential and is based on the desire for independence (liberty and control, overcoming bureaucratic barriers, pursuit of target achievement), wealth and exploitation (Oakey, 2003).

Modern technological SMEs are characterized by: innovation capabilities and creative thinking encouragement; balanced organizational structure that encourages flexibility and experimentation of new architectures; quality of human resources; a creative environment based on innovative structures at all levels; a good orientation on customers and investors. A volatile external environment implies special attention on adaptability and flexibility. Entrepreneurship and promoting its growth is an important goal for many governments. A more unified perspective for how studies and samples fit together needs to be studied in order to satisfy the need to define for policy makers [11].

The development of technological SMEs is sustained by innovation (at the level of products and services, as well as organizational management) and value creation takes place by leveraging differential performance and focus on opportunities - efficient use of resources and the formulation of strategic options, the creation of new markets or business.

Technological innovation of SMEs takes into account the type of innovation (products, services), the industrial sector, and the technological change generated by innovation and the process of management of innovation and is expressed by the total number of innovations made relative to the number of employees. MacPherson (1997) indicates a directly proportional relationship between the performance of a SME and the external support, of scientific nature, technical and vocational. In contrast, Didd (2009), criticizes the existence of a directly proportional relationship between CDI and the development or the profitability, identifying other relevant factors, such as: the level of managerial experience and the technological know-how of the entrepreneur, the propensity to stimulate innovation or the proactive activities.

3. Problems encountered on public financing and solutions to solving them
Grant beneficiaries have complained about problems related to delays in the granting of advances and repayments and there were cases where beneficiaries have resorted to bank loans. Procurement
procedures have created some problems, such as: the discriminatory criteria used to procurement, misuse of selection criteria and qualification, communicating the proceedings. Also attainment of the objectives attracted reduction or even cessation of funding.

Implementation issues were considered: the verification process of public procurement, shifting deadlines of the stages, the difficulty of obtaining loans necessary to pay for work that did not receive pre-financing, inconsistencies between the information included in projects execution and the actual situation on the ground, multitude of riders, not updating documentation etc. For a SME, understanding the concrete funding opportunities is vital in strategic decision context at the time, namely selection and blending of the most effective variants adapted to the peculiarities of the company.

Another problem that could occur is the use as a rating factor in the duration of execution of works in the public procurement procedure works. This problem leads to financing the projects with small execution times that are unrealistic, leading to addenda extending the duration of execution of the works contract. This situation may involve a violation of principles of equal treatment and nondiscrimination, which may lead to ineligibility of expenses reimbursed under the contract.

The development of tender documentation with incomplete outdated technical information that is not consistent with the overall situation on the ground since launching the procurement procedure is another aspect that needs to be taken into consideration. This situation leads to an issuance by the manufacturer, right from the start, of additional orders notes or waiver notes. Depending on the outcome of the review required in settlement amounts, if there is additional material / maneuvers that were not tendered or not traded in an addendum become ineligible. The ineligible costs when accessing public funding need to be extremely careful supervised, because these costs are entirely supported by the company.

4. Conclusions

Productive enterprises financing problem involves an objective analysis of the parameters involved in accessing such a program. The analysis method proposed in this paper implies a comparative analysis of the advantages and disadvantages of accessing public funds and an analysis of the temporal opportunity to obtain financing. Adding value involves the integration of diverse management skills, taking into account the available resources portfolio, the extraordinary dynamics of the market, but also analyzing rationally the possibility of future development of the company. These opportunities involve both an analysis of the field of production, technological equipment required and the possible development on a highly competitive market. Development strategies and market penetration are permanently looking to improve its approach in terms of financial and achieving optimal positioning for obtaining value, given the continuing diversification opportunities.

The proposed method is a decision support for technological SMEs, especially in the South-eastern Europe, an area that benefits from financial support at European level. The approach shows an easy way to understand the problems faced by SMEs and proposes new ways of solving the technological needs and the financial ones, both long term and short term.

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