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A Strategic Partner Selection Decision-Making Support Methodology in the Business Modelling Phase for Startups in the Pre-Incubation Phase

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ABSTRACT

Partner choice is an important element for any business throughout its lifecycle. It is even more strategic in the early startup lifecycle stages, when the business model is set-up during the pre-incubation phase. The research conducted in this paper involves twenty-four potential partners for a VR training startup currently at the partnership's establishment phase. The partners that have been analyzed derive from eleven professional sectors, seven countries, and with more than fifty unique activities that cover the fourteen key parameters of the proposed partner evaluation methodology. The paper presents the overall methodological approach in stages and the procedure (steps) of each stage. It indicates the goal setting approach, the evaluation of the partner's activities, partner's evaluation scorecard, computation of the scoring process and the visualization of the scoring results in tables and charts, creating a partner's evaluation dashboard for effective overall comparison in specific partnership requirements as set in the partner-ships strategy and objectives.

Keywords: Start-up, Entrepreneurship, Business plan, Business model, Partnership, Strategy, Management, Leadership

INTRODUCTION

Entrepreneurs are confronted to take decisions on which partners to choose. Those strategic decisions on which partners to commit, with defined roles, can be made more or less formally, with the risk of relying on "gut feelings" when there is com-plex data to be taken in consideration and when there is decision pressure, constraints, limited resources and no proper methodology for the entrepreneur to use. Confronted to such a situation, it is interesting to consider building a decision-making support methodology for strategic partner choices in the startup pre-incubation business modelling phase. Such methodology can offer support to the entrepreneur and make its leadership anchored in more formal approach to decision-making. In general Entrepreneurs' decision-making is influenced by human capital, emotions as well as

perception of the environmental conditions (Shepherd et al., 2015). When an entrepreneur engages into shaping a startup's business model during the pre-incubation stage, it is critical to formulate the business hypothesis in view of validating it.

This process is well-spread as a best practice for entrepreneurs in business accelerators with various methods such as the Lean Startup approach (Diego et al., 2015), the Startup Life Cycle model (Dvalidze and Markopoulos, 2020), the Agile Startup business plan (Markopoulos et al., 2020d), and others. A critical aspect of the business model design is the choice in corporate partnerships and collaboration with established firms (Kurpjuweit and Wagner, 2020). With regards to the specific challenge of strategic partner selection, a hands-on methodology has been developed that supports the entrepreneur in that stage. The methodology proposes a formal structure for the heuristics that the entrepreneur uses when taking decisions related to strategic partnerships.

RESEARCH METHODOLOGY

The research methodology followed in this paper was based on semi-structured interviews driven by the strategic partnership-oriented questions on business development and applied research. The interviews were extensive with 60-120' each to identify the most potential opportunities and to critically evaluate the potential of each partnership. Twenty-four (24) organizations, from eleven (11) professional sectors and from five (5) countries, all with international activity participated in this research (figure 1). All of the interviewees were senior executives, CEOs, partners or business owners. More than fifty (50) unique activities have been identified and analyzed.

THE STRATEGIC PARTNER SELECTION METHODOLOGY (SPaSM)

The SPaSM Commercialization Strategy Dashboard, is a multi-objective decision-making support methodology for the evaluation of candidate partners in the development and implementation of the early stage start-up business planning. Furthermore, the methodology can be considered as a supportive strategy tool in the early transformation stages of the start-up's technology

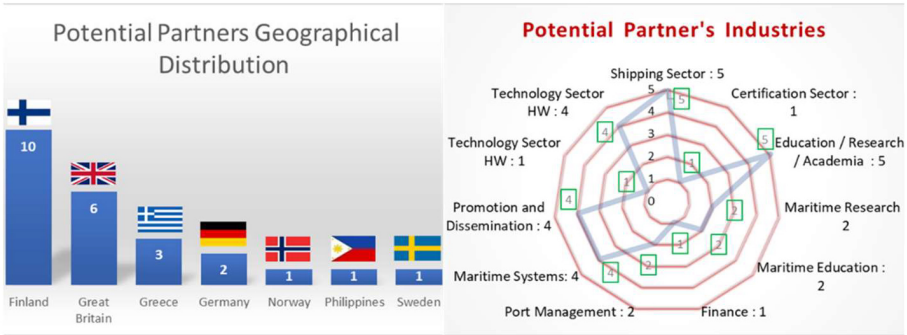

Figure 1: Research participants by country and industry.

for the best possible utiliza-tion and commercialization of the technology developed. The partners are eligible for different roles, ranging from being possible interme-diaries, suppliers, co-product developers and/or customers acting upon can impact significantly the business model and consequently the commercialization strategy.

The model is based on decoding interviews, discussions and prior or exi-sting col-laboration agreements that indicate the potentiality of a successful partnership. This approach has a degree of difficulty and a degree of error as there is a significant amount of subjectivity on the values given in the partner evaluation weighted pa-rameters. On the other hand this subjectivity can be considered a strength of the model as figures and data cannot indicate the capacity of a relationship that can gen-erate the desired opportunities for a successful partners in. The model generates the initial partners selection and collaboration directions de-spite the challenge to make a sound judgment on how to plan the startup's commer-cialization strategy. The model drafts the initial strategy and builds the initial stra-tegic partnerships and business networking based on which the commercialization plan will be developed and supported furthermore in the maturity stages that will follow.

SPasM is not a formal knowledge and data optimization model but rather a methodological tool to make explicit the knowledge collected from a set of potential partners. It supports however decision-making activities by formally listing knowledge characteristics, parameters and possible outcomes of the various collaboration scenarios that are being generated.

SPasM PARAMETERS AND MULTIPLIERS

The valuation of each potential partner is done through total score that aggregates the scores of fourteen (14) parameters which are distributed in five (5) categories as indicated in Table 1.

Each parameter itself is an index that can include objective metrics (e.g. secondary source data such as OECD ranking), semi-objective metrics (e.g. based on collected formal and informal primary data during interviews) and

Table 1. Categorization of the SPaSM parameters.

Parameter Category	Parameter 1	Parameter 2	Parameter 3	Parameter 4.
Status Evaluation	Country score	Industry score	Reputation Score	-
Value contribution	Activity score	Value added for the start up	Funding ability	-
Market impact	Market influence power	Market network strength	-	-
Co-evolution potential	Co-Development potential	Co-Research potential	-	-
Collaboration options	Customer for the start-up	Re-Seller for the start-up	Distributor for the start-up	Investor for the start-up

SCORE	Code	Company	Country	Industry	Country Score	Industry Score	Activity Score	Reputation Score	MarISOT dded Valu
661	P1	**Partner 1**	FINLAND	ACADEMIA	307	30	134	140	50
1,187	P2	**Partner 2**	FINLAND	TECHNOLOGY	307	280	268	252	80
707	P3	**Partner 3**	FINLAND	TECHNOLOGY	307	280	84	16	20
1,205	P4	**Partner 4**	FINLAND	SHIPPING	307	378	120	320	80
772	P5	**Partner 5**	FINLAND	SOFTWARE	307	240	155	30	40
889	P6	**Partner 6**	NORWAY	MARITIME	90	336	148	245	70
737	P7	**Partner 7**	FINLAND	TECHNOLOGY	307	280	48	72	30
856	P8	**Partner 8**	GREAT BRITAI	ACADEMIA	696	30	54	36	40
506	P9	**Partner 9**	FINLAND	ACADEMIA	307	30	36	63	70

Figure 2: SPaSM parameters scoring table.

subjective metrics (e.g. expert estimates). Figure 2 presents the score of five (5) parameters for nine (9) potential partners.

Each parameter is impacted by a set of multipliers that the decision-maker can fine-tune to adjust the parameter's score based on the strategic interest of the startup. The multipliers are subjective values given by the strategy decision-maker. These multipliers must be subjective in order to 'gamify' the evaluation tool and observe different scenarios by making different adjustments based on different strategy priorities and plans. SPAsM has 3 (three) multipliers that can be applied on each parameter. These are 'Interest', 'Criticality' and 'Potentiality', and they can be applied on any parameter. If for example the score for the reputation of a partner is 10, and the multipliers have values I=2, C=3, P=1, then the total value of the Reputation parameter becomes 10*2*3*1 = 60. Another parameter with value 20 and multipliers I=2, C=1, P=1, give the total value of 20*1*2*1 = 40. Figure 3 presents the score of 9 partners (P1-P9) analyzed for this purpose.

PARAMETER SCORE CALCULATION

The valuation of each potential partner is done through a score that aggregates the scores in the following parameters. Each parameter itself is an index that can include objective metrics (e.g. secondary source data such as OECD ranking), semi-objective metrics (e.g. based on collected formal and informal primary data during interviews) and subjective metrics (e.g. expert estimates). Most of the parameter scores are calculated with the help of the activity metrics or the score of other available metrics. The set of activities derives from relevant partnership choice decision-making criteria, and each interview session provided inputs to the scores in each of those activities.

For example, in the case of the status evaluation parameter, a potential partner that operates in 10 high impact countries (critical to the startup's strategy), gets a higher country score if compared with a partner that operates in 3 such countries or in a large amount of low impact countries. Figure 4 presents the sub-activities identified for a specific partner under the parameter Business Activity which evaluates how each partner may commit and deliver value to the various sub-activities. The list of sub-activities is not

Figure 3: SPaSM graph indicated the score of 9 potential partners.

closed and can vary from partners to partner. The 10 sub-activities presented in the initial version of SPaSM derive from relevant partnership choice decision-making criteria and the analysis of the research participants and represent the most frequent and common activities that appeared in their operations.

The final activity score is computed by summing up the value of all relevant and available activities of a given partner as they are impacted by 2 from the 3 multipliers (Equation 1). It must be noted than not all multipliers need to be applied in each parameter. All calculations are supported with the related graphs that justify the scoring process and the impact of each multiplier on each sub-activity.

$$\begin{aligned} &\textit{Activity overall score} \\ &= \sum_{\substack{(\textit{For all} \\ \text{elligible} \\ \textit{activities})}}^{n} (\textit{Importance of the activity} * \textit{criticality of the activity}) \end{aligned} \tag{1}$$

Equation for Each Parameter Score

Each one of the 14 SPaSM parameters is calculated through a fixed high level equation. Equations 2-14 present the remaining parameters' calculation.

$$\textit{Country score} = \frac{\textit{Relativity} * \textit{Innovation Rep} * \textit{Market Size} * \textit{OECD rank}}{100} \tag{2}$$

$$\textit{Industry score} = \textit{Relativity} * \textit{Industry Size} * \textit{Industry Potential} * \textit{Industry Relativity} \tag{3}$$

$$\textit{Reputation score} = \textit{Domestic} * \textit{International} * \textit{StarUp reputation} \tag{4}$$

$$\textit{Added Value to the Startup score} = \textit{Added Value} * \textit{Added Value Multiplier} \tag{5}$$

$$\textit{Funding Ability score} = \textit{Internal} * \textit{External domestic} * \textit{External international} \tag{6}$$

$$\textit{Influence Power score} = \textit{Company Internal} * \textit{Domestic} * \textit{International} \tag{7}$$

$$\textit{Network Power score} = \textit{Domestic} * \textit{International} * \textit{Related to the Startup} \tag{8}$$

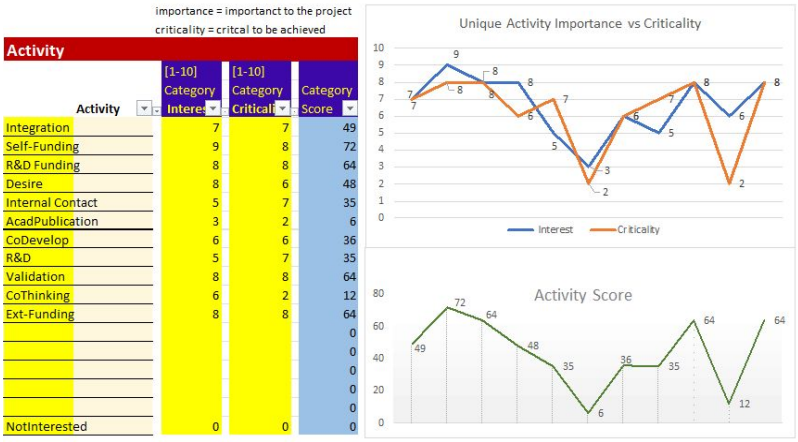

Figure 4: SPaSM example on the calculation of the Activity parameter score.

$$CoDevelop\ score = With\ Own\ Funds * With\ R\&D\ Funds \tag{9}$$

$$CoResearch\ score = With\ Local\ Programs * With\ International\ Programs * With\ Own\ Funds \tag{10}$$

$$Buy\ the\ Startup\ technology\ score = Internally * For\ its\ Customers \tag{11}$$

$$Sell\ MarISOT\ score = Local * International \tag{12}$$

$$Distribute\ the\ Startup\ technology\ score = With\ Money * With\ Expertise \tag{13}$$

$$Invest\ in\ the\ Startup\ score = With\ Money * With\ Expertise \tag{14}$$

ALIGNMENT WITH OTHER STRATEGY AND DECISION-MAKING MODELS

The SPaSM methodology is designed to support decision-making on strategic management initiatives. Its logic and the structure of the methodology is linked with several significant international business management model such as:

Porter 5 Forces: SPaSM analyzes the supplier and seller relationships among the partners as well as the competition perspective.

VRIO/VRINE: SPaSM identifies the VRINE elements of a potential partnership and especially the value, rarity and the inimitability as it seeks unique strategic and competitive product/service advantages.

The Business Model Canvas: SPaSM covers all nine business canvas segments with exemption of the value propositions which is the pivot for the SPaSM partner analysis.

PESTLE Analysis: SPaSM takes into consideration all PESTLE elements and it addresses the international dimension of the partnerships by assessing the partner's international activity and reputation.

SWOT Analysis: The SPaSM multipliers are used to control the SWOT elements especially the Threats and the Weaknesses.

CAGE Model. SPaSM analyzes all 4 CAGE elements form a cultural dimension for the viability of intentional business development.

Blue Ocean Strategy: SPaSM can lead startups to bule oceans as it is an innovation driven model targeting strategic partners that are most likely to secure blue oceans.

Green Ocean Strategy: As a Scandinavian model SPaSM addresses environmental and sustainability issues in the partnership analysis that can contribute towards reaching Green Oceans (Markopoulos et al., 2020a).

Pink Ocean Strategy: SPaSM addresses social innovation and ethical management issues in the partnership analysis that can contribute towards reaching Pink Ocean and alignment with the UN2030 agenda (Markopoulos et al., 2020c).

SOCIOECONOMIC IMPACT

According to Forbes, 90% of the startups fail in the first two years (Forbes, 2015). This tragic rate has a significant impact on the local and global economies as brilliant minds with innovative ideas face massive failure and disappointments (Williamson *et al.*, 2020) (Forbes, 2016). Along with that they face financial loses as well as loses of opportunities they declined to stay focused on their innovative ideas and entrepreneurial journey. The failure of a startup has deeper impact and consequences than the failure of a small business. The entrepreneurial, and the geo-entrepreneurial revolution today (Markopoulos et al., 2020b) has been built upon this vision and if this vision faints over the time the innovation rate will decline globally.

SPaSM has been developed to help startups evaluate effectively business partnerships and form winning and co-evolutionary teams that can return mutual benefits to all involved (Markopoulos and Vanharanta, 2018). Successful startups with strong partnership agreements and support can be significant assets to the local and global economies, a continuous inspiration of innovation and creativity, but also well-tested opportunities for multinational corporations to invest and excel through the startup's innovations.

LIMITATIONS AND AREAS OF FURTHER RESEARCH

The development of the SPaSM methodology has been directed towards the needs of a specific VR-Training startup on its commercialization route. Therefore, the partner categories and selection criteria can be, to an extent, related towards the specific goal. However, this can change with the development of more generic criteria than might reduce the accuracy of the prediction but enlarge the areas of application. It must be noted that the proposed methodology is not to be used as an optimization tool but more of as a heuristic exploratory tool. Further research has been scheduled to extend the testing of the methodology with more cases, increase the number of partner evaluation parameters and to link several of the related parameter metrics with sources than can provide more objective values.

CONCLUSION

This research presented in this paper is a methodological framework that can support early startups, while still in the pre-incubation phase, to select the most suitable strategic business partner(s) and develop, based on that, their business operations, management, development and commercialization models. The methodology offers an initial approach which allows an entrepreneur to make more formal investigation. It assists startups in the decision-making process on choosing the right partners and defines their roles and contribution in the startup's operations strategy. Specifically, the methodology intends to provide support on selecting the most relevant and feasible data types that need to be collected for the effective partner evaluation and selection. Furthermore, it provides a data collection mechanism, a partner evaluation procedure, support on identifying the strategic intend., or need, from a specific partner, the analysis of the potential partner based on the partnership needs, a scoring tableau based on several parameters per partner selection criteria and finally the calculations for the potential partner's score. The methodology is applied in the beginning of the business planning process, but the beginning, according to Aristotle seems to be more than half of the whole (Peters, 1906).

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