

NATURAL AND GENERIC STRATEGIES OF START-UPS AND THEIR EFFICIENCY

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Abstract

A start-up is a very small but dynamic enterprise in its early stage, and therefore the strategies involved are different from the strategies of mature enterprises. The aim of this research was to deepen and broaden the knowledge of the strategies regarding the launch of micro enterprises and thus improve their competitiveness and viability. Our two-phase field research identified a spectrum of business strategies using factor analysis. The strategies selected will help to better understand the activities of start-ups in a competitive environment. Half of the spectrum of the identified strategies explain start-ups as an ambitious action in the international space with an emphasis on defining a unique quality or an active action that is an expression of the viability and perception of the business environment. The other half of the spectrum consists of strategies that are unclear and non-conceptual, i.e. limited by no central idea. In the second phase of research, the share of rational and action strategies increased slightly. Nevertheless, the identified strategies, which are considered to be the natural approaches of start-ups, have shown little impact on performance that would confirm their rationale and efficiency. Of the generic strategies considered to be standard for any company, only the typology of a strategy clock, based on price along with value added criteria, showed an impact on start-up performance.

Keywords: start-up, business strategy, competitive strategy, natural strategy, generic strategy, performance of the strategy

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1. INTRODUCTION

A start-up is a very small company just beginning operations which is expected to grow sharply up to exponentially and eventually to deliver a remarkable return on capital. Meeting the demands of extreme growth and high earnings is conditioned by the original business idea, invention or application of unusual technology, the creation of a completely new need, or the discovery of an existing, unnoticed but unsatisfied need. A start-up should demonstrate viability within three to five years, and then grow into a small or medium enterprise, or cease operations completely. Start-ups carry out businesses that are less attractive to larger, older and more estab-

lished companies, e.g. the undertakings are too pioneering, innovative, unverified and / or unconfirmed by the market, thus burdened with significant technical and business risks. Another mission of start-ups is to create new jobs, albeit not on a large scale. A start-up creates a space for the self-realization of creative and courageous people with entrepreneurial talent and the start-up ecosystem can contribute a considerable share to the economic performance of the whole country. Scientific research into startups have mainly dealt with business models and staffing.

Start-ups strive to achieve their goals through real action and therefore must compete and strategize explicitly or implicitly. The topic of the present research will be strategies of start-ups, as these very small and young companies by their very nature employ different strategies from those of larger and older firms. Foreknowledge of start-up strategies could help new enterprises improve competitiveness, as well as increase their chances of short term survival, and later long term success. So far, generally the standard strategies of mature companies have been investigated thoroughly, and this research hopes to fill this knowledge gap. In our study the efficiency of various strategies will be evaluated according to their impact on the performance of a start-up.

2. AN OVERVIEW OF LITERATURE

Sense, purpose, reason for a strategy. Scientific literature has so far focused on strategies of start-ups to a very limited extent, and therefore an overview of the current state of knowledge of this topic will begin by surveying the strategies of small and new companies, the prerequisites of which are similar to start-ups in terms of strategy. Umar et al. (2018), who conducted research on small companies, consider the creation of strategy in a competitive environment as a precondition for avoiding bankruptcy. An enterprise that can compete is an enterprise that has successfully implemented its business strategy. The strategy is, therefore, a condition of survival. Gartner et al. (1999) write that new companies (start-ups) that survive differ from non-survivors by one strategic and one broad environmental characteristic: 1. surviving ventures have likely chosen niche strategies, and 2. surviving ventures would likely offer products or services in high growth industries. According to Sciascia et al. (2006), companies that are able to survive must be competitive, and at the heart of competitiveness lies innovative strategies that respond to environmental dynamics. This dynamics may force companies to quickly change products as well as markets or market segments if they want to remain competitive.

Content of start-up strategy. According to Shrader & Simon (1997), a newly starting company can formulate its strategy on the basis of three criteria: breadth of market entry, emphasis on low cost, and emphasis on specific means of differentiation. These three elements of the strategy provide a framework for understanding how a company competes (Porter, 1980). The strategic importance of market entry is also supported by more recent research by Gomez et al. (2019), who deals with the category of first movers, including start-ups. Research on new international companies (McDougal et al., 2003) has indicated that a competitive strategy is based more on differentiation through product innovation, quality, service and marketing, than it is on low cost. Nevertheless, Central European companies operating in international markets (Sekliuckiene, 2017) often maintain their competitive advantage based in large part on low costs. According to Kazlauskaite et al. (2015), companies in this region place more emphasis on raw materials,



supplies and cost advantage. However, these components are temporary and do not preserve a competitive advantage in the long term.

The results of empirical research (Yim, 2008) about start-up strategizing have brought some key insights and knowledge. First, the positive performance of rapid-growth start-ups is mostly associated with quality shocks. Second, the rapid growth of recently established start-ups is not the result of any size effect. Third, firms could in fact offset any late-mover disadvantage by quickly acquiring know-how. Fourth, M&A should be considered an effective growth strategy regarding the performance of successful start-ups if carefully scrutinized. Recently, researchers (Pisoni & Onetti, 2018) have paid more attention to M&As in the research domain of the growth of new ventures by analyzing M&As as potential financial (harvest) exit strategies for investors and entrepreneurs. Without a good understanding of the associated exit strategy and factors (Pisoni & Onetti, 2018), entrepreneurs will struggle to organize their efforts to regroup and start a new business and they will face difficulties to reorganize resources they once have. Thus there is a high probability of repeating the same failure experiences as was the case with the previous business, or encountering new unforeseen difficulties (Dehlen et al., 2014; Hessels et al., 2011; Wennberg et al., 2010).

According to Ramachandran & Ray (2006), regarding start-up strategies, a complete exploration of resource strategies and participation in networks with dynamically acquiring, developing and exploiting resources has yet to be undertaken. In spite of the proliferation of network and RBV (resource-based view) research, investigators have evinced a limited interest in exploring those topics.

Strategy: content or process, formulating content and seizing opportunities. Gelderen et al. (2000) point out that forming a strategy is how an entrepreneur achieves a goal. This strategy more closely matches the process of its implementation than does its content (Lumpkin & Dess, 1996; Pereira, 2018). The content of the strategy (Porter, 1980), e.g. low cost, differentiation and specialization/niche is considered a minor issue. The focus of strategy resides in acting and adapting to a specific situation. Entrepreneurs are faced with the dilemma of formulating a strategy or focusing on viable opportunities. While some would argue that many new ventures have not articulated specific strategies, others would emphasize that the entrepreneurial orientation of the founder/s ensures that the venture is focused on a viable opportunity (Wiklund, 1998).

Actors of strategy creation: entrepreneur and investor. Strategies of start-ups, according to Wiltbank et al. (2009), are determined to some extent by the strategies of their angel investors. Faced with substantial uncertainties (Robinson & Cottrell 2007), angels may choose either a prediction or control strategy (Wiltbank et al., 2006; Wiltbank et al., 2009). A prediction strategy tries to create forecasts for the future, while a control strategy intends to alter probabilities and influence the uncertainties of the situation. Angels emphasize a control strategy relying on available means and affordable loss, and such a strategic focus tends to incur fewer investment failures without reducing the number of successes (Wu et al., 2012). However, angels who focus on predicting the future tend to make larger investments without attaining greater success.

According to both the Schumpeterian perspective of “creative destruction” (Schumpeter, 1934) and Kirznerian perspective of “equilibrating forces” (Kirzner, 1973), the creation of a company

is a critical event that helps shape the dynamic market. The event requires one or more founders who are committed to the entire process of entrepreneurship such as identifying opportunities, making decisions to exploit opportunities, acquiring resources, setting up strategies, and organizing the start-up (Shane & Venkataraman, 2000). Thus, the entrepreneur's human capital plays a critical role in the entry events of the start-up. Consequently, literature on entrepreneur human capital has long been focused on identifying its impact on the successful creation of a business. In contrast, the impact of entrepreneur human capital on the successful ending of a start-up, or successful entrepreneurial exit (EE), has produced limited empirical research (Lee & Lee, 2015).

Strategy: the development and building of a company/business, respectively competitive strategy (acting in a competitive area). As a small and especially as a beginning company, a start-up faces two strategic challenges. The first task is to establish, build and develop the company. The second task is to enter the market and assert oneself in the industry, and to compete with and outperform competitors. Gulati & Desantola (2016) identified four critical activities for the successful development and growth of a start-up. Ventures must hire functional experts to take the enterprise to the next level, add management structures to accommodate increased head count while maintaining informal ties across the organization, build planning and forecasting capabilities, as well as spell out and reinforce the cultural values that will sustain the business. A clearly articulated strategy can ensure (Collis, 2016) that every aspect of an organization - the type of personnel hired, the compensation system and reward metrics employed, the IT system installed, and so on - is designed to support its distinctive value proposition. Collis (2016) writes further that the three basic elements of strategy are objective, scope, and competitive advantage. The development strategy is complemented by a competitive strategy, the core of which is a competitive advantage. While the development strategy is shaping the structure of corporate resources, the competitive strategy is shaped in a competitive struggle. Schramm (2018) has great doubts about planning and rejects it as a tool for establishing, developing and acting a new company. According to Schramm, a new company must do one thing: invent a new product and go out with it to the public. What happens next is a matter of learning from practice or learning by doing. Also the debate of experienced entrepreneurs (Shah et al., 2018) recommends less planning, more action and accomplishing something, gain momentum and maintain it. How start-ups actually act, how they strategize, how they compete, will only show up in practice, in a competitive field. Literary research shows that more knowledge exists about the development strategy of start-ups. The competitive strategy of start-ups, apart from references to traditional generic strategies, is unknown. Start-up is not a thumbnail of a larger company. Its resource constraint and imperfection, the youth and inexperience of the founders, the non-transparency of the competition have an impact on the content of the competitive strategy and its typology, which will probably differ from traditional generic strategies.

Based on an overview of the existing literature on business strategies and especially strategies of start-ups, it can be concluded that there are relatively many opinions on this subject, which are not unified, with little mutual agreement and often antagonistic. In the scientific debate, there are strongly represented theoretical works, and although they are logically internally consistent, there is a lack of empirical research enabling to create the valid scientific knowledge on which the scientific community agrees.



3. OBJECTIVE, RESEARCH SAMPLE AND METHODS

The research is based on the assumption that competitive strategies of start-ups are different from those of established companies because in general, there are significant differences between starting and matured companies in age, size, growth rate, completeness/ complementarity of resources and innovativeness (Christensen, 2013), therefore, their strategies, business models (Osterwalder & Pigneur, 2010) and activities are different (Croll & Yoskovitz, 2013). The primary goal of the research is to identify, structure and categorize strategies of start-ups and thus contribute to their better understanding.

The research sample in the first stage of research (June - July 2016) consisted of 72 start-ups, of which 68 start-ups met the requirements for the required data, in the second stage of research (January - March 2017), it contained 53 start-ups, of which 47 start-ups met the required data. The sample was drawn up on the base of consultation with investors and representatives of co-working centers, incubators and accelerators. Each start-up was examined by one research team member who personally recorded the founder/owner's assessments and responses to closed and open questions in the questionnaire and immediately explained any confusions.

The sample consists of start-ups operating in Bratislava area, where the largest start-up community in Slovakia is concentrated. Estimates of some governmental documents indicate that there are about 176 - 600 start-ups of various development stages in Slovakia (Analýza startupov na Slovensku, 2018). However, these data are not based on official statistics not recording start-ups as a special category. According to an estimate of the authors of the article, about half of all start-ups in Slovakia is concentrated in Bratislava and its surroundings. However, approximately half of them is really working. So, the research sample contains a significant number of start-ups operating in the over-developed EU region. Start-ups are doing business according to classification of SK NACE in industries of Information and Communication (29.9%), Administrative and Support Services (26.6%), Industrial Production (17.7%), Arts, Entertainment and Recreation (12.2%), Wholesale and retail trade (6.8%), Financial and insurance activities (6.8%). The average age of studied start-ups is three to five years of existence.

The strategy is described by means of twenty parameters which are divided into four groups. Group A describes the target orientation of the start-up, group B characterizes the external environment, group C records the parameters of the competitive strategy, which form the prerequisites for achieving the goals of the start-up, and group D shows the real behaviour in a competitive environment. Strategic parameters conceived in this way express and describe the external and internal environment of a start-up and its real behaviour, which represent its natural strategy, because it is not classified or incorporated into standard typologies of business resp. competitive strategies. Parameters of natural strategies are given in Tables 1 and 2. Generic or standard strategies that descend from Porter (1985), Hall (1980), Miles & Snow (1978), Valverde (1999) and the typology of strategy clocks (Johnson & Scholles, 2000), however, can play the role of a comparative standard. Their formal advantage is a small number of parameters that are selected from the parameters of natural strategies, and they can, therefore, provide another, additional picture of start-ups strategizing when applying the same analytical methods. Parameters of generic strategies are C.7, C.9, C.11 (Porter), C.9, C.11 (Hall), B.2, B.3, B.4, B.5, C.13, D.17, D.18, D.19 (Miles & Snow, 1978), C.9, C.10 (strategy clock) and C.7, C.9 (Valverde, 1999). Generic

strategies are sometimes criticized, but newer typologies are just a combination of the old ones (de Sousa Batista et al., 2016, Bayraktar et al., 2017; Tavalaei & Santalo, 2019). Parameters are recorded on the five point scale. Point 1 means low intensity, small difference, passivity and point 5 means top intensity, great difference, aggressive activity.

From the set of strategies (the research sample) of individual start-ups, factors are extracted by means of the exploratory factor analysis, which will represent the types of natural strategies and thus make the strategy of start-ups more transparent and systematic. The exploratory factor analysis was used because it allows to deeply investigate relations between strategy parameters. It is the best available statistical tool used for identifying latent factors compared to other methods such as cluster analysis and is very often applied in management and business research. Therefore, the research team performed the explanatory factor analysis expecting that specific parameters related together create a factor which is de facto some unique type of strategy used by start-ups. Every factor thus represents a different type of strategy. Direct Oblimion rotation was selected as the rotation type because the research team expected that some parameters of strategy, e. g. price and costs and others, are correlating with each other (Osborne et al., 2008, Osborne, 2015), which was later proven by acquired data.

The secondary objective of the research is to verify the occurrence of standard generic business strategies which parameters have been selected from a set of twenty parameters of natural strategy (Table 1, Table 2: A.1 – D.20). Another secondary objective of the research is to investigate the relationship between the natural strategy and performance of the start-up, which confirms or disproves the effect of the strategy on the performance goals. A strategy that does not express a positive impact on performance is ineffective and apparently loses its meaning. A strategy with a positive impact on performance should be supported and strengthened. Measurement of the relationship between the strategy and start-up performance is done by a simple and multiple linear regression (enter method). To identify the significant influence, we are using generally accepted threshold for p value, which is: $< .05$. To ensure robust results and to validate our results of the multiple regression analysis, we calculated and report various tests. Avoiding information the overload, we report these results only for the statistically significant regression models and results for Tables 5 and 6. To test multicollinearity, we applied the Variance inflation factor – VIF test, from which tolerance statistics ($1/VIF$) could be derived. For the cross-validation regression model, we are also reporting adjusted R squared (adj. R²), which is an enriching coefficient compared to only R². Avoiding independent errors, we calculated Durbin-Watson test. The graphical analysis was applied for identification of a systematic dispersion of residuals (heteroscedasticity).

Strategic determinants of performance, resp. independent variables are the parameters of natural strategies that were identified by the factor analysis in the first stage of research (Strategies 1 to 7 in Table 1) and in the second stage of research (Strategies 1 to 8, Table 2). Dependent variables are performance of a start-up as expressed by the number of users/non-paying clients, the number of customers/paying clients, and the amount of sales. A simple linear regression examines the relationship between each strategy and performance separately/distinctively. In attempt to explain which strategies/factors identified by the exploratory factor analysis are determining performance, we did not expected that there would be one strategy/factor only. A multiple linear regression examines the relationship between all strategies and specific performance such as the number of customers or sales (Tables 3 and 4). We applied the multiple regression analysis



for the following reasons. The identified factors/strategies could interact together and their interaction is worthy to know. Specifically a start-up implements its business strategy intuitively, and therefore factors/strategies are identified ex post on the base of the actual behaviour of the start-up. A simple regression examines the impact of a strategy on performance if it were exclusive, i.e. without the combined action of the full spectrum of strategies. A multiple regression examines the impact of a strategy on performance when the entire spectrum of strategies works simultaneously. The purpose of this double examination is to identify more effective impact on the strategy. Therefore, we decided to apply a multiple regression, too.

The relationships between individual standard strategies and performance of a start-up are examined by way of simple linear regression (Tables 5 and 6). Independent variables are the parameters of a standard strategies (Table 1, 2: choice of A.1 – D.20) and dependent variables are again the performance of a start-up expressed by the number of users, the number of customers and the amount of sales. Standard strategies have a small number of predetermined strategic parameters, some are inconsistent with each other, and therefore only a simple regression was applied.

4. RESEARCH RESULTS

The results are divided into three parts. In the first part, strategies used by start-ups are identified according to the explanatory factor analysis on the basis of all strategic parameters. These ones are natural strategies. In the second part, strategies used by start-ups are identified according to explanatory factor analysis again, however, on the basis of standard generic strategies, hence a set of selected strategic parameters. These ones are generic or standardized strategies. In the third part, an impact of these strategies on the performance of start-ups is studied. The research tries to identify how natural and standardized strategies such as Porter's, Hall's and others are related to performance of start-ups.

4.1 Extracted factors/natural strategies used by start-ups

As explained in methods, parameters of strategy were investigated by the explanatory factor analysis with direct Oblimin rotation. In the first phase of the strategy survey they showed to be more heterogeneous and with a higher level of variability where Kaiser-Meyer-Olkin (KMO) test for sampling adequacy = .66 shows only mediocre sampling. However, Bartlett's test for sphericity was highly significant with $\text{Chi}(190) = 530$ $p < .001$. Kaiser-Meyer-Olkin (KMO) test for sampling adequacy = 0.48 shows an even weaker sampling than before. But Bartlett's test for sphericity was again highly significant: $\text{Chi}(190) = 362.4$; $p < .001$.

A small sample (68 in the first survey, 47 in the second survey) is not considered to be a serious methodological problem, because statistical models show (MacCallum et al., 1999) that communalities in data have a much stronger effect and bias on the results than the sample size itself. MacCallum et al. (1999) showed in their models the average communalities at level 0.6, the factor analysis produces robust results for samples lower than 100 units. Therefore, we also investigated communalities. The average communalities were 0.71 for the first survey and 0.76 for the second survey. So, they were higher than the threshold 0.6.

In the first phase of research, seven factors were identified which have the eigenvalue higher than 1 and they explain 71.2% of cumulative variance. All seven factors in Table 1 can be considered

as some natural strategies practised by investigated start-ups. Strategies/factors are described in wider characteristics according to factor loading with the value of min. 0.4 (Matsanuga, 2010) marked bold.

Tab. 1 – Natural competitive strategies, the first phase of research. Source: own research

Parameters of strategy ↓	Factors/natural strategies applied						
	1	2	3	4	5	6	7
Variance explained by specific factors (%)→	24.0	12	8.6	8.2	6.6	6.2	5.6
A.1 Goals/vision, mission	0.91	-0.16	0.18	-0.05	-0.07	0.15	0.03
B.2 Phase of industry life cycle	-0.07	-0.02	0.64	0.17	0.36	-0.06	-0.16
B.3 Dynamics and complexity of business environment	0.32	0.30	-0.10	0.06	0.16	0.59	0.31
B.4 Predictability of the future development (3 – 5 years)	-0.06	-0.15	-0.80	-0.04	0.21	0.02	-0.11
B.5 Intensity of competition (competitive circumstances in industry)	-0.06	-0.04	-0.01	0.06	0.92	0.03	0.16
C.6 Action radius (business scope)	0.84	-0.02	-0.05	-0.06	0.05	-0.01	0.00
C.7 Segmentation	0.03	0.07	-0.04	0.08	-0.17	-0.04	-0.87
C.8 Position (business scope)	-0.02	0.02	-0.27	0.07	-0.18	-0.61	0.35
C.9 Quality/added value usefulness /differentiation of a product	0.91	0.10	0.05	-0.02	-0.11	0.09	-0.02
C.10 Price of a product (in comparison to competition)	0.09	-0.01	0.12	-0.74	-0.06	-0.28	0.24
C.11 Cost of a product (in comparison to competition)	0.02	-0.11	0.32	0.83	0.09	-0.12	0.06
C.12 Services accompanying and complementing or substituting basic products	0.54	0.02	-0.16	-0.02	0.41	-0.11	0.03
C.13 Key technology (rate of originality and innovativeness)	0.82	0.05	-0.15	0.13	0.07	-0.10	-0.06
C.14 Competitive advantage	0.92	-0.02	0.05	-0.01	-0.10	-0.08	0.00
D.15 Competitive action: rivalrous	0.10	0.58	-0.22	0.17	0.05	-0.31	0.10
D.16 Competitive action: initiative	0.16	0.47	-0.15	0.23	-0.07	-0.45	-0.23
D.17 Competitive action: deliberate	0.12	0.16	0.27	-0.17	0.23	-0.69	-0.05
D.18 Dynamics and speed of action	-0.03	0.73	0.20	-0.16	-0.08	-0.01	-0.03
D.19 Perceptiveness and awareness of external incentives (adaptation)	-0.07	0.84	0.04	-0.02	0.02	0.14	-0.03
D.20 Difference from action/real strategies of competitors	0.04	0.05	0.00	0.48	-0.35	-0.07	0.39

The first strategy/first factor seeks to excel positively with an ambitious vision, operates internationally, differs from in quality, in key technology at European level, in an obvious competitive advantage at international level, and provides services comparable to the competitors. It explains 24% variability. It is an ambitious international strategy based on technological merits, high quality and difference.

The second strategy/second factor positively stands out in most of the parameters that reflect behaviour of a start-up. This is an exclusive emphasis on attitude and action in competitive area without relevant identification of other parameters. Its essence is offensive, initiative, rapid and dynamic action with a sensitive perception of the external environment and good adaptation. The explains 12.0% variability. It is an offensive action strategy.

The third strategy/third factor takes place in a maturing industry with clearly predictable development without further relevant characteristics. It explains 8.6% variability. It is a non-profiled strategy in a transparent environment.

The fourth strategy/fourth factor is based on a very low price, very low cost and significantly different behaviour than competitors. It explains 8.2% variability. It is a low-cost strategy with a different implementation.

The fifth strategy/factor contains only one relevant feature, which is a very high intensity of competition, but without its own significant differences. It explains 6.6% variability. It is a non-profiled strategy in a highly competitive environment.

The sixth strategy/factor is characterized by a higher dynamics of the business environment, a very weak position in the business area and an unintentional, very chaotic behaviour. It explains 6.2% variability. It is a chaotic strategy in a dynamic environment.

The seventh strategy/factor is manifested only by unclear segmentation without any other feature. It explains 5.6% variability. It is a strategy of helpless segmentation.

In the second phase of research, all factors in Table 2 can be again defined as some natural strategies practised by investigated start-ups. In the second phase of research, eight competitive strategies were identified. Compared to the first collection of data, there is a certain shift in the strategic behaviour of the researched start-ups. Identified/extracted strategies are again described according to factor loading with the value of min. 0.4 (Matsanuga, 2010) marked bold.

Tab. 2 – Natural competitive strategies, the second phase of research. Source: own research

Parameters of strategy ↓	Factors/natural strategies applied							
	1	2	3	4	5	6	7	8
Variance explained by specific factors (%) →	19.8	14.9	9.7	7.7	7.1	6.5	5.4	5.2
A.1 Goals/vision, mission	0.80	-0.21	0.25	0.06	0.06	0.06	-0.11	-0.04
B.2 Phase of industry life cycle	-0.06	0.01	0.13	0.20	0.11	0.83	-0.09	-0.10
B.3 Dynamics and complexity of business environment	0.69	0.09	0.19	-0.35	-0.03	-0.08	-0.05	0.25

B.4 Predictability of the future development (3 – 5 years)	-0.04	-0.02	-0.03	0.03	0.58	0.34	0.19	0.27
B.5 Intensity of competition (competitive circumstances in industry)	0.17	0.09	-0.27	-0.14	-0.28	0.69	-0.10	0.13
C.6 Action radius (business scope)	0.87	0.08	-0.08	-0.03	0.00	-0.09	0.09	-0.15
C.7 Segmentation	-0.04	0.11	0.10	0.86	-0.04	0.11	0.04	0.01
C.8 Position (business scope)	-0.01	0.43	-0.15	-0.36	0.20	0.00	0.26	-0.44
C.9 Quality/added value usefulness /differentiation of product	0.11	-0.04	-0.14	-0.04	-0.08	-0.01	0.25	-0.85
C.10 Price of a product (in comparison to competition)	0.10	-0.15	0.03	0.08	0.76	-0.09	0.23	-0.05
C.11 Cost of a product (in comparison to competition)	0.04	-0.14	0.11	0.19	-0.81	0.14	0.30	0.08
C.12 Services accompanying and complementing or substituting basic products	-0.29	-0.26	0.52	-0.40	0.02	0.19	0.38	-0.07
C.13 Key technology (rate of originality and innovativeness)	0.16	-0.01	0.16	0.12	0.06	-0.07	-0.18	-0.79
C.14 Competitive advantage	0.79	-0.09	-0.08	0.20	0.01	0.17	0.02	-0.22
D.15 Competitive action: rivalrous	-0.03	0.15	0.44	-0.25	-0.06	0.22	-0.13	-0.53
D.16 Competitive action: initiative	-0.07	0.54	0.34	-0.10	0.12	-0.01	-0.13	-0.32
D.17 Competitive action: deliberate	-0.03	0.91	0.02	0.17	-0.09	0.07	0.16	0.13
D.18 Dynamics and speed of action	0.23	-0.04	0.71	-0.05	-0.20	0.09	0.21	-0.04
D.19 Perceptiveness and awareness of external incentives (adaptation)	0.11	0.16	0.83	0.20	0.04	-0.13	-0.14	0.03
D.20 Difference from action/real strategies of competitors	-0.01	0.20	0.02	0.03	0.12	-0.19	0.83	-0.06

The first strategy/first factor pursues an ambitious target orientation at European level in the business area with considerable dynamism, complexity and a large action radius and a competitive advantage at European level, while the sources of the competitive advantage are not clear. It explains 19.8% variability. It is a less ambitious international strategy based on the closer undefined merits.



The second strategy/second factor is based on an average to strong business position and deliberate and initiative action. It explains 14.9% variability. It is a positional and less action strategy.

The third strategy/third factor places emphasis on accompanying services that are comparable to those of competitors and on active but rather defensive competing, dynamic, rapid and perceptive action towards external incentives. It explains 9.7% variability. It is a defensive action strategy with an emphasis on average accompanying services.

The fourth strategy/fourth factor has only one relevant parameter, which is segmentation. It explains 7.7% variability. It is a specialization strategy for one segment.

The fifth strategy/fifth factor is implemented in an environment of average predictability based on a slightly higher product price compared to competitors and very high costs. It explains 7.1% variability. It is an economically inefficient strategy in a relatively transparent environment.

The sixth strategy/sixth factor is implemented in a very mature, intensely competitive industry without relevant difference or competitive advantage. It explains 6.5% variability. It is a non-profiled strategy in a mature and competitive environment.

The seventh strategy/seventh factor differs significantly from that of competitors, but this difference is not supported by any other strategy parameter. It explains 5.4% variability. It is obviously a strategy of supposed difference.

The eighth strategy/eighth factor is characterized by a very weak position, inferior quality, outdated technology, and unrivalled action. It explains 5.2% variability. It is a strategy of extinction.

A comparison of the strategies identified in the first and second phase of research shows these congruences and differences. The first types of strategies are similar in some rate. However, an ambitious strategy with an emphasis on technology, difference and quality is less ambitious in the second phase of research and loses focus on concrete merits. Both have a strong vision.

The second types of strategies are approximately similar to each other again. The offensive action strategy is changing to a less active, more cautious strategy that wants to sustain its position. These types may include a defensive action strategy from the second phase of research. These strategies are characterized by more or less active action. The weaker vision of the future (target orientation) is replaced by action (process orientation) at present.

Paired samples t-test was used for comparison of a strategy total score and all its parameters between the first and the second stage of survey. Differences were in all parameters but most of them were not significant, for which we use criterion $p < .05$. The intensity of competition was close to significance $t(48) = -1.91$; $p = .063$ (independent sample t-test was used). Segmentation $t(48) = -2.49$; $p = .016$. Costs per product in comparison with competition $t(48) = -3.1$; $p = .004$ and services supporting basic products $t(48) = -2.86$; $p = .006$. A total sum score of strategy between the first and the second survey differs almost significantly $t(48) = -2.0$; $p = .051$. These differences indicate the strategy evolution in time. Significant differences show which parameters a shift has taken place in.

The first and second strategy in the first phase of research together explain 36% of variability. The first, second and third strategy in the second phase of research together explain 44.7% of variability.

The third strategy up to the seventh one from the first phase of research, perhaps with the exception of the low-cost strategy with a different implementation (8.2% of variability), are ambiguous without typical or exceptional parameters, giving a vague up to chaotic impression.

The fourth strategy up to the eighth one from the second phase of research, perhaps with the exception of the specialization strategy for one segment (7.7% of variability), once again are helpless, having a random impression without a central idea or as a disordered action.

Strategies in the first and second phase of research can be divided into two principal groups. The first group consists of strategies which are characterized by a rationality, an ambitious goal, an emphasis on some difference or an active action, which is a manifestation of the viability, searching and perception of the business environment. The second group consists of strategies that are unclear, non-conceptual and without any central idea. They elicit confusion and give a helpless impression. Rational and action strategies together explain 44.2% of variability in the first phase of research and 52.1% of variability in the second stage of research. Non-conceptual strategies together explain 27.0% of variability in the first phase of research and 24.2% of variability in the second phase of research. In the first stage of research, 28.8% of variability remains unexplained and in the second stage of research, 23.7% of variability remains unexplained. Unexplained variability can be identified with strategies that do not achieve a minimum value of strategy parameters to be considered significant according to the factor analysis criteria and therefore, apparently, have an ambiguous and insignificant nature.

In addition to explaining variability, it is interesting to find out the distribution of natural strategies in the research sample. The occurrence of natural strategies was identified on the basis of the factor loading of each start-up, but only for those who had the eigenvalues higher than 1. Start-ups were then sorted from the highest factor loading to the lowest factor loading. Only the first four strategies in both the first and second phases of the research, which show a higher degree of rationality and consistency than the others in the order, were probed. For example, in the first stage of research, the first factor/strategy was pursued by 13 start-ups (19.1%) which had a factor loading higher than 1 out of a total number of 68 start-ups.

Distribution of strategies in the first phase of research:

1. Factor/ambitious international strategy based on technological merits, high quality and difference: 13/68, 19.1%,
2. Factor/offensive action strategy: 7/47, 14.9%,
3. Factor/non-profiled strategy in a transparent environment: 12/68, 17.6%,
4. Factor/low-cost strategy with a different implementation: 9/68, 13.2%.

Total: 66.2%.

Distribution of strategies in the second phase of research:

1. Factor/less ambitious international strategy based on the closer undefined merits: 10/47, 21.2%,
2. Factor/positional and less action strategy: 7/47, 14.9%,
3. Factor/defensive action strategy with an emphasis on average accompanying services: 6/47, 12.7%,



4. Factor/specialization strategy for one segment: 5/47, 10.6%.

Total: 59.4%

The explanation of the variability of rational strategies increases between stages of research (44.2% - 52.1%) and the share of rational strategies decreases (66, 2% - 59.4%). This means that the incidence of rational strategies in the research sample is slightly diminishing, but their quality is slightly increasing.

4.2 Standard strategies used by start-ups

Standard generic strategies such as Porter's strategy, Hall's strategy have got a small number of parameters, e. g. two or three ones such as price, cost, segmentation which are often in opposite relations, e. g. low cost versus high price. These objective conditions did not allow to use the exploratory factor analysis with valid results.

4.3 Extracted factors/natural strategies and their impact on performance

In the first phase of research, all the factors/natural strategies were applied as single determinants (independent variables - IV) in the simple linear regression analysis. When investigating if any of those factors determine number of users (dependent variable -DV), it was found that none of them were statistically significant ($p < .05$) determinants of how many users they have. When investigating factors influencing number of customers (dependent variable), it was found that the fourth factor (the low-cost strategy with a different implementation) statistically significantly ($p < .05$) impacts: $R^2 = .095$, $F(1.66) = 6.91$, $Std\beta = -.308$, $p = .011$. The sixth factor (the chaotic strategy in a dynamic environment) was just close to significant determinants of number of customers: $R^2 = .107$, $F(1.66) = 7.87$, $Std\beta = -.326$, $p = .007$. When investigating the influence of factors on the sales (dependent variable), it was found that only the sixth factor (the chaotic strategy in a dynamic environment) statistically significantly impacted sales: $R^2 = .14$, $F(1.66) = 11.09$, $Std\beta = -.379$, $p = .001$. Statistically significant strategies have a negative impact on performance. It confirms their ineffectiveness which resides in their weak quality.

Both of the factors significant in the simple regression are also significant in the multiple linear regression analysis (Table 3) although with a negative impact again. Only Factor seven has a positive impact on number of users and number of customers, but the significance of Model 1 is not satisfied. However, Strategy/Factor seven is a marginal matter in the research sample. To validate the regression models in Table 3, we used several methods. Firstly, we analysed goodness of fit using not only R^2 , but also adjusted R^2 . For the analysis of residuals, we used the graphical analysis plus the quantitative analysis. The graphical analysis does not show a systematic dispersion of residuals, therefore, there is no heteroscedasticity present. Also, all results for Durbin-Watson test are very close to 2, which are ideal values, indicating no independent errors are present (residuals are not correlated). Furthermore, the variance inflation factor – VIF has almost ideal values ranging from 1.008 to 1.12 for all 7 investigated factors, therefore, we conclude that multicollinearity is not present. The VIF score is the same for all factors, but we are reporting the results in the last column only. Based on these findings, we consider all models validated.

Tab. 3 – Natural competitive/extracted strategies and their impact on performance – multiple linear regression models, the first phase of research. Source: own research

Factors/strategies - IV identified in the 1st phase of research	Standardized Betas with significance for dependent variables (DV)		
	Model 1. Number of users -DV	Model 2. Number of customers- DV	Model 3. Sales-DV
Factor 1	-0.06 (p = .63)	-0.05 (p = .66)	-0.21 (p = .084); VIF= 1.12
Factor 2	0.19 (p = .14)	0.03 (p = .78)	0.2 (p = .09); VIF= 1.1
Factor 3	0.13 (p = .3)	0.14 (p = .2)	0.19 (p = .1); VIF= 1.02
Factor 4	-0.13 (p = .28)	-0.32 (p = .004)	-0.18 (p = .11); VIF= 1.008
Factor 5	0.12 (p = .34)	0.13 (p = .25)	-0.003 (p = .98); VIF= 1.04
Factor 6	-0.15 (p = .21)	-0.35 (p = .003)	-0.37 (p = .002); VIF= 1.04
Factor 7	0.26 (p = .04)	0.27 (p = .018)	0.1 (p = .4); VIF= 1.06
Model summary	R ² =.155; adj. R ² = .056; F (7.60) = 1.57; p = .162	R ² = .304; adj. R ² = .223; F (7.60) = 3.74; p = .002	R ² = .273; adj. R ² = .189; F (7.60) = 3.22; p = .006
Durbin Watson	DW = 1.99	DW = 1.88	DW = 2.073

Independent variables (IV): extracted factors/natural strategies applied

Dependent variables (DV): number of users, number of customers, sales

Note: R² – coefficient of determination, F – ANOVA model for multiple linear regression, statistically significant (p < .05) factors are in bold letters, DW – Durbin Watson, Variance inflation factor - VIF

In the second phase of research, the simple linear regression was firstly repeated between single extracted factors/natural strategies and indicators of the start-up performance. For the simple linear regression, it was found that none of the factors statistically significantly impacts on number of users. Only the fifth factor (economically inefficient strategy in a relatively transparent environment) impacts on the second investigated dependent variable: number of customers: R² = .103, F (1.45) = 5.18, Stdβ = .321, p = .028. No single factor impacts on the third investigated dependent variable: sales. Then multiple linear regression analysis with all factors/natural strategies as independent variables (IV) was carried out again (Table 4). As we can be seen, factors/strategies are here independent variables all used in the multiple regression analysis (enter method) and the performance indicators are dependent variables. The first factor (less ambitious international strategy based on the closer undefined merits) became the only significant determinant of number of customers, and the fifth factor (economically inefficient strategy in a relatively transparent environment) was on the threshold of significance for number of customers and significant determinant of sales. However, the significance level is not satisfactory, with P-value of

Model at lowest levels, but not significant. To validate the regression models, in Table 4, we used the same methods as for models in Table 3. The graphical analysis showed no systematic dispersion of residuals, therefore, there is no heteroscedasticity present. The results of Durbin-Watson test for Models 2 and 3 are very close to 2, which are ideal values, indicating no independent errors are present (residuals are not correlated). For Model 1, it is lower than two but high above the threshold number 1. Furthermore, the variance inflation factor – VIF has again almost ideal values ranging from 1.03 to 1.12 for all 8 investigated factors, therefore, we conclude that multicollinearity is not present. Based on these findings, we consider all models in Table 4 validated.

Tab. 4 – Natural competitive/extracted strategies and their impact on performance – multiple linear regression models, the second phase of research. Source: own research

Factors/ strategies – IV identified in the 2nd phase of research	Standardized Betas with significance for dependent variables (DV)		
	Model 1. Number of users-DV	Model 2. Number of customers- DV	Model 3. Sales-DV
Factor 1	.34 (p = .021)	0.13 (p = .43)	0.17 (p = .24); VIF= 1.07
Factor 2	0.14 (p = .32)	0.04 (p = .82)	0.10 (p = .48); VIF= 1.05
Factor 3	0.03 (p = .86)	0.06 (p = .72)	-0.08 (p = .58); VIF= 1.06
Factor 4	-0.22 (p = .12)	-0.03 (p = .85)	-0.12 (p = .42); VIF= 1.03
Factor 5	0.18 (p = .23)	0.31 (p = .05)	0.41 (p = .007) ; VIF= 1.06
Factor 6	0.12 (p = .42)	-0.06 (p = .69)	0.09 (p = .54); VIF= 1.03
Factor 7	0.25 (p = .08)	0.1 (p = .52)	-0.10 (p = .49); VIF= 1.04
Factor 8	0.23 (p = .13)	0.07 (p = .65)	-0.14 (p = .35); VIF= 1.12
Model summary	R ² =.275; adj. R ² = .122; F (8.38) = 1.8; p = .107	R ² = .129; adj. R ² = -.054; F (8.38) = .704; p = .686	R ² = .243; adj. R ² = .084; F (8.38) = 1.53; p = .181
Durbin Watson	DW = 1.29	DW = 2.01	DW = 2.07

Independent variables (IV): extracted factors/natural strategies applied

Dependent variables (DV): number of users, number of customers, sales

Note: R² – coefficient of determination, F – ANOVA model for multiple linear regression, statistically significant (p < .05) factors are in bold letters, DW – Durbin Watson, Variance inflation factor - VIF

Of all types of strategies, which start-ups were using in the first phase of research, explained 15.5 % of variance in number of users, 30.4 % of variance in number of customers and 27.3 % variance in volume of sales. About 1/4 of variance in performance explained by strategy can be considered as a relatively high number, especially when there is taken into account the fact that the quality of strategies is not too high. In the second phase of research, the range of explained

variance fell down to about 1/5. It is important to point out that all investigated models (Table 4 last row) were not statistically significant, therefore, these results should be taken with caution and only as some indicators of possible trends.

4.4 Standard typologies of strategies and their impact on performance

The impacts of standard strategies on the performance indicators were investigated by means of the simple linear regression. Independent variables (IV) are parameters of standard strategies and dependent variables (DV) are performance indicators such as number of users, number of customers and sales. These analyses were carried out for both phases of research. The results for the first phase of research are in Table 5 and for the second phase of research, they are in Table 6. The significant impacts are in bold. It is apparent that some standard strategies are missing a relation with performance indicators. For all significant models in Table 5 and also for models in Table 6, we checked validity of regression models. The graphical analysis did not show a systematic dispersion of residuals, therefore, there is no heteroscedasticity present in any of those models. The results of Durbin-Watson test indicating no independent errors are present. We are reporting not only R^2 , but also adjusted R^2 . Based on these findings we consider all significant models validated. For the results in Table 5 and 6, we used the simple linear regression, therefore, there is no need to calculate multicollinearity tests.

Tab. 5 – Standard generic competitive strategies as determinants of performance-simple linear regression models, the first phase of research. Source: own research

Standard strategies-IV as impacts	Model 1. Number of users -DV	Model 2. Number of customers -DV	Model 3. Sales -DV
Porter's strategy	$R^2 = .022$; $F(1.69) = 1.54$; $\beta = -.148$; $p = .219$,	$R^2 = .033$; $F(1.69) = 2.38$; $\beta = -.183$; $p = .127$	$R^2 = .000$; $F(1.69) = .029$; $\beta = -.021$; $p = .865$
Hall's strategy	$R^2 = .000$; $F(1.69) = .002$; $\beta = .005$; $p = .969$	$R^2 = .011$; $F(1.69) = .735$; $\beta = -.103$; $p = .394$	$R^2 = .003$; $F(1.69) = .24$; $\beta = -.059$; $p = .626$
Miles and Snow's	$R^2 = .099$; ; adj. $R^2 = .086$; $F(1.69) = 7.58$; $\beta = .315$; $p = .008$; $DW = 1.93$	$R^2 = .054$; $F(1.69) = 3.94$; $\beta = .232$; $p = .051$	$R^2 = .025$; $F(1.69) = 1.76$; $\beta = .158$; $p = .189$
Strategy clock	$R^2 = .058$; adj. $R^2 = .044$; $F(1.69) = 4.23$; $\beta = .24$; $p = .044$; $DW = 2.0$	$R^2 = .104$; adj. $R^2 = .091$; $F(1.69) = 8.01$; $\beta = .323$; $p = .006$; $DW = 2.15$	$R^2 = .022$; $F(1.69) = 1.57$; $\beta = .15$; $p = .215$
Valverde's strategy	$R^2 = .016$; $F(1.69) = 1.105$; $\beta = -.126$; $p = .297$	$R^2 = .014$; $F(1.69) = .964$; $p = .33$; $\beta = -.117$; $p = .33$	$R^2 = .000$; $F(1.69) = .025$; $\beta = -.019$; $p = .875$

Independent variables (IV): standard strategies

Dependent variables (DV): number of users, number of customers, sales

Note: β = Standardized Beta, R^2 – coefficient of determination, F – ANOVA model for multiple linear regression, statistically significant ($p < .05$) strategies are in bold letters, DW – Durbin Watson

Tab. 6 – Standard generic competitive strategies as determinants of performance-simple linear regression models, the second phase of research. Source: own research

Standard strategies- IV as impacts	Model 1. Number of users - DV	Model 2. Number of customers - DV	Model 3. Sales -DV
Porter's strategy	$R^2 = .039$; $F(1.47) = 1.9$; $\beta = -.197$; $p = .18$	$R^2 = .044$; $F(1.47) = 2.14$; $\beta = -.209$; $p = .15$	$R^2 = .05$; $F(1.47) = 2.49$; $\beta = -.224$; $p = .121$
Hall's strategy	$R^2 = .012$; $F(1.47) = .57$; $\beta = -.109$; $p = .456$	$R^2 = .058$; $F(1.47) = 2.9$; $\beta = -.241$; $p = .095$	$R^2 = .06$; $F(1.47) = 3$; $\beta = -.245$; $p = .09$
Miles and Snow's	$R^2 = .014$; $F(1.47) = .65$; $\beta = .117$; $p = .425$	$R^2 = .007$; $F(1.47) = .338$; $\beta = -.084$; $p = .564$	$R^2 = .011$; $F(1.47) = .528$; $\beta = .105$; $p = .471$
Strategy clock	$R^2 = .002$; $F(1.46) = .095$; $\beta = .045$; $p = .76$	$R^2 = .1$; adj. $R^2 = .08$; $F(1.47) = 5.11$; $\beta = .316$; $p = .029$; $DW = 1.98$	$R^2 = .1$; adj. $R^2 = .081$; $F(1.47) = 5.12$; $\beta = .316$; $p = .028$; $DW = 1.8$
Valverde's strategy	$R^2 = .047$; $F(1.47) = 2.32$; $\beta = -.217$; $p = .134$	$R^2 = .001$; $F(1.47) = .07$; $\beta = -.039$; $p = .792$	$R^2 = .001$; $F(1.47) = .038$; $\beta = .029$; $p = .845$

Independent variables (IV): standard strategies

Dependent variables (DV): number of users, number of customers, sales

Note: β = Standardized Beta, R^2 – coefficient of determination, F – ANOVA model for multiple linear regression, statistically significant ($p < .05$) strategies are in bold letters, DW – Durbin Watson,

In the first phase of research, only strategies according to typologies of Miles and Snow and strategy clock have a statistically significant impact on the number of users and customers. No standard strategy shows an impact on sales. The strategy clock contains only two parameters, namely price and added value, Miles & Snow contain more criteria. Their common feature is more or less active action. In the second phase of research, only the typology of strategy clock has a statistically significant impact on the number of customers and sales. No typology shows an impact on the number of users. If the findings from the first and second phases of research are merged, so price and value added are two strategic parameters that have a relevant impact on the performance of a start-up.

5. DISCUSSION

The main strategy of start-ups is an ambitious international strategy, but in the second phase of research, it is losing strong assumptions (technology, quality, difference), probably due to a more intense confrontation with demanding reality and competition. Action strategies are the second-tier strategies. It can be assumed that visions and ambitions can be substituted by active action, which can bring unusual and valuable results, or if there is no attractive challenge or goal, they can be replaced by dynamic activity that extracts new impulses and knowledge from confrontation with competitors and customers. The low cost variant of the strategy is probably a consequence of a weak differentiation that cannot attract the customer and therefore is replaced by low costs and very low prices, too. However, such a low cost strategy together with low prices can be

pursued in the short term only. Specialization strategy for start-ups as very small companies is a good choice, but without support of other high-quality strategic parameters, it is a temporary solution only.

The remaining strategies that the factor analysis shows provide few relevant reference points to be seriously described and explained. These at least represent proof that start-ups do seek a strategy, but their lack of experience and limited resources ultimately tempts them towards inconsistent/ineffective strategies. Approximately 25% of variability in the first and second phase of research is not linked to any strategy parameters. In this case, start-ups do not seem to manage a worthy strategy at all. It can be assumed that an ambitious strategy is unsustainable for a start-up in the long run, although this would be appropriate, and is in fact initially highly preferred, as the examined start-ups are convinced of the world originality of their idea and have a sense of unlimited possibilities. Already in the second phase of research, there is a clear tendency to move from strongly targeted strategies to action strategies. This is indicative of weakness or lower quality targets, but on the other hand, of resilience, perseverance and unwillingness to leave the game. Nevertheless, about half of the start-ups have a very vague strategy or none at all.

A similar research study of start-ups (Slávik et al., 2018) using the K-mean cluster method has identified four types of strategy based on M. Porter's typology parameters (differentiation, cost, segmentation); these are differentiator (share of the research sample: 22.64%), combinator (45.28%), stuck in the middle (15.09%) and smart operator (16.98%). In this research, only three parameters (differentiation, cost, segmentation) were used to describe the strategy, and therefore the types of strategy seem to be more consistent. However, a greater number of strategy parameters keeps a more faithful record of the behavior of a start-up, which seems to be less consistent than in comparative research.

US research on small and starting companies (Carter et al., 1994) based on six criteria (market sensitivity, technology, product diversity, location attractiveness, services and price) identified by a cluster method the occurrence of six strategy archetypes: super achievers (share of the research sample: 30%), price competitors (15%), equivocators (10%), technology value (10%), niche purveyors (20%) and quality proponents (10%). The results of the research on start-ups most closely approach the strategy of the super achievers, which resembles the strategy represented by Factor 1 in the first and second phase of the research.

A Sweden research study on 67 small companies revealed the main strategies associated with a high performance. These are differentiation strategy combined with innovativeness and proactiveness, and mixed strategy with risk aversion, reactivity and low innovativeness (Linton & Kask, 2017). The first kind of strategy again resembles the ambitious strategy of super achievers, whereas cautious strategies are not fitting for start-ups.

Well-defined (apparently different) strategies from the first phase of research are ambitious international strategies based on technological merits, high quality and difference (share of the research sample: 19.1%), an action strategy (16.2%) and a low cost strategy with a different implementation (13.2%). Well-defined (apparently different) strategies from the second phase of research are less ambitious international strategies based on undefined priorities (21.2%), a positional and less action strategy (14.9%), a defensive action strategy with an emphasis on average



accompanying services (12.7%) and a specialization strategy for one segment (10.6%). Intersections with results of comparative researches are small. Some resemblance can be seen among a ambitious strategy, combinator strategy and strategy of super achievers, possibly with the tendency of ordinary companies to distinguish themselves by differentiation. Comparative typologies are not built on action criteria, and therefore, there is no visible link between the action strategies of start-ups and other typologies. The realized research deepens and broadens the knowledge of business strategies within it; approximately 50% (44.2% and 52.1%) of start-up strategizing can be explained by means of rational and action-driven actions that promote about three-fifths of start-ups (66.2% and 59.4%). Conversely, almost half of the start-ups in the research sample act non-strategically, with the other half, acting strategically, base their actions on rationality and action.

In the first phase of the research, the impact of well-defined strategies on performance, which are placed in the first positions of the results of the factor analysis, was not recorded; on the contrary, the impact of less important strategies was chronicled, although with a negative consequence. Only a helpless strategy (Factor 7) had a positive impact. Other quality strategies did not have an impact on performance, and poor quality strategies weakened performance. Such a relationship between strategy and performance is the consequence of ineffective strategizing, either of the imperfect content of the strategy or its implementation.

In the second phase of the research, the impact of a less ambitious international strategy based on more closely undefined merits (Factor 1) was positively reflected, albeit on the number of users. The economically inefficient strategy in a relatively transparent environment (Factor 5), which is not considered a quality strategy, had a positive impact on both customer numbers and sales. The impact of the strategy on performance shows weak determinism and the strategy does not fulfil the expected role. Quality strategies do not meet performance goals, and their role is partially replaced by strategies on the edge of the identified spectrum.

In the first phase of the research about the impact of standard strategies on performance, these strategies were shown to be effective, as they are not complicated, but fundamental and prominent. The typology of the strategy clock is based solely on criteria of price and value added, while the typology of Miles and Snow focuses on the action of a company only. Both strategies seem to reflect start-up strategizing as well as to correspond to its features and capabilities. In the second phase of the research, only the typology of the strategy clock is relevant, but it has an impact not only on customers but also on sales. Start-ups do not seem to have comprehensively developed strategic thinking; therefore they rely intuitively on active action or on natural attributes or conditions of performance such as price and value added factors. Habib & Hasan (2018), Potjana-jaruwit (2018) and Guzman & Li (2019) all confirm the significance of exploring the relationship between strategy and performance, although their sets of results are each quantified in a different way and as such do not allow direct comparison.

6. CONCLUSION

Research has shown that start-ups act according to a relatively large number of natural strategies, but more than half of these strategies are inconsistent, showing little rationality sometimes up

to the point of being chaotic. In particular, strategies that correspond to the nature and purpose of the start-up deserve attention, i.e. ambitious international strategies and strategies of active action. On the other hand, these strategies affect the performance of a start-up only to a very limited extent. Paradoxically, a number of marginal and curious strategies also affect start-up performance. Thus, start-ups create natural strategies regarding how to operate in the business environment. Nevertheless, their efficiency is low and in a relatively short period of time between the first and second phase of research these strategies are rather variable, and still with little significant impact on performance. Standard strategies, the content of which is usually very concise, showed an impact on the performance of a start-up in one or two cases, probably due to the unambiguous and comprehensible criteria describing the behavior of a start-up, e.g. price and added value factors.

Strategies of start-ups are characterized by a contradiction between rational and perhaps well-thought-out strategies and those strategies that are helpless, perhaps meaningless or inconsistent. These may be considered to reflect the possibilities of very small, very young and inexperienced companies along with their managers. Ambitious international strategies that are slightly corrected in parallel with the development of a start-up are often complemented by hesitant, unclear and sometimes incomprehensible strategies.

The practical implications of the present research are clear. Start-ups are naturally imperfect. Just as they have to go through the development, improvement and possible failure of their product, technology, and / or business model, so does their strategy. What matters is that a number of the strategies reflect the vigor and enthusiasm of start-uppers, while just as important is that even the most attractive strategy is meaningless if it does not influence performance.

Two of the challenges regarding the continuation of the research are to monitor the transformations of the spectrum of strategies in relation to the further development of a start-up toward a mature enterprise, and to identify the more greatly significant impact of a particular strategy on the performance of a start-up.

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