GREEK IT START-UPS – AN ANALYSIS OF FOUNDER'S PERCEPTIONS

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***Abstract**: The study examines the Greek IT start-up ecosystem, analyzing the founders' views, strategy, and current perception regarding their ICT start-ups. The study examines perception of more than 120 founders of Greek IT start ups who participated in exhibitions as start-up companies during 2018 and 2019 and had completed at least one accelerator program.*

The literature review provides a wide range of factors that can determine the success of start-up companies with a special focus on IT (Information Technology). The research questionnaire was designed, based on findings of the previous academic studies. The present research involves primary research and the use of structured questionnaires. 130 questionnaires were distributed to the founders of the startups, and were collected immediately. In certain cases brief discussions with the responders took place, in order to clarify certain points and to confirm validity of the data. The data were encoded and the advanced statistical analysis software (SPSS) was used in order to proceed to statistical analysis.

The study examines the relationships between variables which, according to the literature review, have significant impact on the success of a start-up, such as previous experience and education level of start-up founders, self evaluation regarding success of their ventures, number of founders, current challenges, competition and degree of innovation.

The research findings provide a deeper understanding of the dynamics of Greek IT start-ups, in terms of competitive advantage, value to end customer, need for financial support and founder's expectations. The findings are useful to entrepreneurs as they strive to increase the success rates of current and future projects as well as to the wider innovation ecosystem, e.g. business angels, venture capital firms, the state etc., to further improve their success rates or design and implement policies for innovation promotion. Finally, key areas for further research are highlighted.

Keywords*:* Innovation Management, Marketing, Start-Ups, Founders, Business Models, Entrepreneurship, Strategy, Greek

JEL Classification Codes: L26, M13, O30, O31, O32, O33.

1. INTRODUCTION

The study examines the Greek start-up ecosystem, with a special focus on companies engaged in Digital solutions (IT sector – Information Technology). The objective is to enhance the understanding of the Digital Start Ups in Greece, by analyzing the founders' views, strategy, and current perception regarding their ICT start-ups.

The study examines the Greek Start-Ups participating in Digital Greece 2018, and related events. Digital Greece was organized by the Greek Ministry of Digital Policy, Telecommunications and Media. Digital Greece offered Greek Start-ups the opportunity to participate in exhibition events in Greece and internationally and offered Greek start-ups the opportunity to demonstrate their solutions to potential investors, customers and the general public.

All participating start-ups in terms of business perspective, by participating at least in one start-up boot camp or start-up accelerator program, operating in Greece. The founders have received at least basic business training regarding all aspects of establishing and managing a start-up company, such as company formation, product design, market selection, human resources, negotiations, and pitching to potential investors, and therefore are considered to be trained on the business and managerial aspects of running a start-up company.

The Greek macroeconomic and business environment in which Greek IT start-uppers are trying to develop their business activities is not an easy one for new – or for existing – business. The austerity measures, since 2010 resulted to an economy characterized with high unemployment levels and increased poverty, over taxation and dramatic cuts of income level for the majority of population, as well as IT investment budgets.

2. LITERATURE REVIEW

Previous academic studies identified critical success factors for success of start-up companies. “The start-up exists of a team of founders with not too much working experience and with a relevant social network. There is a thorough business plan that is executed with at least 75.000 euro seed capital. By a pro-active customer approach the start-up is able to bring to the market, successfully, a radical innovation with enough unique advantages (compared to other existing possibilities) to overcome initial customer and market resistance. This study increases the external validity of the earlier research on the success factors of radical innovation…“the decision to switch from part-time to full-time may be grounded on clear indications that the entrepreneur can indeed start the business” (Gelderen et al, 2003, p.11)

Past research, (Nieuwenhuizen et al, 2002) focused on personal characteristics of the entrepreneurs, such as ability to take risk, commitment to the enterprise, financial understanding and management, sound human relations, knowledge of competitors. Research regarding university spin-offs emphasizing the connection between university and industry and concludes that “generally positive commercialization benefits of working with industry. Spinoffs whose founding academic entrepreneurs participate in outside consulting arrangements with industry are more likely to commercialize their technology” (Hayter, 2013 p.20).

Further research, (Hallam et al, 2017 p. 88-89), concludes that “Successful university commercialization requires certain essential preconditions, starting with an assessment of the motivation of faculty, staff, and students to engage in entrepreneurial behavior….The results show how crucial the organizational culture is in technology commercialization…The perceived need to engage the private sector to provide more funding and marketing opportunities for the new ventures is clear.”

Regarding female entrepreneurs, Mustapha et al (2015) summarize previous literature (Alam et al. (2011) and Javadian and Singh (2012)), “that strong support from insiders, such as parents and/or husbands is very important to female entrepreneurs” and conclude that for female entrepreneurs “self-satisfaction and to maintain their independent, and the push factors such as divorce and hardship in life make these women determined to work hard and achieve their objectives” (Mustapha et al, 2015, p.229)

The difficulty in disrupting the market or understanding and defining new markets has also been studied. "Markets that do not exist cannot be analyzed: Suppliers and customers must discover them together. Not only are the market applications for disruptive technologies unknown at the time of their development, they are unknowable. The strategies and plans that managers formulate for confronting disruptive technological change, therefore, should be plans for learning and discovery rather than plans for execution. This is an important point to understand, because managers who believe they know a market's future will plan and invest very differently from those who recognize the uncertainties of a developing market" (Christensen, 1997, p. 147)

"To successfully compete for the future, a company must be capable of enlarging its opportunity horizon. This requires top management to conceive of the company as a portfolio of core competencies rather than a portfolio of individual business units. Business units are typically defined in terms of a specific product-market focus whereas core competencies connote a broad class of customer benefits." (Hamel & Prahalad, 1994, p. 90)

Further studies (Aulet, (2013), Sureshi et al, (2012), Spyropoulos (2018), Zafar (2013) Nieuwenhuizen et al, (2002)) analyze various success factors and challenges for innovation marketing and entrepreneurial and start-ups success. Business Model innovation, was also examined (Jontunen et al, 2018), with a special focus for cloud IT solutions. The authors "identified new antecedents of business model scalability as: the flexible presence of local sales and marketing resources, a flexible product platform and flexible financial resources. With these antecedents, the firm increases the scalability of its business model and thus the dynamic capability of firm." (Jontunen et al, 2018, p. 33)

Additional studies (Santisteban et al, 2017) summarized findings of previous academic literature and identified several factors that contribute to success of ICT start-ups, such as experience, governmental support, capital, organizational age, product innovation, etc. However the research

3. RESEARCH APPROACH & METHODOLOGY

The literature review examines the key success factors for new companies, especially start-ups. The research questionnaire was designed, based on key findings of the previous academic literature examined.

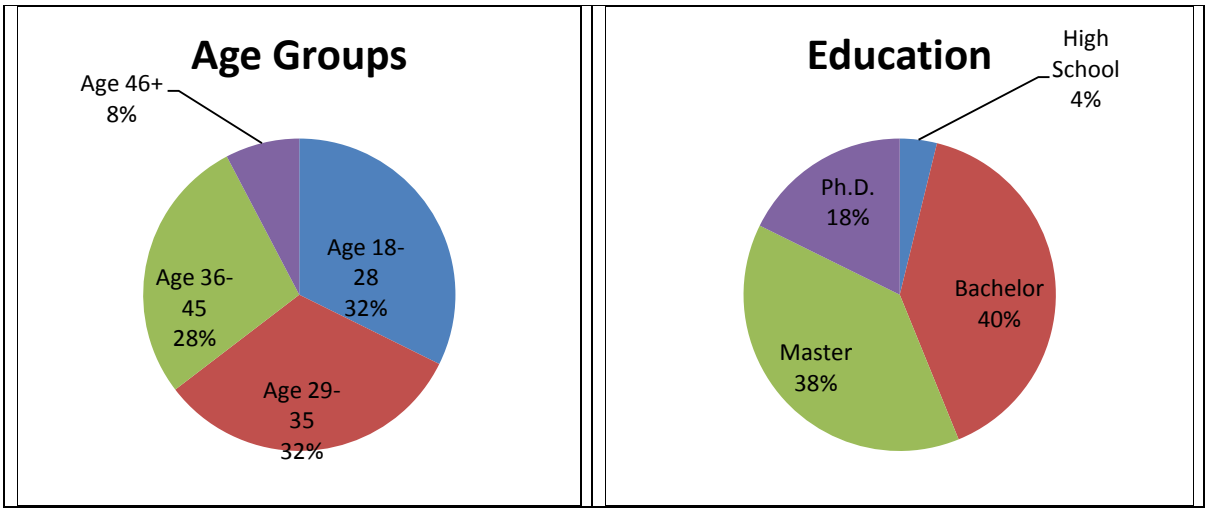
This research involves primary research and the use of structured questionnaires. The questionnaires were distributed to founders of the ICT start-ups who participated in Digital Greece sponsored events and exhibitions from September 2018 to March 2019. More specifically 130 questionnaires were distributed, on site, during the exhibitions, to the founders of the startups, and were filled-in and collected immediately on site as well. In certain cases brief discussions with the responders took place, in order to clarify certain points and to confirm validity of the data. The study examines a wide range of variables, both from the founder's perspective (such as age, education, prior experience and previous ventures) and start-up organizations perspective (key achievements, main challenges, sources of competitive advantage, disruption and degree of innovation introduced).

The data were encoded and advanced statistical analysis software (SPSS) was used in order analyze the correlation between variables, with the use of Spearman Correlation Coefficient.

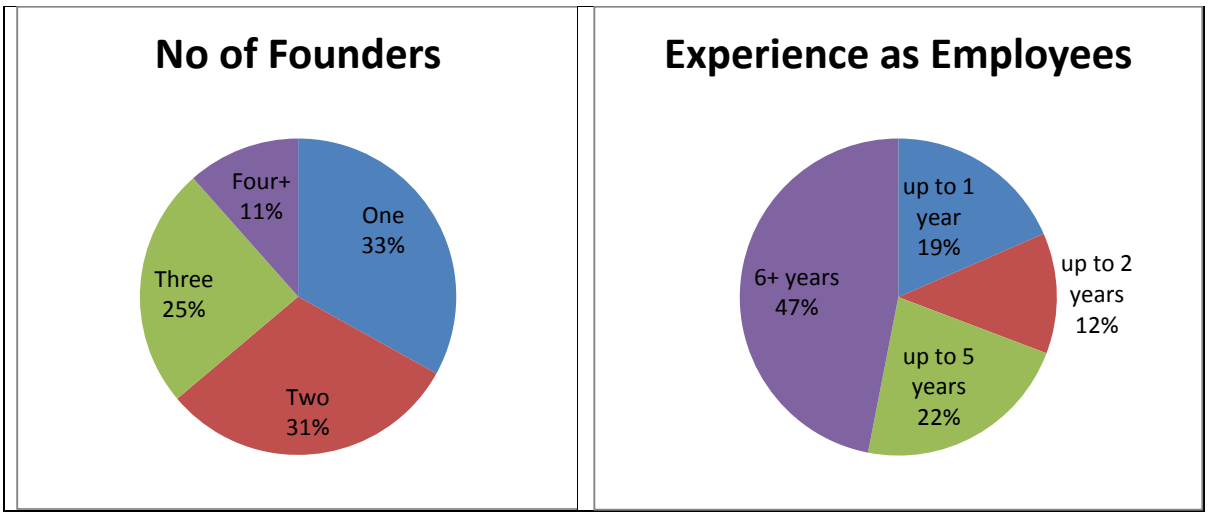
4. RESULTS – PART 1 – DESCRIPTIVE STATISTICS

There were 130 responders in total, which were the founders of the ICT Start-Ups participating in various exhibitions under the Digital Greece project in Thessaloniki and Athens, the time period between September 2018 and March 2019.

From the respondents, 73% were men and 27% women. A total of 32% were between 18 to 28 years of age; 32% from 28 to 35; 28% from 36-45, and 8% were over 45 years old. Regarding Education, 4% of the respondents were High School Graduates, 40% hold a bachelor Degree, 38% of the responders hold a Master's Degree and 18% hold a Ph.D. Degree.

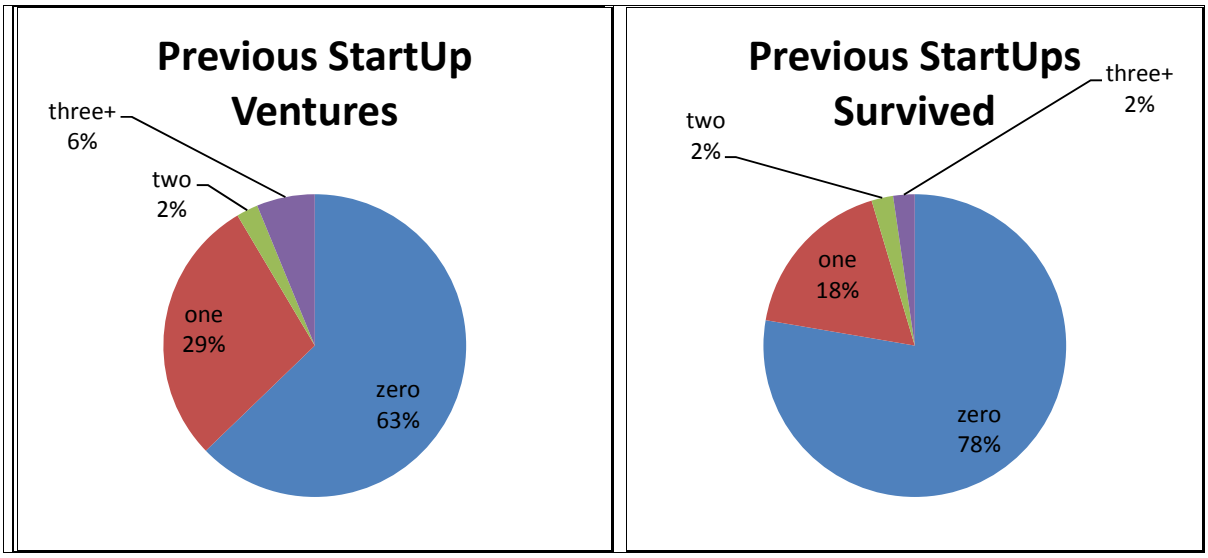


Regarding the Number of Founders per Start-up Company, 33% of the responders were the only founder, 31% responded that their founders team had two members, 25% responded that their founders team had three members and 11% responded that the founders team included four members.



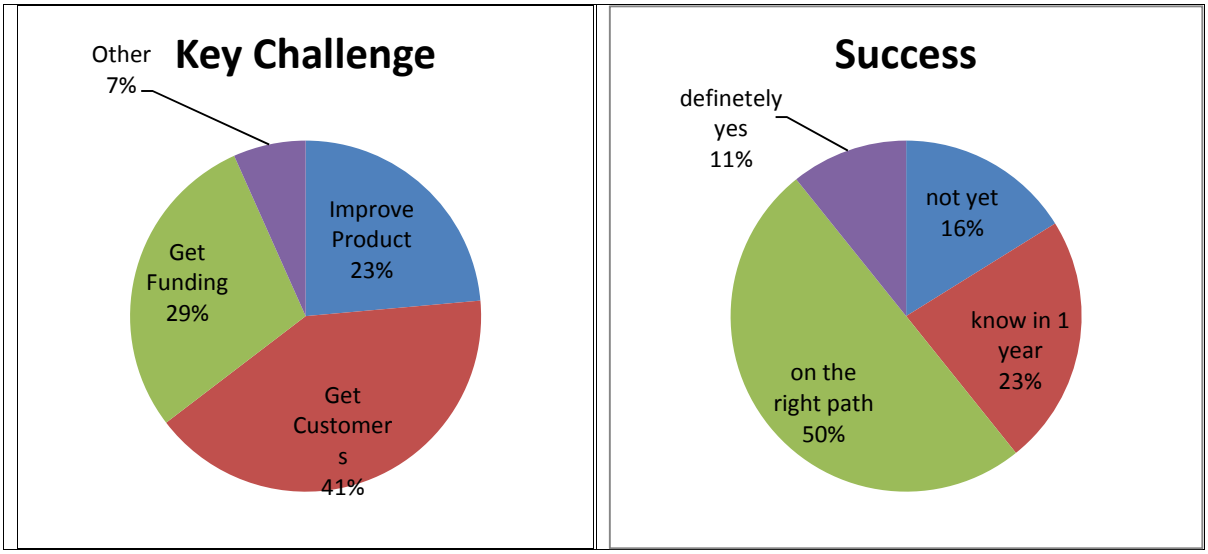
Regarding previous experience as employees, 19% responded that their working experience was up to one year, 12% responded that their working experience was up to two years, 22% responded that their working experience was up to 5 years, while 47% of the responders had 6 years or more working experience.

Regarding previous experience as entrepreneurs, 63% of the responders had not launched a previous venture. 29% of the responders had previous experience of launching one venture. However, there is also a noticeable percentage of serial entrepreneurs among the responders: 2% of the responders had launched three business ventures, while 6% of the responders had launched three or more previous ventures.



What is also noticeable is the success of these previous ventures: 18% of the responders have one venture in the past that is still surviving today, 2% of the responders had two previous ventures that survived, while another 2% had three or more of previous business ventures that survived.

Regarding the reasons for founding their current start-up venture, 35% responded that the reason was an opportunity they identified, 24% responded that the reason was a technology breakthrough, 22% responded that the reason was a new business model, and 19% responded that the reason was process innovation. In addition, 71% of the responders found their start-up for one single reason of the ones mentioned above, 18% of the responders for a combination of two reasons, while 4% for a combination of three reasons and another 7% founded their start-up believe that the foundation of their start-up was as a result of the combination of all four reasons mentioned above. Furthermore, for those who actually had established a previous business venture before, 37% responded that the reason was opportunity identified, 29% that the reason was a technology breakthrough, 24% responded that the reason was a new business model and 10% that the reason was process innovation.



Regarding the main challenges for their start-ups, 23% of the responders consider as primary challenge the need to improve their product, 41% the need to get more customers, 29% the need to secure funding, while 7% of the responders face or different challenges and 2% faces no challenges. Furthermore, while 2% of the responders responded that they face no challenge, 63% of the responders face one challenge, 21% of the responders faces two challenges, 11% of the responders faces three challenges and 3% faces all four challenges as mentioned above.

Regarding the year of establishment of their start-up, in terms of having a company officially formatted, 21% of the responders have not yet established their company. 6% of the responders had their companies established during the period 2006-2012, 12% of the responders had their companies established in 2013 or 2014, 9% of the responders had their company established in 2015, 16% of the responders in 2016, 22% of the responders in 2017 and 19% of the responders established their company in 2018. In total, 57% of the companies have been established for less than 3 years (Sept. 2018 – March 2019 was the period of data collection).

Regarding their feelings for success of their current start-up, 16% of the responders cannot consider it a success as yet, 23% of the responders feel that they will know after 1 year, 50% of the responders considered that they are on the right path, while 11% already consider their current start up as a success.

Regarding their achievements so far, 35% of the responders has developed a working prototype, 41% of the responders has successfully completed Proof of Concept (PoC) phase, 15% of the responders have achieved sales of at least 100k Euros, 9% of the responders have secured funding of at least 100k Euros. 61% of the responders had one achievement, 23% had two achievements, 14% had 3 achievements, 3% had all four achievements mentioned above, while 1% of the responders had no achievements.

Regarding their Competitive Advantage, 41% of the responders consider Technology as a competitive advantage, 27% of the responders consider Business Model as a competitive advantage, 16% considers Intellectual Property as a competitive advantage and 16% considers Management to be a competitive advantage. 65% of the responders consider to have one competitive advantage, 23% of the responders consider to have two competitive advantages, 8% of the responders consider to have three competitive advantages and 4% of the responders consider their start-ups to have all four of the competitive advantages mentioned above.

Regarding the degree of innovation, 23% of the responders consider that they offer an improved product, another 19% of the responders consider to offer a totally new product, 37% of the responders consider to offer a new product approach and 21% consider that they are creating a new market. As an additional finding, 27% of the responders classify their innovation as "sustaining" while 73% of the responders consider their innovation to be disruptive. Furthermore, 82% of the responders consider their start-up to offer just one innovational dimension of the ones mentioned above, while 11% of the responders consider their start-up to offer two innovational dimensions, 5% of the responders consider their start-up to include three innovational dimensions and 2% of the responders consider that their start-up offers all four innovational dimensions mentioned above.

Finally, regarding funding requirements, 21% of the responders do not ask for funding, 25% of the responders require funding of 100k Euros, 14% of the responders require funding of up to 250k Euros, and 40% of the responders require funding more than 250k Euros.

5. RESULTS – PART 2 – STATISTICAL ANALYSIS

In this study, use of Statistical Analysis has been used to identify relationships between variables. The data were encoded and entered into an advanced statistical analysis software (SPSS) was used in order analyze the correlation between variables, with the use of Spearman Correlation Coefficient. Findings indicate Statistical Significance for the Correlations presented at Table 1 below:

Table 1: Statistical Significant Correlations

No	Variable 1	Variable 2	Relationship	Correlation	Spearman Value	Statistical Significance
1.	Success	Sales 100k Euros	Analogous	Very Weak	0,195	*Correlation is significant at the 0.05 level (2-tailed).
2.	Success	B2B	Reverse Analogous	Very Weak	-0,188	*Correlation is significant at the 0.05 level (2-tailed).
3.	Success	Experience	Analogous	Very Weak	0,177	*Correlation is significant at the 0.05 level (2-tailed).
4.	Age	Education	Analogous	Weak	0,353	** Correlation is significant at the 0.01 level (2-tailed).
5.	Experience	Education	Analogous	Moderate	0,402	** Correlation is significant at the 0.01 level (2-tailed).
6.	Get Funding as a Challenge	Education	Analogous	Weak	0,310	** Correlation is significant at the 0.01 level (2-tailed).
7.	Unclear Value to Customer	Education	Reverse Analogous	Very Weak	-0,19	*Correlation is significant at the 0.05 level (2-tailed).
8.	Competition from Disruptive Start Ups	Education	Analogous	Very Weak	0,18	*Correlation is significant at the 0.05 level (2-tailed).
9.	Education	Combination of	Analogous	Very Weak	0,189	*Correlation is significant at the 0.05

		Competitive Advantages				level (2-tailed).
10.	Education	New Product	Analogous	Very Weak	0.186	*Correlation is significant at the 0.05 level (2-tailed).
11.	Previous Surviving Start-Ups	Prototype Achievement	Analogous	Very Weak	0,196	*Correlation is significant at the 0.05 level (2-tailed).
12.	Previous Surviving Start-Ups	Funding 100k	Analogous	Weak	0,222	*Correlation is significant at the 0.05 level (2-tailed).
13.	Previous Surviving Start-Ups	Major Value to Customer	Reverse Analogous	Very Weak	-0,178	*Correlation is significant at the 0.05 level (2-tailed).
14.	Previous Surviving Start-Ups	New Product	Reverse Analogous	Weak	-0,223	*Correlation is significant at the 0.05 level (2-tailed).
15.	Previous Surviving Start-Ups	New Market Creation	Analogous	Very Weak	0,193	*Correlation is significant at the 0.05 level (2-tailed).
16.	Gender	Improve Product as a Challenge	Analogous	Very Weak	0,182	*Correlation is significant at the 0.05 level (2-tailed).
17.	Gender	Funding 100K	Reverse Analogous	Very Weak	-0,194	*Correlation is significant at the 0.05 level (2-tailed).
18.	Age	Get Funding as a Challenge	Analogous	Weak	0,258	** Correlation is significant at the 0.01 level (2-tailed).
19.	Age	Prototype	Reverse Analogous	Weak	-0,244	** Correlation is significant at the 0.01 level (2-tailed).
20.	Age	Funding 100k	Analogous	Very Weak	0,174	*Correlation is significant at the 0.05 level (2-tailed).
21.	Age	Previous StartUps	Analogous	Very Weak	0,190	*Correlation is significant at the 0.05 level (2-tailed).
22.	Opportunity (Reason)	POC	Analogous	Very Weak	0,175	*Correlation is significant at the 0.05 level (2-tailed).
23.	Opportunity (Reason)	Management as Competitive Advantage	Analogous	Very Weak	0,199	*Correlation is significant at the 0.05 level (2-tailed).
24.	Disruption	Prototype Development	Reverse Analogous	Very Weak	-0,173	*Correlation is significant at the 0.05 level (2-tailed).
25.	Disruption	Minor Value to Customer	Reverse Analogous	Weak	-0,318	** Correlation is significant at the 0.01 level (2-tailed).
26.	Sales 100k	Funding 100k	Reverse Analogous	Weak	-0,318	** Correlation is significant at the 0.01 level (2-tailed).

Regarding the Correlations between two Variables, the following conditions apply: "The sample correlation coefficient, denoted by r (or in some cases rxy), is a measure of the strength of the linear relation between the x and y variables." (Isotalo, 2014, p.78). "Positive r indicates positive association between the variables, and negative r indicates negative association. The correlation r always falls between -1 and 1. Values of r near 0 indicate a very weak linear relationship. The strength of the linear relationship increases as r moves away from 0 toward either -1 or 1… The correlation r itself has no unit of measurement; it is just a number between -1 and 1. 4. Correlation measures the strength of only a linear relationship between two variables. Correlation does not describe curved relationships between variables, no matter how strong they are." (Isotalo, 2014, p. 81)

Furthermore the table below (Table 2) provides a list of Variables examined for potential correlation, in which there was no evidence of Correlation Significance, which are worth noted.

Table 2: No evidence of Correlation Significance

No	Variable 1	Variable 2	Correlation Significance
1.	Education	Success	No
2.	Education	Funding 100k	No
3.	Previous Start-Ups Surviving Today	Success	No
4.	Previous Start-Ups Surviving Today	Sales 100k	No
5.	Previous Start-Ups Surviving Today	Funding 100k	No
6.	Previous Start-Ups Surviving Today	Technology as Competitive Advantage	No
7.	Previous Start-Ups Surviving Today	Management as Competitive Advantage	No
8.	Previous Start-Ups Surviving Today	Business Model as Competitive Advantage	No
9.	Previous Start-Ups Surviving Today	Intellectual Property as Competitive Advantage	No
10.	Business Model as a Reason	Success	No

6. MANAGERIAL IMPLICATIONS

Regarding the findings of the statistical analysis it is reasonable to understand the correlation between feeling of success and sales of 100k euros; the fact that the relationship is very weak can be interpreted by considering that start-up founders are interested to further grow their companies.

The reverse correlation between developing B2B solutions and feeling of success can be interpreted considering the situation in the Greek market; during the last 10 years Greece lost about 25% of GDP, with a lot of business ceasing operations and migration leading to brain drain effect, and capital controls – in this business environment IT investments of established companies were kept to a minimum. Furthermore, developing a B2B solution usually requires higher investments, while B2B sales require a far more complex sales process; many people involved in the purchasing procedure (Aulet 2013), references from existing customers are often required, and proof of business ability for future support; it becomes difficult for Greek start-ups

to satisfy many of the above mentioned criteria. Furthermore the traditional practice of many established companies to establish lists of preferred vendors based on various criteria and references, which effectively means excluding new solutions developed from start ups.

Analogous correlation between Success and Experience were confirmed, as well as between Age and Education, Experience and Education; start-up founders who start the entrepreneurial journey later on are usually more educated, and are likely to have longer experience as employees before starting their ventures.

The analogous correlation between Education and the challenge to secure funding can be interpreted by a more clear understanding of the investment required and the ambitions of the founders. Further findings support this, since Education correlates with New Product development, therefore higher commitment to innovation and investment. In addition, Education also correlates with perceived competition from disruptive start-ups, an indication of increased competition in the near future that may attempt to challenge the fundamentals of the specific industry.

It appears that there is a reverse relationship between “Education” and “Unclear Value to Customer” suggesting that the highest level of education the more clear is the value offered to customer. On the other hand there is an analogous relationship between “Education” and “Competition from Disruptive Start-Ups” indicating that the higher the levels of education, the founders are facing competition from disruptive start-ups. However, even though there is no evidence of correlation significance between “Education” and “Disruptive Solution”, this can be interpreted by the fact that more educated founders, even if their solutions are not disrupting the industry, they do perceive competitors who disrupt the industry; to this respect they have a clearer idea of potential future trends across their specific industries. In addition it has to be noted that the majority of the founders (73%) define their solutions are disruptive, regardless of their own educational level; to this respect, founders, regarding of their educational level consider competitors other start-ups with disruptive approaches.

There is also an analogous relationship between “Education” and “New Product”, highlighting the fact that more educated founders tend to offer new products into existing markets. To this respect innovation is determined as a new product with specific and well defined characteristics within an existing, well defined market.

Founders with previous start-up experience (serial start-uppers) and founders of start-up ventures that are currently operational understand the importance of developing an early prototype; there is indeed a significant correlation between “Previous Surviving Start-Ups” and “Prototype Achievement”. Furthermore founders with previous experience find it easier to secure early finance, which can also be interpreted that finance and funding managers or business angels find it easier to finance a start-upper who has a successful history (in terms of surviving start-ups), since there is a significant correlation between “Previous Surviving Start-Ups” and Funding 100k.

Surprising, it appears to be that Serial Entrepreneurs also focus less on providing major value to customer – there is a reverse analogous relationship between “Previous Surviving Start-Ups” and “Major Value to Customer”. This finding may be interpreted for B2B solutions that either existing companies have already resolved their major pains, or that for major pains existing companies would trust an established company as a supplier, instead of a start-up. Furthermore, start-uppers may lack the ability or willingness to confront established companies in a sector which is of major importance to end-customers. Regarding B2C, issues related to start-up solutions usually only rarely address major parts of somebody’s life.

Furthermore there is a negative correlation between serial start-uppers "Previous Surviving Start-Ups" and "New Product Development"; more experienced start-uppers focus less on existing well defined markets, and develop a new product with innovative characteristics. To the contrary, there is positive correlation between serial start-uppers and "New Market Creation". This can be interpreted by the serial start-uppers offer solutions that try to create and define new markets; this is consistent with the fact that 73% of the founders define their solutions as disruptive ones.

Gender seems to play a limited role for Greek start-uppers – "Gender" variable correlates positive with "Improve Product as a Challenge" and negative with "Funding 100k Euros". This means that women founders consider to a high degree the challenge to improve their product, and that women founders were less likely to secure funding.

Age appears to be an important variable; "Age" correlates with "Get Funding as a Challenge" (positive), "Prototype" (negative), "Funding 100k" (positive), and "Previous Start-Ups" (positive). Of course, as described above, age correlates with education as well. This means that founders of a more mature age realize the importance to secure funding and that they actually have more chances to succeed in securing funds. They are also more likely to have previously launched a start-up. However it less likely to have a prototype developed. It seems reasonable to realize the importance of securing finding, especially in a more mature age (since as a person there are increased needs that need to be satisfied) and from a business perspective, especially if you have also launched another start-up (not necessary successful) to understand the importance of securing funding. This comes in consistency with the fact that VC managers and business angels actually feel more confident with more mature, educated start-uppers. Regarding Prototype development, there may be different interpretations; early stages of start-up development or different types of innovation (e.g. business model, disruptive solutions) may be the reasons for the lack of prototype development in ICT start-ups examined.

There is also a positive correlation between "Opportunity" and "Prove of Concept", indicating that there is a positive relationship between those start-uppers founders who based their start-up on a specific opportunity, and development of "Prove of Concept", developing a prove that their solution actually works. The same founders also consider management as a competitive advantage, since there is a positive correlation between these variables.

However this is actual a point where special focus may be needed; "Opportunity" variable means that founders perceived a specific market opportunity and based on this opportunity they started the company. This is excellent, however in the long run may be misleading; certain managerial and business skills are indeed required for been able to identify a market opportunity, explore this opportunity and build a company; up to this point indeed, management can be considered a competitive advantage. However, future challenges can be much different; both at start-up level (secure funding, product management, people management) or on the road to becoming an actual established organization (marketing, human resources etc). In such cases different skills are required from the management team; and an early success may hide founders from the need to ensure that the management team actually has the skills required to face future challenges.

There are also negative correlations between "Disruption" variable and both "Prototype Development" and "Minor Value to Customer" variables, meaning that in both cases there is a reverse relationship between founders who develop disruptive solutions and their perceived need to develop a prototype or to address a minor issue to end customer. In both cases these findings are expected; Disruptive Solutions are often based on different types of innovation, usually other than the product level, and to this respect there is less need for a prototype. In addition it does not

actually makes business sense to try to disrupt an industry addressing a minor issue for the end customer.

Surprisingly, it appears to be a negative correlation between “Sales 100k” and “Funding 100k” variables. This implies a reverse analogous relationship; start-ups that secured sales of 100k actually were less funded than other start-ups. This seems a bit contradictory; however there can be several interpretations for such a finding; first of all considering that B2B solutions found an extreme difficult environment in the Greek market during a period of economic decline, means that several B2B firms with actual technology developed may have not secured substantial sales – yet their technology and market potential may be significant and very promising. To the contrary, some start-ups may have secured early the 100k sales goal, but they may lack momentum, actual competitive advantages or a business model that can enable them scale fast. Finally it has to be noted that 51% of the companies are less than 3 years old – so in case significant software development is required it is reasonable to understand why the goal of 100k sales may not have met so far.

Regarding the variables with no evidence of statistical coefficient, there was no prove of linear relationship between “education” and “success” and “secure 100k funding” variables. There was no evidence of linear relationship between business model innovation and success. Regarding serial state-uppers, founders with surviving ventures, there was no evidence of linear relationships between “Success”, “Funding 100k”, “Sales 100k” or any of the variables suggesting a common strategy for basing their competitive advantage.

7. LIMITATIONS

The study examined the ICT start-ups founders participating in Digital Greece events, for a six months period, and more specifically from September 2018 to March 2019. The study covered start-up companies from various cities of Greece, with the majority of founders from the cities of Athens and Thessaloniki, Greece. All start-up founders have participated to at least one accelerator program – and to this respect they have the elements of business acumen to run their start-ups. However, it has to be noted that there were significant differences at the maturity level of the participating start-ups; 21% of the responders did not had established a company, while 57% of the start-ups were companies less than 3 years old (2015, 2016, 2018). Therefore, more focused research in the future is recommended to examine start-ups at similar stages of development, which may highlight new types of relationships and correlations.

A key point that needs to be highlighted in this study is that responders were the founders of the start-ups – and therefore the study examines perceptions of founders regarding the companies and not actual performance of the company, based on pre-defined standards.

Furthermore, the sample size consists of 130 founders of ICT start-ups. Additional research is recommended to take place with an increased sample size, keeping the same key criteria (ICT Start-Ups in Greece, having completed one acceleration program).

Finally, the previous decade (2008-2018) in Greece were characterized by economic stagnation, after a decade of major economic decline; high unemployment rates, capital controls, major cuts in IT investments; brain drain effect, increased taxation, and increased bureaucracy – it is therefore reasonable to assume that such an environment may have impacted start-uppers as well; therefore future research is recommended in more entrepreneurial-friendly business environments.

8. CONCLUSIONS

The research findings provide the basis for better understanding of the dynamics of Greek IT start-ups in 2018. The findings are useful to new and future entrepreneurs as they strive to increase the success rates of current and future projects. Furthermore the present study highlights the Greek IT Start-up wider innovation ecosystem, such as business angels, venture capital firms, the state etc., providing a better understanding to further improve their success on investment, risk management, design and implementation of policies for innovation promotion. Finally, key areas for further research are identified.

There is a negative correlation between B2B start-ups and founder's feeling of success, and a positive one once 100k Sales goal is met. Age and Education appear also to have correlations with a wide range of factors (Experience, get Funding as a Challenge, Competition from Disruptive Start-Ups, Combination of Competitive Advantages).

The study contributes to academic knowledge offering the perceptions of the start-up founder's regarding their companies, perceived competition, reasons for establishing their ventures, the ways they innovate and parts of their personal stories (age, education, previous start-ups established).

It has to be noted that the study of start-ups is in fact a study of the exception; many new ideas are born and tested, only a few ones will become a reality in the business world – even less they will survive and from these some may actually become a major success. From this point of view, a more chaotic system, with fewer and rather weak relationships between key variables examined and established, seems to reveals a dynamic environment, where new ideas are born, generated from many possible directions and tested into the market; providing a hope for the future of innovation in Greece.

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