A Study on European Start-Up Companies compared to Maltese Start-ups

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***Abstract*—This research compares European start-up enterprises to Maltese businesses. The goal of this research is to offer a clearer picture of how far progress has been achieved by comparing data from prior years to more recent data using the European Start-Up Monitor. The data was formatted using Power Bi for better viewing. This project was a success in term of developing visualization, although there were few data sources for Maltese data.**

***Index Terms*—Start Ups, Malta, Europe, Visualization, Power Bi**

I. Introduction

Startups are a critical element for the economic vitality of any country it is also the pipeline for small or medium enterprises (SME) and future high-growing companies. Across Europe, startups contribute to make countries economically and socially vibrant by redefining the technological landscape and creating markets of tomorrow. Start up businesses are the first process to having an established SME. In 2018 all European SMEs firms constitute 99.8% of both European and Maltese economy [1] [2]. A better understanding of start up companies in Europe would be helpful in a way that one can be able to identify what leads up to SMEs. The aim of this study is to gain a better understanding of other start-up businesses in various countries in Europe. For this study The European Start up Monitor(ESM) will be used.The ESM is used for a better overview of challenges, characteristics and potential that a start up businesses can have.

As a researcher I want to identify the countries are similar to Malta in terms of high ranking with statistics. The theory entails that potential start up businesses can benefit from an interactive report about similar progress. The motivation behind this study is derived from wanting to become a business owner myself. Therefore, this can be beneficial in such a way that it would be easier to identify what factors might make a business more successful and how other countries are performing within the EU, while also taking into consideration that generalize business operations is also an option.

This study is relevant to Malta as it is a member of the European Union and future entrepreneurs who are interested in starting up their own business will be able to review the data gathered. This will also be beneficial to innovators who are willing to invest in start up businesses in Europe. Businesses themselves will also be able to benefit from this, due to being able to conduct research on the highest performing countries and seeing how they can adapt to their right methodology and possibly perform better. The questions for this study are:

1.What is business intelligence and how can companies benefit from it?

2. Is it possible to build a report utilising data from previous reports about start-up companies?

3. Could future start-ups find an interactive growth report useful with business intelligence?

4. What are the difficulties that a startup faces?

5. What are the qualifications of a start-up founders in terms of their background?.

II. Literature Review

Businesses can be better structured by using business intelligence, and they may need to be financed in a variety of ways, including government exclusive agency, founder savings, venture capital, bank loans, venture dept, business incubators, and others.

Business Intelligence supports companies in making their business data and processes transparent and intelligent. Employees will be able to make better decisions, achieve the required results, and continuously develop them. An advantage of BI systems is that start ups can make their customer and supplier relationship even more profitable, reduce costs, minimize risk and increase added value. Without the use of BI systems, huge chunks of data are spread confusingly and can complicate the business [3].

Almost every business can benefit from the use of business intelligence, but they are not always the right conditions to successfully implement business intelligence [3]. Although business intelligence solutions are seen as major tools for large companies, more providers have been pushing for start ups. Some of these large providers are: Oracle, IBM and Microsoft. Oracle has released the ”Business intelligence standard edition” which is a BI system geared to the needs of start up companies. IBM products provide business intelligence solution for start ups [3]. The tools for start ups include the functions reporting, analysis, planning, budgeting and forecasting as well as dashboards and with ”Microsoft Reporting and Analysis Services” Microsoft provides a Business Intelligence

solution for start-ups [3]. The solution offers data presentation and reporting, comprehensive analysis functions, fast access to large volumes of data and extensive functionality in the Microsoft standard software [3].

BI systems have become increasingly popular among start-ups in recent years. Reporting solutions eliminate the need for manual, error-prone data collection from multiple sources: all metrics are automatically merged into a single system and correlated in any desired combination. As a result, business intelligence has become an indispensable foundation for corporate decision-making. BI systems provide a significant competitive advantage, particularly for start-ups [3]. A company without a BI system must expend enormous effort to create a report: hundreds of numbers must be manually extracted from Excel spreadsheets, billing systems, and other programs and saved in a new file. This passes through the hands of several employees. This procedure not only wastes valuable working time, but it also increases the likelihood of serious transmission errors. When you use a systematic BI solution, the previously manually processed data is extracted and fully automated. This significantly reduces the risk of errors while also saving human resources. This is especially helpful in start-ups, where individual employees frequently manage multiple areas of responsibility [3].

A business incubator refers to a company that assists startup and new companies to develop through offering services such as office space or management training because startup companies lack networks, experience, and resources, business incubators provide services that assist these companies to get through the initial hurdles that they are likely to encounter during the business startup process. Such hurdles include computer services, accounting services, legal services, funding, space, as well as other prerequisites that are important to running the business [4].Some of the services that are common to business incubators include the management of intellectual property, help in regulatory compliance, assistance in the commercialization of technology, assist with business etiquette, the identification of the management team, advises the mentors and the board, offers the training programs that are comprehensive to a business and access to venture capital or angel investors. The services also include linking the business to the strategic partners, assist with the business basics, and market research, access to guarantee program, loan funds and bank loans as well as offering the networking activities [4].

Considering data visualization tools when analyzing data sets are always growing in size, however, the greater the data set, the more difficult it is to analyze and assess it. A higher amount of data can also slow down the visualization, reducing the likelihood of it running properly [5]. It was discovered that when data was represented, the user could quickly understand the data being provided and finalize findings. Data can be represented graphically using a variety of conventional shapes. These forms are used to create diagrams, charts, and maps. The visualizations are then made interactive so that the user can customize how the data is displayed [5].

These tools-diagrams will be discussed after the data has been collected with the next chapter.

III. Research Methodology

Due to a shortage of data on start-ups in Malta, a secondary quantitative method was adopted. For this study, statistics from the European Start-up Monitor (ESM) was used. Data was gathered from the major reports for 2018 and 2019. Reports contained data from different countries and specific countries were chosen to be able to identify the changes within two years. As themes were highlighted throughout the statistic report, the data was divided into the following categories: Demographics of the founders, stages of start-ups, motivation of start-ups and level of education. The interactive visualized report utilizing Power BI was used to create the nations involved and other pertinent information. So the data set was connected to Power BI, a CSV file with relevant statistics about start-ups in Europe was first compiled. Using the tools indicated, data was processed with Power BI and deployed according to the themes detected within the statistics.

The goal of this research is to gain a better understanding of start-ups in Europe and how they function when adopting visualization. It was easier to comprehend with visuals because tables were utilized to display the data with fields and pie charts with dount charts were used to allow the user to pick a nation and examine detailed data about that country, the visuals are user friendly. Different images were utilized to represent different sorts of data and colours were used to clearly indicate variations between nations.

IV. Findings Discussion of Results

Founders Genders and Education

This data is split up into what is the founders level of education and whether founders are mostly men or female. The study was carried out in seven European countries that are part of the ESM program. It has been shown that companies are typically started by males, however in 2019, there was a significant growth in women founding firms, as observed in Austria. This is due to a partnership between the government and private organizations, which has encouraged female entrepreneurs with their start-up projects. With this assistance, Austria had the highest percentage growth compared to the other nations, with a 30% increase the following year.

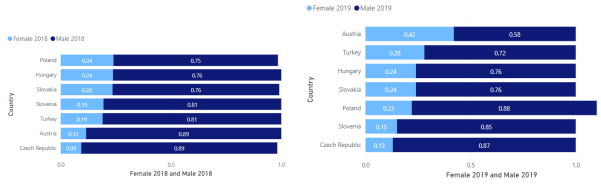

Fig. 1. Gender Distribution

It can be demonstrated that there are many various sorts of schooling when it comes to someone's past that led to the establishment of their organization. Starting with Poland, which has the greatest level of education with 8.76% percent, Slovenia has the second highest level of education with a

Masters degree at 8.51%, and every single nation has the highest proportion of masters as shown in figure 2.

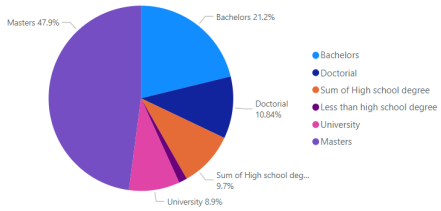

Fig. 2. Types of Education

Challenges and Stages The nations included in this data are largely in the growth or start-up stages, which are the first two. Competition and sales investment were the most significant challenges that entrepreneurs faced in both 2018 and 2019. The second significant issue that can be noted is the initial stage, however since the support of business start up centers has been a great help in the sector. As illustrated in the graph below, this contributed to a 9.84% gain in 2019 to 47.69% from 37.85% in 2018.

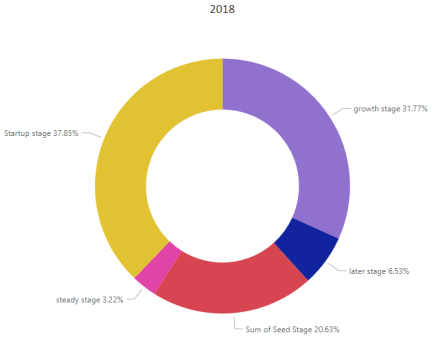

Fig. 3. Stages and Challenges

Motivation of Startup

The final section of the demographic addresses the motivations of the founders. It is clear that entrepreneurs choose to establish their own businesses for a variety of reasons. Some people may wish to work for self-satisfaction, personal pleasure, need, independence, or family traditions. In this situation, self-fulfillment and extrinsic reward are the two most highly ranked percentages of startup motivation. As indicated in the graph below, 29.48% are self-fulfillment and 23.48% are external reward.

V. Conclusion

It has been observed that communal visualizations for start-ups in Europe are conceivable. analysis was simple because of the interactivity component and the ability to visually identify data in the form of charts and graphs. Potential start-ups may find this study beneficial in determining whether nations are performing well and whether they want to try to internationalize their business. Companies may be interested, but more study is necessary. Companies looking to develop

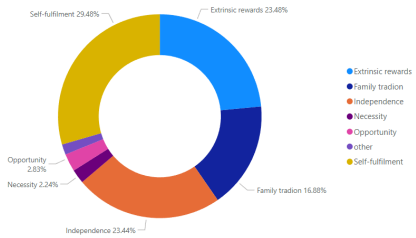

Fig. 4. Types of Motivation

their business, in particular, may be interested in supporting this tool for improved report analysis. This research was constrained owing to a paucity of information about local start-ups. The study was further constrained by the need to collect data from earlier years.in addition to not having access to all European nations Another disadvantage is that no primary research was conducted. Future research should incorporate more data from both different nations and from within the same country. More study on local businesses is needed to see whether they would be interested in employing interactive visualization.

References

[1] E. Commission, "2019 sba fact sheet scoreboard," 2019.
[2] ——, "2019 sba fact sheet malta," 2019.
[3] H. T. Otmane Azeroual, "The effects of using business intelligence systems on an excellence management and decision-making process by start-up companies," vol. Volume 4, 2018.
[4] O. A. Alexandrina Maria Pauceanu, "Key success factors for business incubators in europe," 2019.
[5] J. G. Parke Godfrey and P. Lasek, "Interactive visualization of large data sets," vol. VOL. 28.