

GUESSSS National Report 2016: Ireland



*Entrepreneurial and Career Intentions and Behaviour of Students attending
Irish Universities*

Foreword

Entrepreneurship, innovation and strategic change are catalysts to the economic and social development of societies globally. The Ireland of the twenty first century prides itself on being a knowledge economy and a thought leader in the areas of software, pharmaceuticals, and financial services among others. A central ingredient to such success is the calibre of our graduates and their contributions to both indigenous and global corporations. Indeed, year on year our Irish education system continues to rank in the top quartile of educational institutions globally. However, the prosperity and continued development of our economy and society is dependent on our ability to reinvent, rejuvenate and challenge the status quo.

Our academic institutions across the island have sought to embrace this challenge by incorporating entrepreneurship education into multiple modules and programmes. However, to date there has been a dearth of understanding of the entrepreneurial intentions of students in Ireland. The GUESSSS Project is an exciting research project which allows us to profile entrepreneurship in our third level institutions and benchmark our programmes against a global audience of over one hundred and twenty thousand students in 50 countries. We, as academic institutions, can now speak with some authority about the career choice intentions of students in Ireland, education aiding student entrepreneurship, and what we know about aspiring and active student entrepreneurs. This research also provides interesting insights about family businesses and succession in the next generation. We expect this research to stimulate and encourage further analysis, debate and positive action in understanding and supporting entrepreneurship education in Ireland.



Dr. Eric Clinton

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Acknowledgements

The GUESSS Ireland team consisting of Dr. Eric Clinton and Roisin Lyons would like to firstly offer our sincere gratitude to Enterprise Ireland for their sponsorship of the national report (Ireland). The Irish GUESS team would like to thank all the students who participated in our survey in 2016 and the institutions which disseminated the survey to their students on our behalf.

We thank our colleagues on the international GUESSS team (led by Prof. Dr. Philipp Sieger), who undertook the global research study and created the survey. Thanks to Hussain Murtaza Arif, Siddharth Rakesh Shrivastav, Scott Galvin, Ciaran Hanton, Kate Hellen Tyner, Vetle Vulstad, Nikhil Kumar Sharma, Sumair Rajvansh, Andre Bastie, Arnab Mishra. Lastly, special thanks go to Martina Brophy for her editorial assistance.

Dr. Eric Clinton



Roisin Lyons



Executive Summary

What are the career choice intentions of students in Ireland?



Students were asked about their career plans for the future immediately following graduation and five years after graduating. Following graduation, the results show that the majority of students favour large and medium-sized businesses. Five years' post-graduation, the highest ranked career path is an entrepreneur/founder working in my own business. When compared to the Irish results of the GUESSS 2011 survey the results show a higher number of students intending to work as an employee in an organisation (small, medium and large) and a lower (almost 16%) number intending to pursue entrepreneurship five years after graduation.

What are the entrepreneurial intentions of students in Ireland?

Between 13% and 15% of students strongly agreed that they are determined to create a business in the future and have seriously thought about starting a business. Students of Law and Economics (including business studies) were more likely to pursue entrepreneurship directly after their studies than any other field. Five years after graduation students of the Science of Art (including art, design, music etc.) had the highest intentions towards founding their own business.

What factors affect a student's perception and pursuit of entrepreneurship?

Students expect quite a positive reaction by friends, family and classmates if they told them they intended to pursue entrepreneurship. When asked if the entrepreneurial reputation of the university was the deciding factor of choosing to study there, 96% of the students answered no (N=771).

What do we know about family businesses of the students and succession?

A sample of 309 students indicated that their parents are founders/owners of businesses in construction (n=53); trade (n=35); architecture and engineering (n=19) and agriculture (n=37) among others. Almost half of the students perceive this company to be a 'family business'. Students were asked when they intend to take over their family business and the majority of this group (84.2%) indicated that they will succeed their parents after five years. When asked the main reason why they may choose to take over the family business, 53.6% of respondents noted that they wanted to 'preserve family harmony'. The second most important factor for the respondents was the need to 'Secure long-term survival of the business' (46.4%).

How is education aiding student entrepreneurship?

Students indicated positively when asked if their university encouraged students to engage in entrepreneurial activities, and if they felt their university had a favourable climate for entrepreneurship. However, 73.7% (N=592) of students indicated they had not yet taken an entrepreneurship course. Only 3.9% of the student sample were studying on a specific entrepreneurship program (N=31). Results indicated that the most common method for delivering a course in entrepreneurship education was through lectures (191 selections) followed by the use of workshops (149) and guest speakers (138). International study visits (8) and hackathons (4) were found to be the least common elements.

What do we know about aspiring student entrepreneurs?

The study found that 10.5% (n=85) of the sample are currently trying to set up their own company. 64 of students answered questions about their upcoming pursuits; with 34.4% of students indicated they intended to set up a new venture in 19-24 months or more. The survey also revealed that 62.5% of these students want their business to become their main occupation after graduation. The majority of the respondents want

to establish a business in the Information Technology and Communication sector (17.2%), Trade (14.1%) and Tourism and Leisure (14.1%).

What do we know about active student entrepreneurs?

There were 3.7% of the sample (n=30) already running their own business of which 28 answered follow-up questions. With respect to ownership in the company, half of the respondents had 100% share ownership in their business. Eighteen of the respondents (62.1%) indicated the business will be their main occupation after they graduate. The majority of businesses operate in both the education and training, and information technology sectors (17.9%). Student entrepreneurs indicate that the two most significant objectives for undertaking innovative projects in their business are to open up new markets and to extend the existing product/service range.

The 2016 GUESSSS Report for Ireland is sponsored by Enterprise Ireland. Although data used in this report is collected by the GUESSSS consortium, its analysis and interpretation is the sole responsibility of the authors. The authors, for their part, have attempted to ensure accuracy and completeness of the information contained in this publication. No responsibility can be accepted, however, for any errors and inaccuracies that occur.

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The GUESSS project: Key information

The GUESSS (Global University Entrepreneurial Spirit Students' Survey) project is a global research initiative designed to examine the entrepreneurial intentions and activities of students at third level. The main goals of the GUESSS project relate to:

1. The start-up process

GUESSS helps to systematically record the founding intention and activity of students on a long-term basis, and makes a temporal and geographical comparison possible (panel study).

2. The University

GUESSS offers a temporal and geographical comparison providing universities with insight into the organization of entrepreneurship (e.g. in the form of entrepreneurship courses, founding climate, infrastructure, etc.).

3. The Individual

GUESSS allows for a temporal and geographical comparison of individual-based characteristics that impact the founding intention and activity of students. The survey is conducted every two years.

The international project was developed by Prof. Dr. Philipp Sieger (Swiss Research Institute of Small Business and Entrepreneurship at the University of St.Gallen) and has previously been conducted six times (2003, 2004, 2006, 2008, 2011 & 2014). There have been numerous academic articles and reports which have disseminated knowledge relating to family firm progression, career choice and entrepreneurial intentionality. Data collected internationally is disseminated in terms of individual national reports and one integrated international report. The report herein pertains to the results obtained from the study undertaken in Ireland in 2016.

What are students' entrepreneurial intentions across the globe; how many students are in the process of creating a business; and how many already have their own business? What are the drivers of student entrepreneurial intentions?

Key Findings of International Report 2016-17

The international GUESSS Project 2016-17 attempted to answer the questions above based on more than 122,000 completed responses from 50 countries and over 1,000 universities¹. Selected key findings from the international GUESSS 2016-17 report:

Career intentions directly after 3rd level:

Internationally, the large majority (80.3%) of students intend to become employees directly after their studies. 8.8% of students intend to work in their own business directly after studies.

Career intentions five years after 3rd level:

38.2% intend to work in their own business five years after completion of their studies. The share of intentional founders in developing countries is considerably higher than in developed countries.

Career intentions by gender

There appears to be a “gender gap” whereby females were found to have weaker entrepreneurial intentions than males, yet this varied between countries.

¹ The international report is available at
http://www.guesssurvey.org/PDF/2016/GUESSS_2016_INT_Report_final3.pdf

Career intentions toward entrepreneurship is linked to parental background

Students with entrepreneurial parents have stronger entrepreneurial intentions than students without entrepreneurial parents, yet this effect depends on the parents' entrepreneurial performance.

Aspiring Entrepreneurs

There were 21.9% of all students in the international study in the process of creating their own business. 34.9% of them plan to complete the venture creation process within one year. 18.6% intend to create the business alone; all others plan to have co-founders.

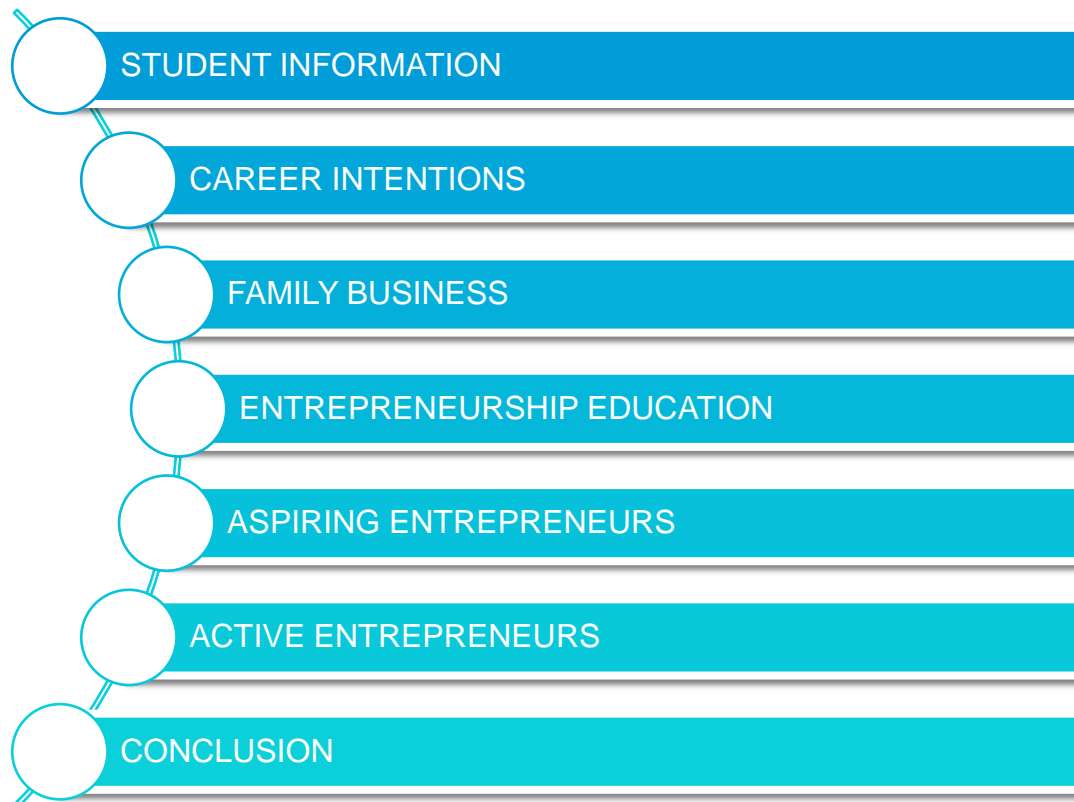
Current Entrepreneurs

In the international study, 8.8% of all students already run their own business. On average, these businesses employ 6.3 employees (full-time equivalents).



Ernst and Young (EY) is the global research partner for the GUESSS Research Project

National Report Findings: Ireland



The international data study was conducted during the Summer of 2016. For the Irish study, the online survey was disseminated by Dr. Eric Clinton and Ms. Roisin Lyons through a number of participating third level institutes in the country. In the Irish study 1,338 students attempted the survey. After data screening and analysis, 807 valid responses were used in the national report analysis.

1. Student Information

1.1 Age of students

The majority of students in the Irish study belonged to the 21-23 age bracket (42.68%, N = 341), while 29.41% (N=235) were aged between 18-20 years old.

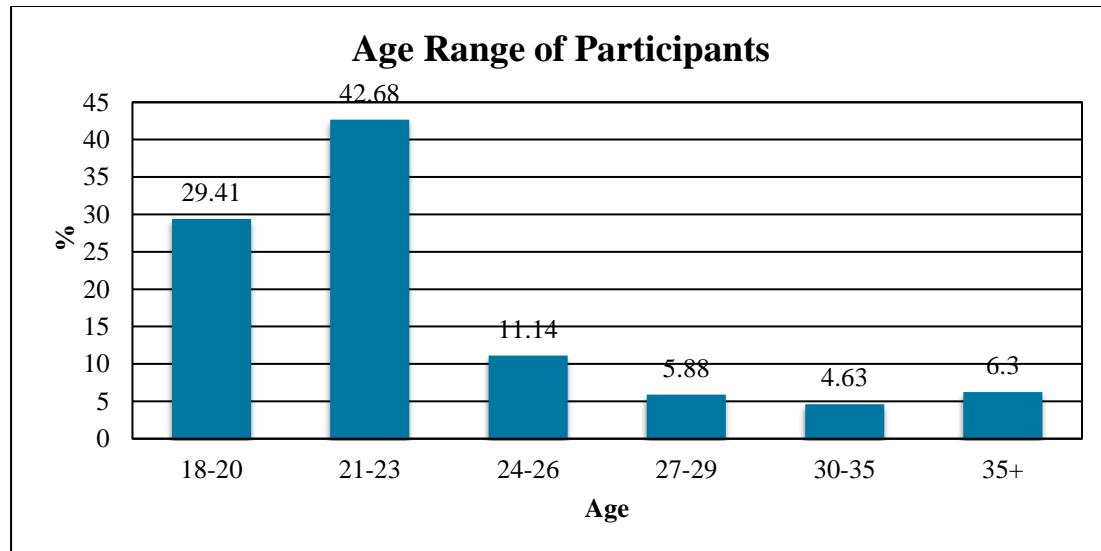


Figure 3: Age Range of Participants

1.2 Gender of students

There were 503 female students (62.3%) who participated in the GUESSSS 2016 survey and 304 male students (37.7%).

1.3 Nationality of students

In the national study, the majority of the respondents were Irish (85.2%, N=687). This was followed by British students who comprised of 1.6% (N=13) of the sample group. French and Chinese both followed with 0.7% (N=6) of student responses and 0.5% (N=4) from Germany. The remaining 10.7% of the sample group were born in 'Other' countries such as Iraq, Mauritius, India, USA, Cameroon, Saudi Arabia, Pakistan, Brazil, Colombia, Malaysia, Zimbabwe, Nigeria, Australia, Canada, Hong Kong, Ghana and Mexico.

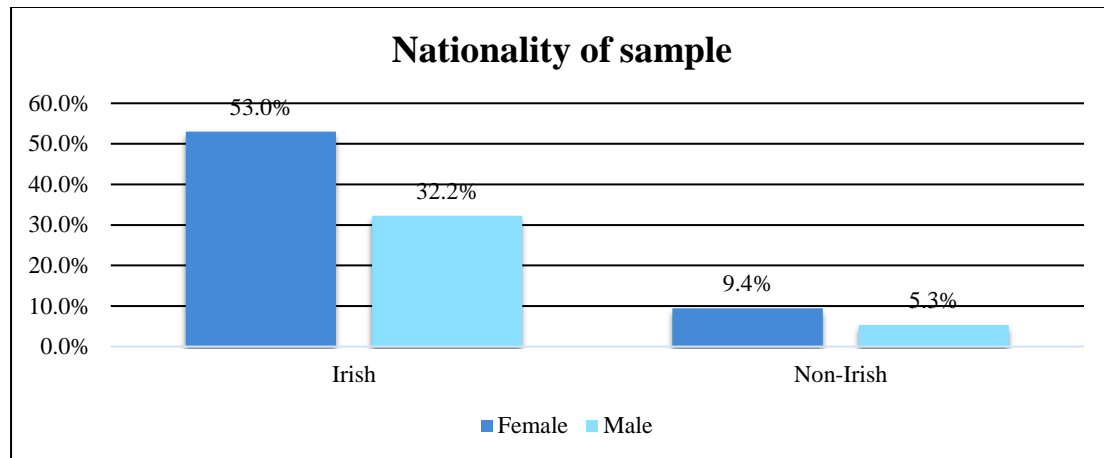


Figure 4: Nationality of the Student Sample

1.4 Third Level Institutions

The majority of students indicated that they were based in University College Cork (75.6%, N=610). This was followed by Dublin City University with 10.5% (n=85) and Letterkenny Institute of Technology with 8.3% (n=67). Other Universities contributed to a lesser degree such as the University of Limerick (1.5%), Cork Institute of Technology (0.6%) and Trinity College Dublin (0.6%).

1.5 Level of Education of Students

The majority of respondents were found to be at the undergraduate level (81.5%, N=656). Masters or postgraduate level students accounted for 11.3% of the study sample (N= 91) and the PhD/MBA/Other category totalled to 58 (7.2%) of those who answered the survey.

1.6 Students' Field of Study

The student sample was asked which faculty or academic field they were currently studying in their third level institution. The majority of the student sample indicated that they were currently studying 'Law and Economics' (which includes Business Science/Studies), accounting for 28.8% or 232 of the 807 students.

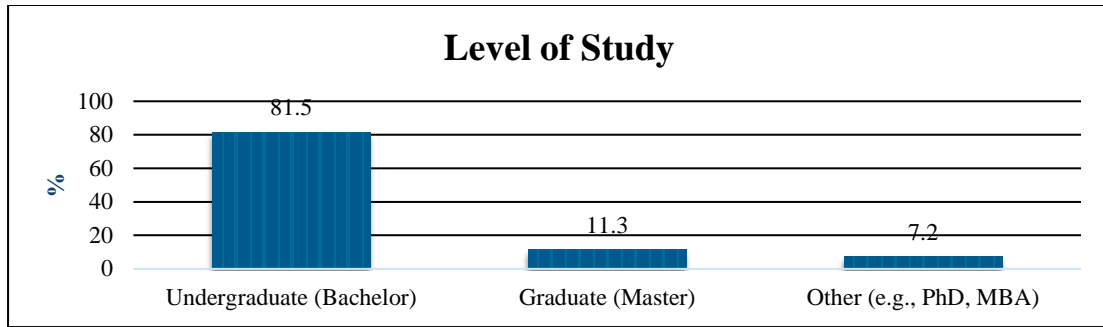


Figure 5: Level of Current Education of the Student Sample

The least popular Field of Study was ‘Science of Art’ (which includes art, design, dramatics, music etc.), accounting for 2% or 16 of the total respondents.

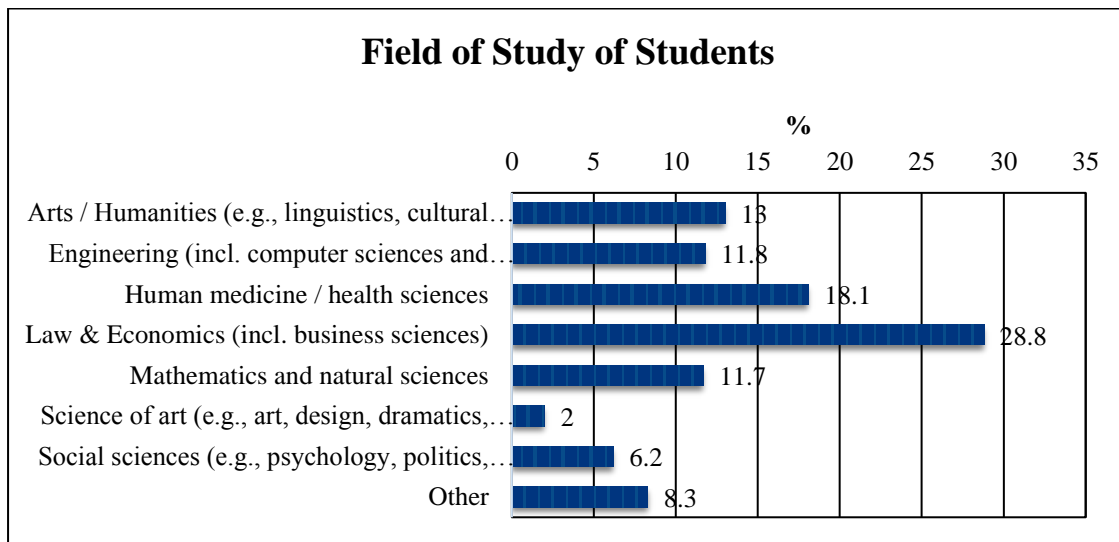


Figure 6: Field of Study of the Student Sample

1.7 Student perception of own competencies

Students were asked to indicate their perceived level of competence in the following categories as listed in Figure 7 below. A large number (43.3%) of the student sample reported a ‘high’ competence (rather high, pretty high or very high) in identifying new business opportunities, while 41.5% of the student sample reported a ‘high’ competence in their perceived ability to manage innovation within a firm. Students believed that

they had the highest competence in leadership and communication, as 71.1% of the student sample indicated that they perceived themselves to have a rather high, pretty high or very high level of competence in this. A combined 39.3% of the sample group indicated that they saw themselves as having rather low, pretty low or very low competencies in creating new products and services.

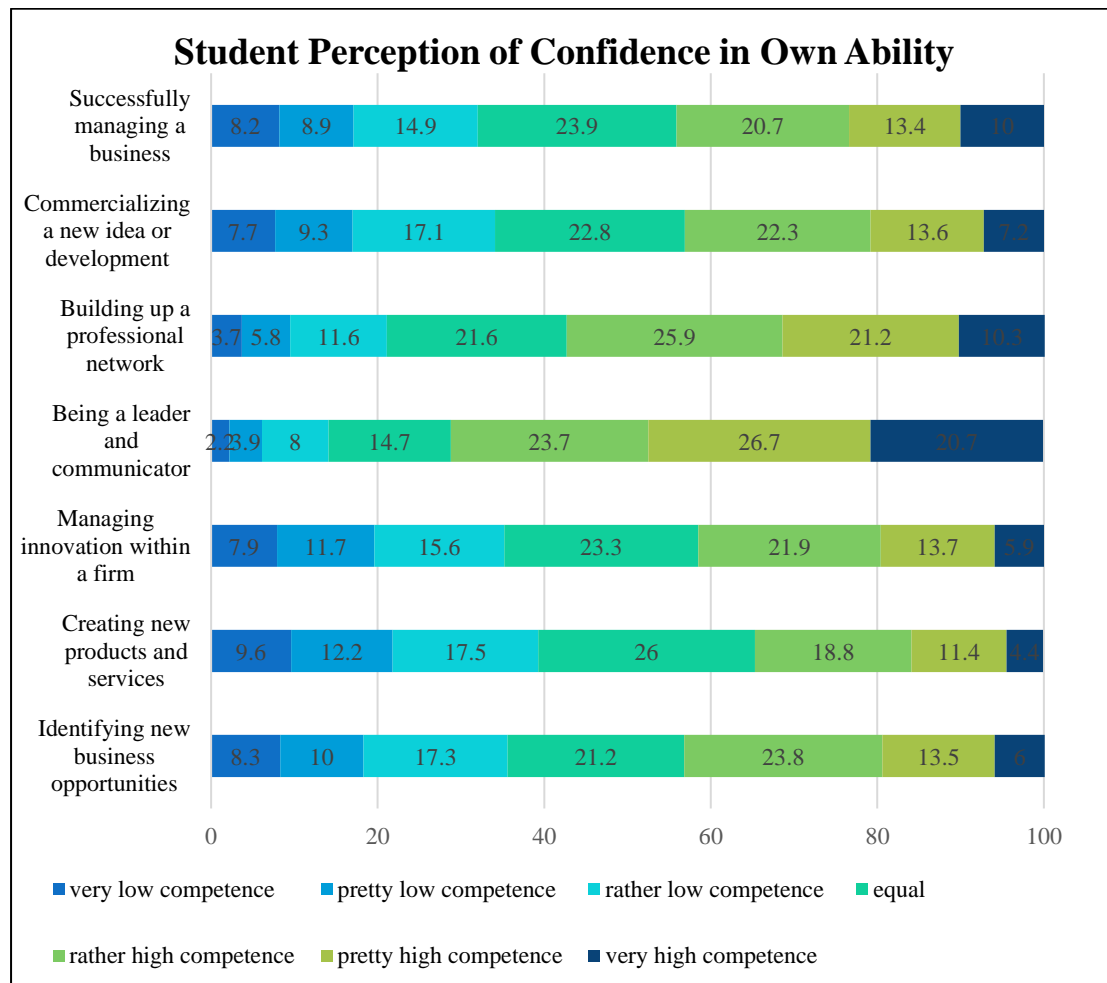


Figure 7: Student perceptions of their own ability in certain tasks

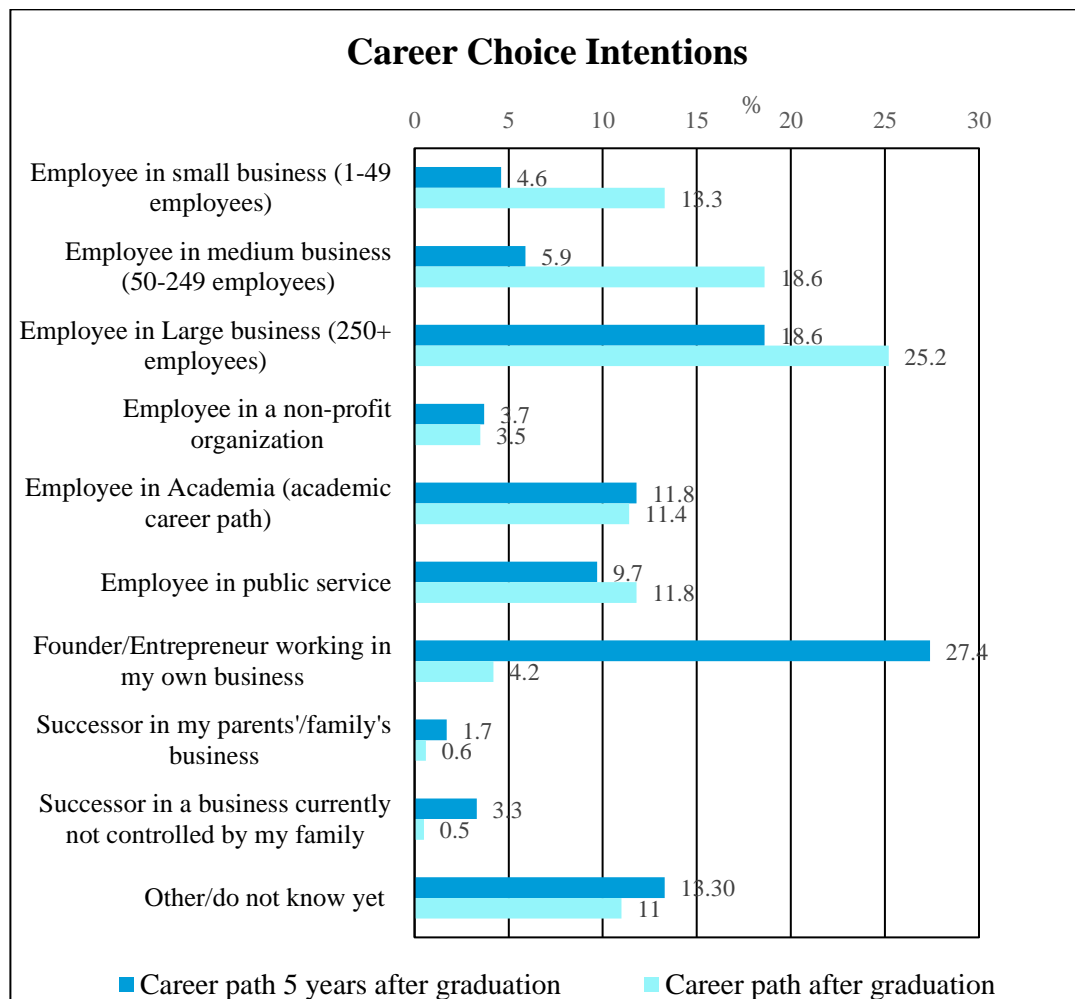
2.0 Student Career Choice Intentions

2.1 Career Intentions of Student Sample

Students were asked their career plans for the future; focusing on what they intend to pursue immediately after graduation and where they could see themselves working five years after graduation (Figure 8).



Figure 8: Career Choice Intentions of Student Sample



The results showed that students are inclined toward large (25.2%) and medium (18.6%) sized businesses immediately after graduating, with a combined 353/807 students choosing these options. Five years after graduation, the highest ranked career path is an entrepreneur/founder (27.4%). The largest increase between career choice intentions after graduation and five years after graduation is seen in the ‘founder’ category (+23.2%) and the largest decrease is present in the ‘medium sized business’ category (-12.7%). The data also shows that the whole succession of a family or non-family enterprise is not a favoured option immediately after graduation (0.6% and 0.5% respectively), but becomes a more popular choice five years later (1.7% and 3.3%). Table 1 shows the distribution of career intentions immediately after graduating and five years after graduating when grouped according to category.

Table 1: Career Choice Intentions of Students over Time

	Career intentions (after study)		Career intentions (five years later)	
	Number	Percentage	Number	Percentage
Employee	675	83.6%	438	54.3%
Founder	34	4.2%	221	27.4%
Successor	9	1.1%	41	5.1%
Other	89	11%	107	13.2%
Total	807	100%	807	100%

2.2 Comparison of Career Intentions (2011 vs 2016)

The career intentions were compared to the Irish results of the GUESSSS 2011 research data to determine whether the general student population has changed. The 2011 sample results, which were taken from 122 students, show a substantially higher number of students intending to work as an employee in an organisation (small, medium and large). Possibly due to the economic climate at the time, 11.48% of the 2011 sample

intended to pursue entrepreneurship five years after graduation; a percentage which is almost 16% higher in the 2016 sample group of 807 students. Succession in family business (five years after graduation) was found to be higher in 2011 with 4.10% of the sample intending to pursue this as opposed to 1.7% in 2016.

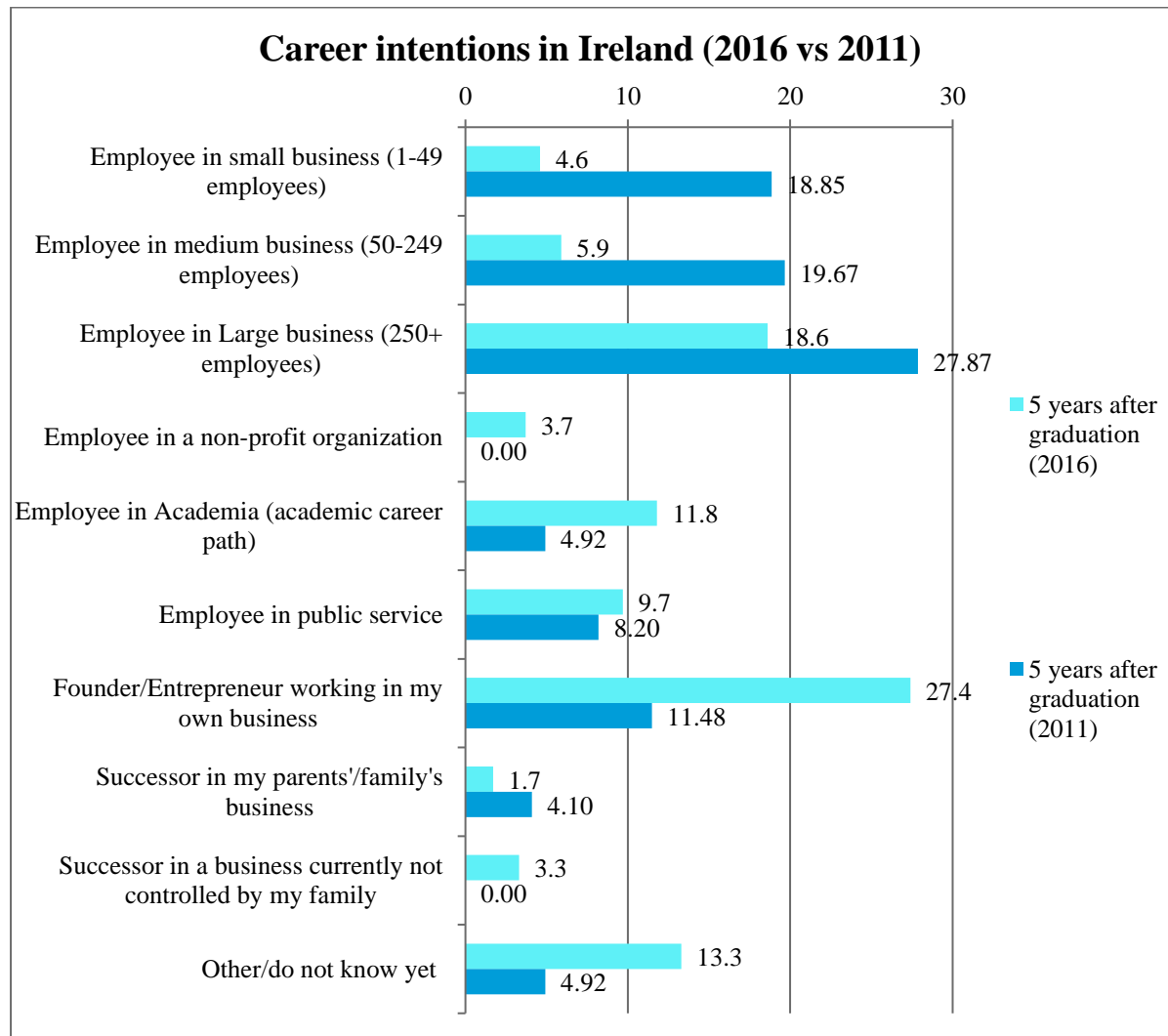


Figure 9: Career Intentions (five years after Graduation): 2011 versus 2016

3. Intentions towards Entrepreneurship

3.1 Entrepreneurial Intentions of Students

Students were presented with a number of statements about their entrepreneurial intentions. From a sample of 807 participants, the majority of students are not inclined to pursue entrepreneurship. In fact, 55% of the student sample does not consider becoming an entrepreneur as their professional goal. Respectively, 13% and 15% of students strongly agreed that they are determined to create a business in the future and have seriously thought about starting a business.

Table 2: Student Entrepreneurial Intentions

	Strongly Disagree	Pretty Disagree	Rather Disagree	Equal	Rather Agree	Pretty Agree	Strongly Agree
I am ready to do anything to be an entrepreneur	24.2	14.1	19.0	18.0	12.8	6.1	5.7
My professional goal is to become an entrepreneur	24.7	15.6	14.7	15.2	11.7	8.7	9.4
I will make every effort to start & run my own business	23.2	16.1	15.0	12.4	14.2	9.4	9.8
I am determined to create a	22.1	13.8	13.4	15.9	12.4	9.4	13.0

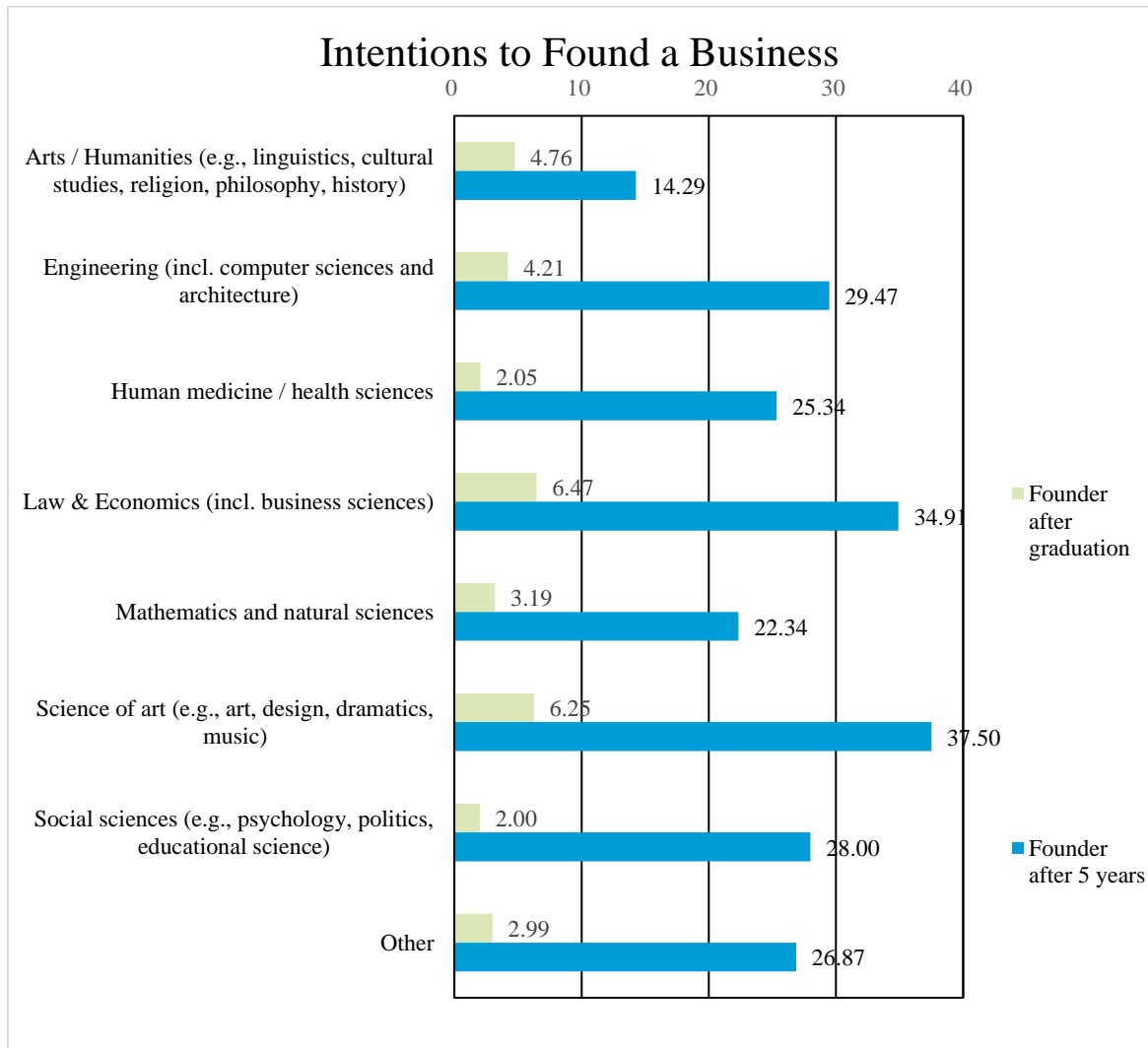
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business in the future							
I have very seriously thought of starting a business	21.5	13.4	12.8	13.4	13.7	10.2	15.0
I have the strong intention to start a business someday	21.3	14.6	12.9	12.7	12.1	12.1	14.4

3.2 Intentions to Found a Business by Field of Study

A comparison between the varying fields of study regarding student intentions to pursue entrepreneurship (directly after graduation and five years after graduation) was conducted. Does the field of study impact the student's intentions towards entrepreneurship? Findings indicate that students of Law and Economics (including business sciences/studies) were more likely to pursue entrepreneurship directly after their studies than any other field (6.47%), with Social Science reporting the lowest intentions (2%). Five years after graduation however, it was the students of the Science of Art (including art, design, music etc.) that had the highest intentions towards founding their own business, while the Arts/Humanities reported the lowest (14.29%).

Figure 10: Career Intentions by Academic Field of Study



3.3 Share of Aspiring (Nascent) and Active entrepreneurs

Students were asked: 1) Are you currently trying to start your own business/to become self-employed?; 2) Are you already running your own business/are you already self-employed? (N=807).

Table 3: Entrepreneurial Student Activity

	Are you currently trying to start your own business?		Are you already running your own business?	
	Number	%	Number	%
Yes	85	10.5%	30	3.7%
No	722	89.5%	777	96.3%
Total	807	100%	807	100%

As can be seen in the table above, 89.5% of students indicated that they are not currently trying to start their own businesses/become self-employed, and 96.3% are not currently involved in their own businesses/are self-employed. Those that responded ‘yes’ to either question will be explored in more detail in sections 5 and 6.

4. Family, Society & Entrepreneurship

Dr. Eric Clinton – Director DCU Centre for Family Business; Lecturer of Entrepreneurship

“Family firms form the economic bedrock of Irish society. If we look to our villages, towns and cities it is also evident that the family business organization contributes significantly to the social development of our communities. Research shows the strong passing of entrepreneurial mindsets among generations within family firms, with higher tendencies toward entrepreneurship from those whose parents are founders or owners of a family business. As academic institutions we need to foster this entrepreneurial mindset and assist the next generation of business owners to start their own firm or engage in the succession process. Finally, and aligning to stated ‘best practice’, results suggest many students who come from a family business prefer to work outside their family business before considering involvement in the business.”



4.1 Perceived Reactions of Social Circle to a Student's Pursuit of Entrepreneurship

Respondents were asked to indicate how their social circle would react if they would choose to pursue a career in entrepreneurship. The responses are collected from 467 female students and 281 male students which are expressed in percentages. In the first instance, students were asked what they would perceive to be the reaction of their immediate family. As can be seen in Figure 11 below the reaction is quite positive and similarly perceived by both male and female students. Female students were found to perceive a higher ‘very’ positive reaction to their entrepreneurial pursuits than males did.

Figure 11: Reaction to Entrepreneurial Career (Close family)

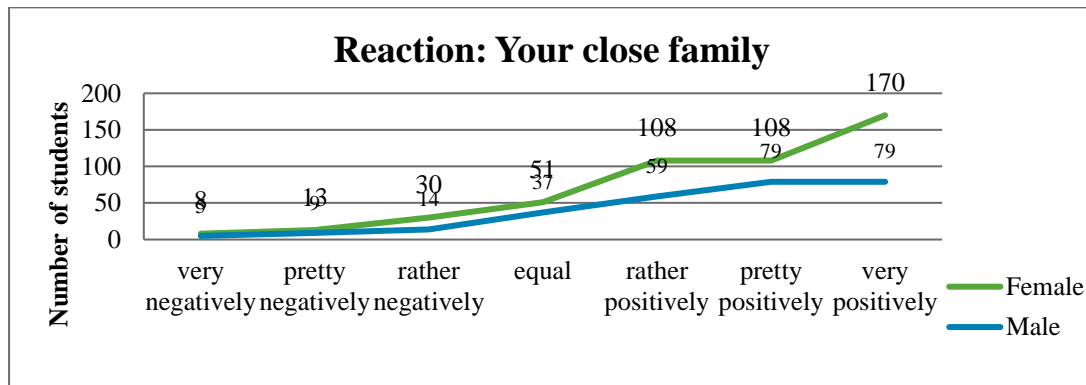


Figure 12 compares the overall reactions from friends to respondents choosing an entrepreneurial career as perceived by both males and females. The results indicate a more negative perceived reaction by the male students i.e. male students expect their friends to be less positive about their starting of a company.

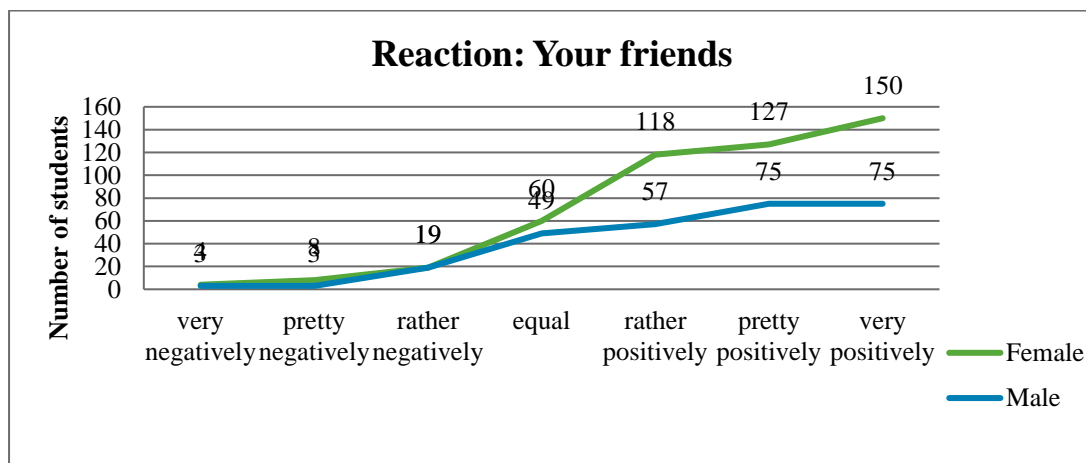


Figure 12: Reaction to entrepreneurial career (friends)

Figure 13 below compares the overall reactions that males and females would expect from their fellow students if an entrepreneurial career was chosen by the respondent. Male students expected a higher neutral response from classmates, but both male and female students indicated that they would expect a largely positive reaction.

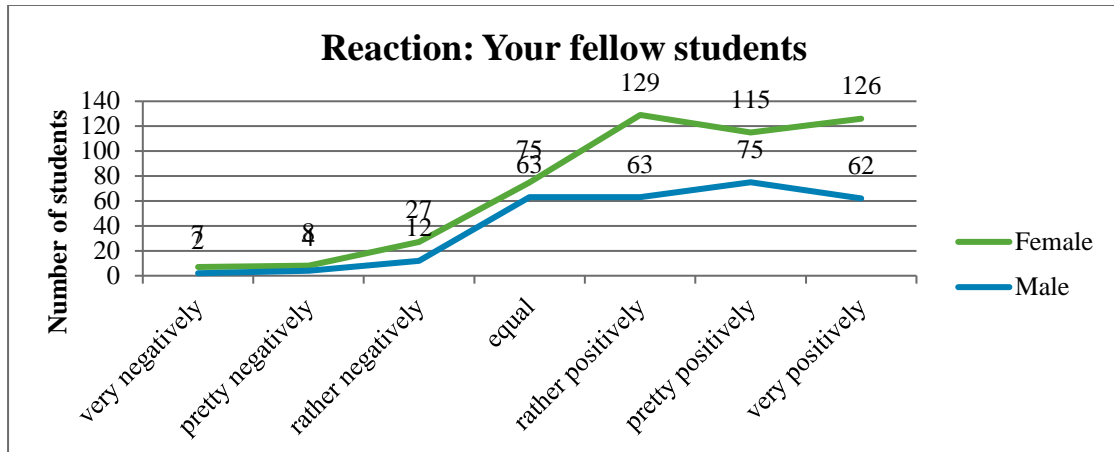


Figure 13: Reaction to entrepreneurial career (Students)

4.2 Influence of Parents' Occupation on Entrepreneurial Intentions

Students were asked to answer questions pertaining to the occupations of their parents. Figure 14 below indicates the owner/founder careers of the parents of the survey participants. As seen below, 22.4% of the students indicated that their father was self-employed and 17.8% owned the majority share of a business. Less students indicated that their mother was self-employed (5.8%) or a majority owner (4.5%).

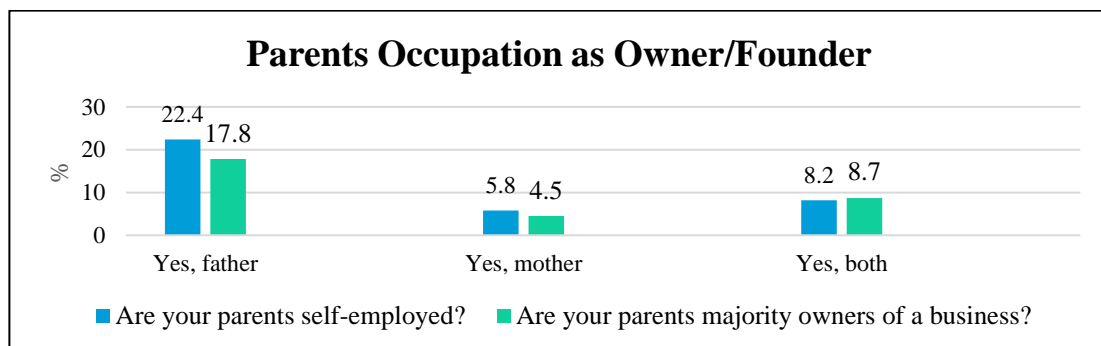


Figure 14: Entrepreneurial careers of parents

It has been suggested that students whose parents engaged in entrepreneurship may have higher intentions toward pursuing the same career path. As can be seen in Table 4 below, this claim was not supported by the present study as there are similar results found between those students intending to pursue entrepreneurship with entrepreneurial

parents and those with non-entrepreneurial parents. Results are paralleled for many of the student career intentions, however of note is the higher percentage (5.9%) of students who have at least one entrepreneurial parent and would prefer to work in a large organisation directly after graduation, compared to students with no entrepreneurial parents. In addition, as one would expect, the figures for students intending to engage in succession are higher for those with entrepreneurial parents.

Table 4: Career Intentions of Students by Parents' Occupation (Owner/Founder versus Non-Entrepreneurial)

Percent (%)	Entrepreneurial Parent/s N=250		No Entrepreneurial Parent/s N=557	
	Career path right after studies	Career path 5 years later	Career path right after studies	Career path 5 years later
an employee in a small business (1-49 employees)	12.0	6.8	13.8	3.6
an employee in a medium-sized business (50-249 employees)	16.4	4.4	19.6	6.6
an employee in a large business (250 or more employees)	29.2	18.8	23.3	18.5
an employee in a non-profit organization	3.6	4.0	3.4	3.6
an employee in Academia (academic career path)	12.4	9.6	11.0	12.7
an employee in public service	10.8	9.2	12.2	9.9
a founder (entrepreneur) working in my own business	4.0	27.2	4.3	27.5
a successor in my parents' / family's business	1.6	4.0	0.2	0.7

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a successor in a business currently not controlled by my family	0.4	5.2	0.5	2.5
Other / do not know yet	9.6	10.8	11.7	14.4

4.3 Family Business

A number of industries were listed when students were asked to list the sector/industry of their parents business. The most frequent were Construction 17.2% (n=53); Trade (wholesale/retail) 11.3% (n=35); and Architecture and Engineering 6.1% (n=19). Though 85 students indicated the 'other' category it was found that 37 of these answered that their parent or parents were involved in agriculture/farming.

Students were asked if they owned any of the existing company, and if so how much. The majority of students who answered this question (83.3% of 305 students) indicated no ownership. Thirty-one students (10.2%) indicated they owned between 1 and 25%, while only 8 students indicated ownership of 26-50% and less still (n=2) of 51-99%. Students were asked when they intend to take over their family business (213) and 84.2% indicated that they will succeed their parents after five years. In two to five years, 32 respondents will take over their parents' business (12.6%), and only eight respondents will lead the business within one year which accounts for 3.2% of the total.

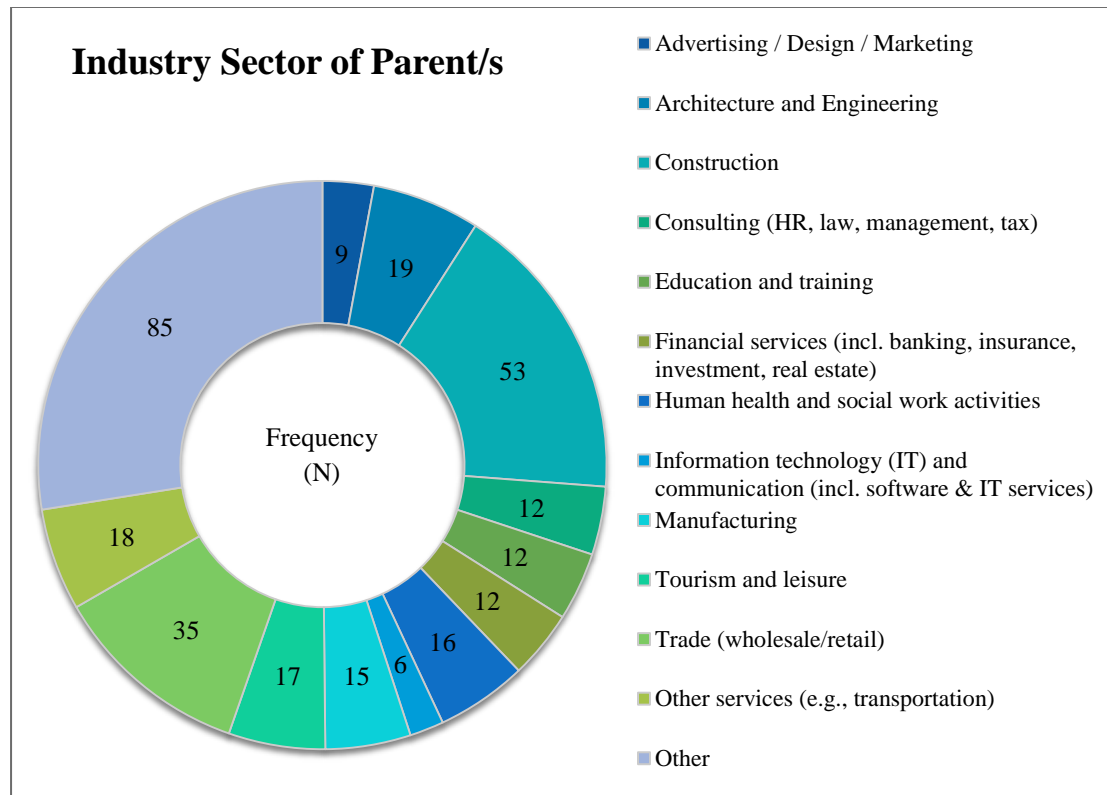


Figure 15: Industry Sector of Parental Company

Students were asked whether they regarded the business as a ‘family business’. Of the 305 students which answered the question there was an almost equal split of students who agreed that they did perceive it to be a ‘family business’ (n=152), and those that did not (n=153).

When asked the main reason why they may choose to take over the family business, 53.6% (N=157) of respondents noted that they wanted to ‘preserve family harmony’. The second most important factor for the respondents was the need to ‘secure long-term survival of the business’ (46.4%, n=136).

4.4 Student Perceptions of Society

The student sample was asked a number of questions pertaining to their views on the society they live in and the cultural or societal norms which exist in Ireland.

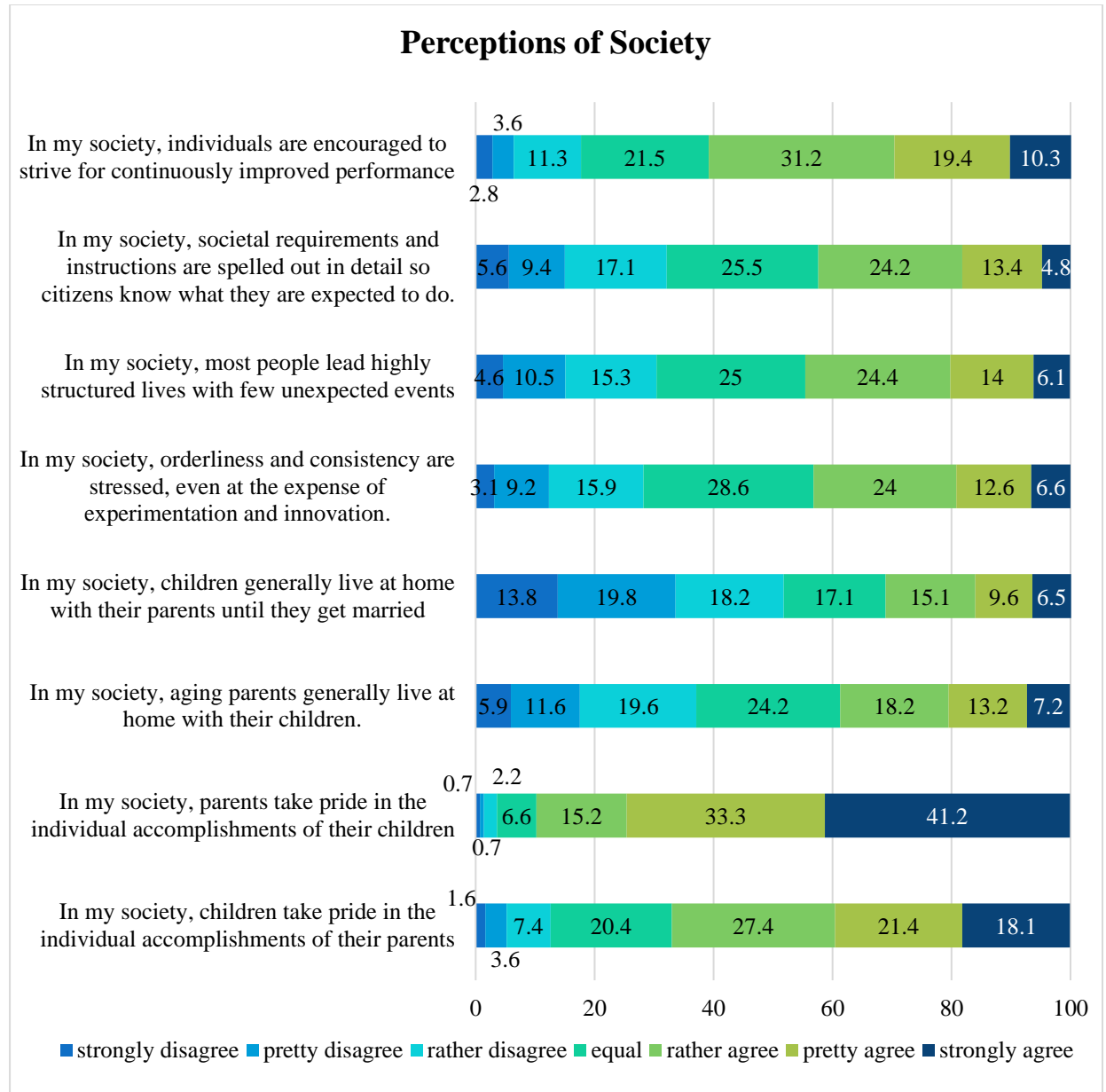


Figure 16: Entrepreneurial careers of parents

Figure 16 shows the division of answers in relation to each of the items. Among other results the figure shows that 41.2% of students strongly perceive that their parents take pride in the individual accomplishments of their children. In the sample of 807

respondents, only 7.2% (58/ 807) of respondents strongly agree that in their society aging parents live at home with their children. Based on the survey, 23.8% respondents rather agree that in their society orderliness and consistency are stressed, even at the expense of experimentation and innovation. The results show that 25.5% are undecided or neutral about the fact that societal requirements and instructions are spelled out in detail so citizens know what they are expected to do. Lastly, results indicated that 60.9% of the student sample agreed that in their society individuals are encouraged to strive for continuously improved performance, while 17.7% of the respondents cumulatively disagreed.

5. Entrepreneurship & Education

Roisin Lyons – Lecturer of Entrepreneurship & Innovation, DCU

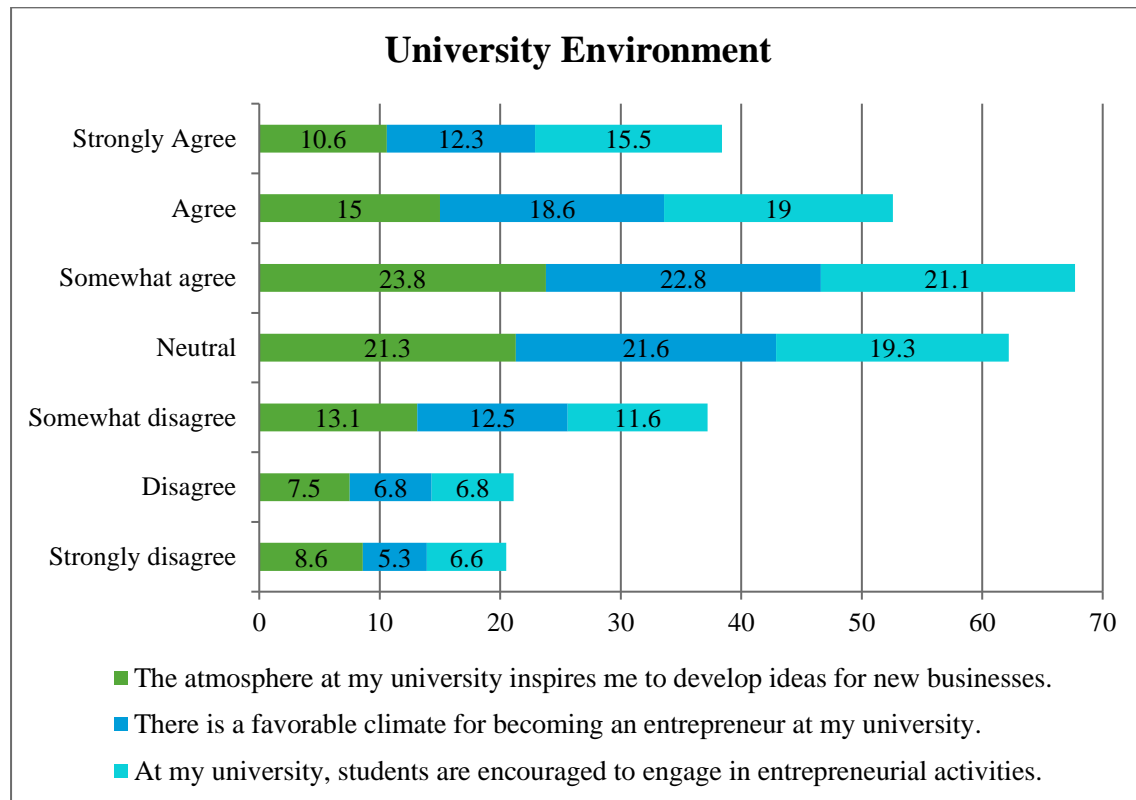
‘Entrepreneurship education is hoped to develop the knowledge, skills and confidence necessary for entrepreneurship, and ultimately to spur more towards new venture creation. Through the effective delivery of entrepreneurship education, institutions and educators can contribute to a supportive and informed ecosystem where starting a business is a real possibility for our students and graduates. Research points to a link between entrepreneurship education and new venture creation, yet work is still to be done to find the most effective ways of delivering this benefit to students’



5.1 Institutional Support for Entrepreneurship

Students were asked to what extent the atmosphere at their university inspires them to develop ideas for new businesses. The results showed that 49.4% of the students agreed with the statement to some extent, whereas only 29.2% disagreed (See Figure 17 below). When asked if their university encouraged students to engage in entrepreneurial activities, over half of the sample was in agreement to some degree (55.6%). Students were also asked if there was a favourable climate for becoming an entrepreneur at their university. The results showed that the majority of students felt their university had a favourable climate for entrepreneurship with 12.3% indicating strong agreement with this statement, while only 5.3% were in total disagreement.

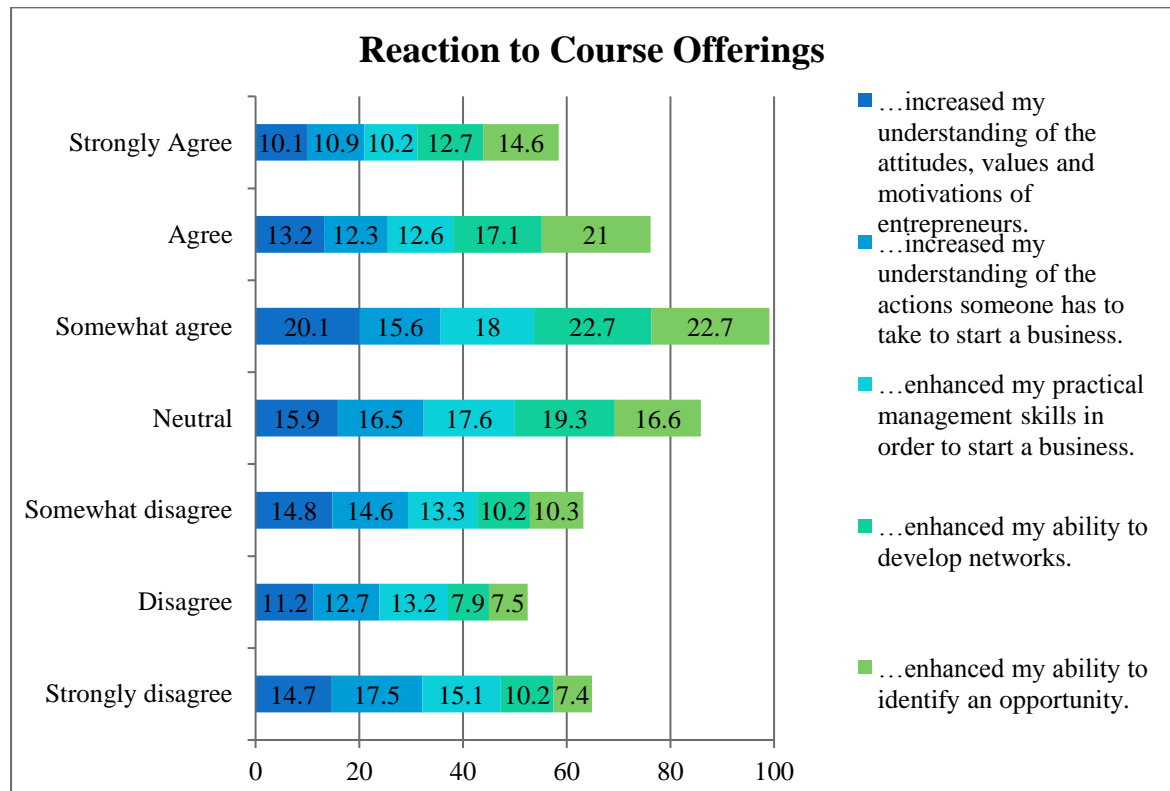
Figure 17: University environment



5.2 Within Course Development of Entrepreneurial Competencies

The student sample was asked to what extent they would agree that their studies helped them to develop certain competencies and knowledge relating to entrepreneurship. For the items which are labelled above in Figure 18, the majority of the student sample answered ‘somewhat agree’ or ‘neutral’. Students strongly agreed with the item ‘my course enhances my ability to identify an opportunity’ (14.6%), while the item that received the strongest disagreement was ‘my course increases my understanding of the actions that a person must take to start a business’ (17.5%).

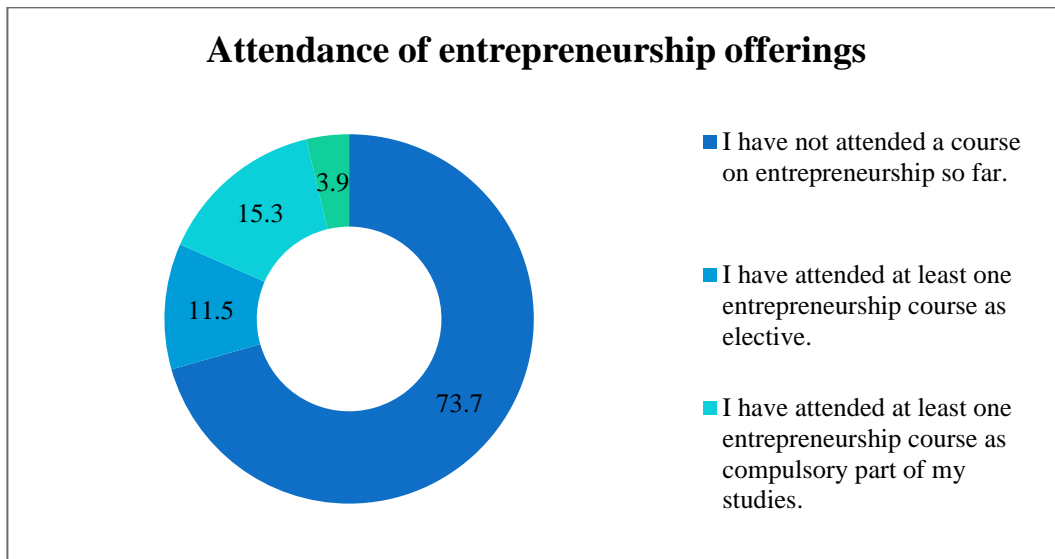
Figure 18: Reaction to course offerings



5.3 Students taking Entrepreneurship Related Classes

The graphic below shows the extent to which students in the Irish third level context reported to be taking an entrepreneurship course offering (ranging from an optional module to studying it in a specific programme). The results indicate that 73.7% (N=592) of students had not yet taken an entrepreneurship course. There were 11.5% of the students who had attended an entrepreneurship course as an elective (N=92), while 15.3% had attended at least one as a compulsory part of their course (N=123). Only 3.9% of the student sample were studying on a specific entrepreneurship program (N=31). When asked if the entrepreneurial reputation of the university was the deciding factor of choosing to study there, 96% of the students answered no (N=771).

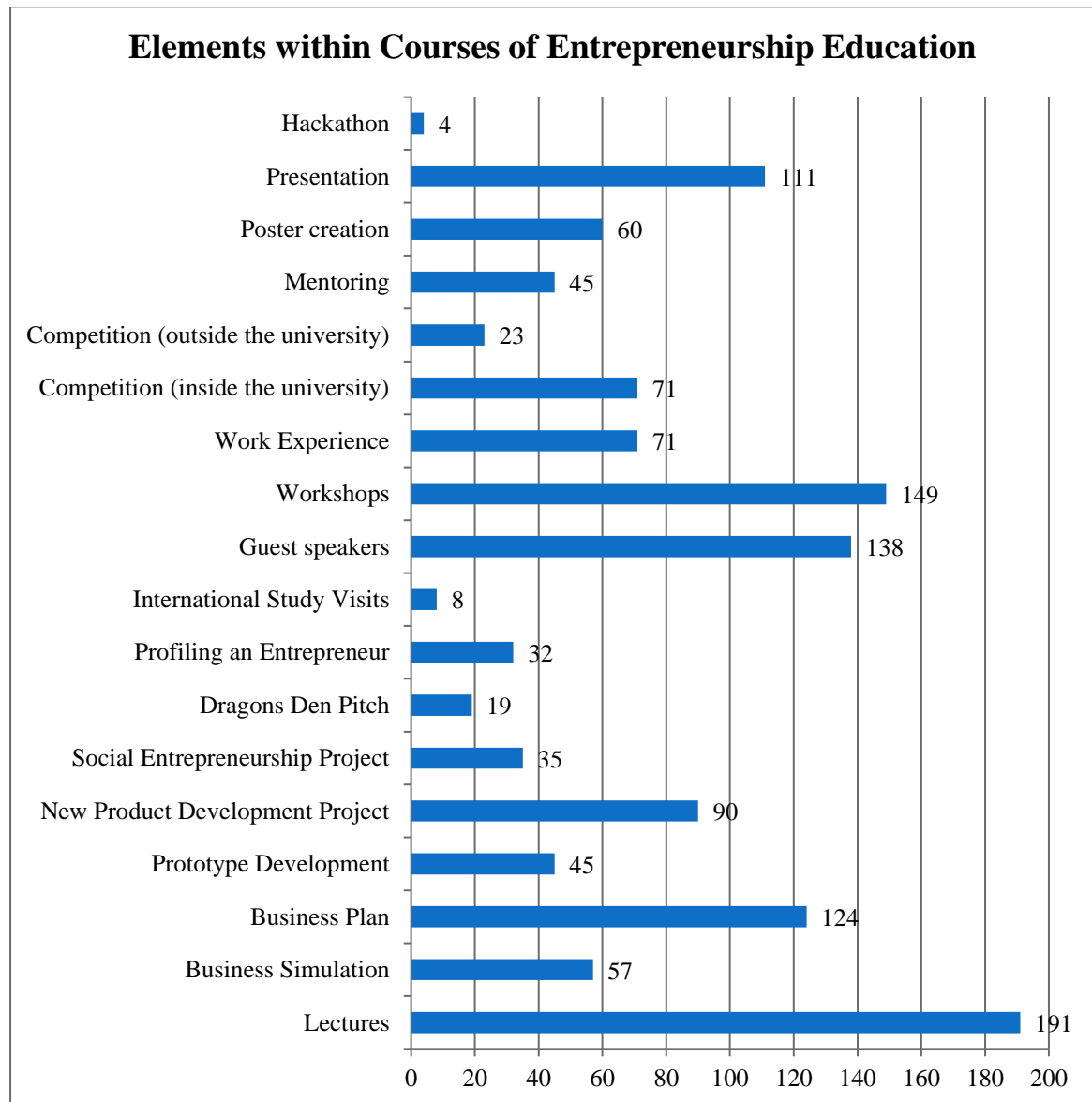
Figure 19: Participation in entrepreneurship courses



5.4 Pedagogical Aspects Used in Entrepreneurship Education

Students that indicated they have taken or are taking some form of entrepreneurship course were asked to give specifics about the pedagogical (teaching techniques) used within the course. There were 209 students eligible for this question and they were encouraged to select all elements which applied. Results indicated that the most common method for delivering a course in entrepreneurship education was through lectures (191 selections) followed by the use of workshops (149) and guest speakers (138). International study visits (8) and hackathons (4) were found to be the least common elements in such a course, as indicated by the student sample group.

Figure 20: Pedagogical elements in entrepreneurship education



Student Entrepreneurship: Aspiring and Current

ROBOTIFY LABS (<http://robotify.net/>)

Robotify is a Dublin based start-up which makes DIY robotics kits designed to teach children coding in a fun and intuitive way. It is made up of three young Irish entrepreneurs: Adam Dalton, Evan Darcy and Shane Curran. Adam as CEO is responsible for the company's vision, strategy and growth. He is in his first year studying Business at DCU. Evan is responsible for the product design and learning innovation solutions. He is in his first year studying Engineering at DCU. Shane is the CTO and responsible for digital innovation and software development. At age 17, serial entrepreneur Shane has spoken at conferences such as the Web Summit and the European Commission. In 2017 he was named BT Young Scientist of the year for his project "qCrypt".

"At the start of our journey what we didn't have was the guidance, support or experience to make our company a success. We spent a year messing with prototypes, websites and trying to get investment but we weren't ready. We had not talked to our users or our customers, we changed the idea weekly, and we had a lack of direction. During this year however, we learned so much about ourselves and our product. We began to run courses in schools which gave us an invaluable insight into the minds of young students. It helped us to improve the product and the content. Since then we have worked scrupulously to build our product, our courses and brand. We are now working to stock our product on shelves and to provide courses. Recently, Dublin City University have provided us with office space in DCU Alpha Innovation Campus and a wide range of mentoring. This has had a huge impact on our company and timeline. Although there have been a lot of ups and downs being young entrepreneurs, it has also been incredibly rewarding. The best thing is that it's only getting started. Here's to more years of making a difference doing work we love."

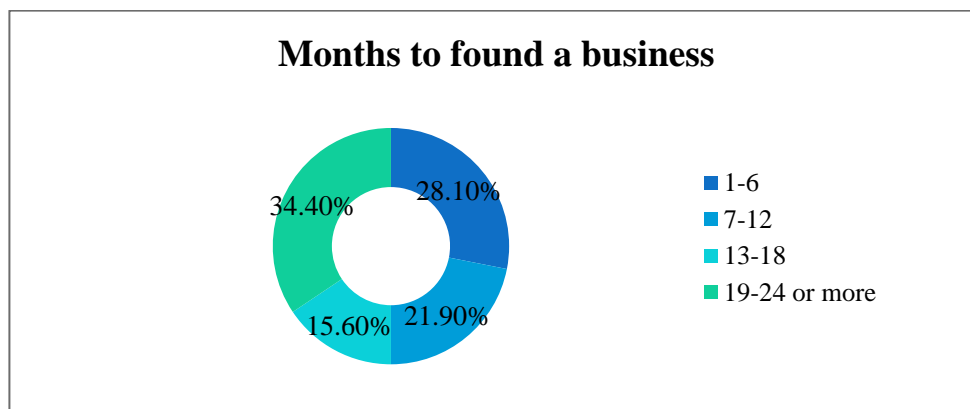


6. Aspiring (Nascent) Entrepreneurs

6.1 Timing of Forthcoming Business

In total, 64 from the sample of 807 students indicated that they intended to set-up their own company; this contingent represents 7.93% of the student sample taken in the Irish study. When the students were asked in how many months do they intend to found their business, 34.4% of students indicated 19-24 months or more, while 28.1% intend to found it within 1-6 months. The survey also revealed that 62.5% of these students want their business to become their main occupation after graduation. The number of second time or serial entrepreneurs accounts for 23.8% of the results.

Figure 21: Timing strategy of nascent entrepreneurs



6.2 Approximate Ownership in Business

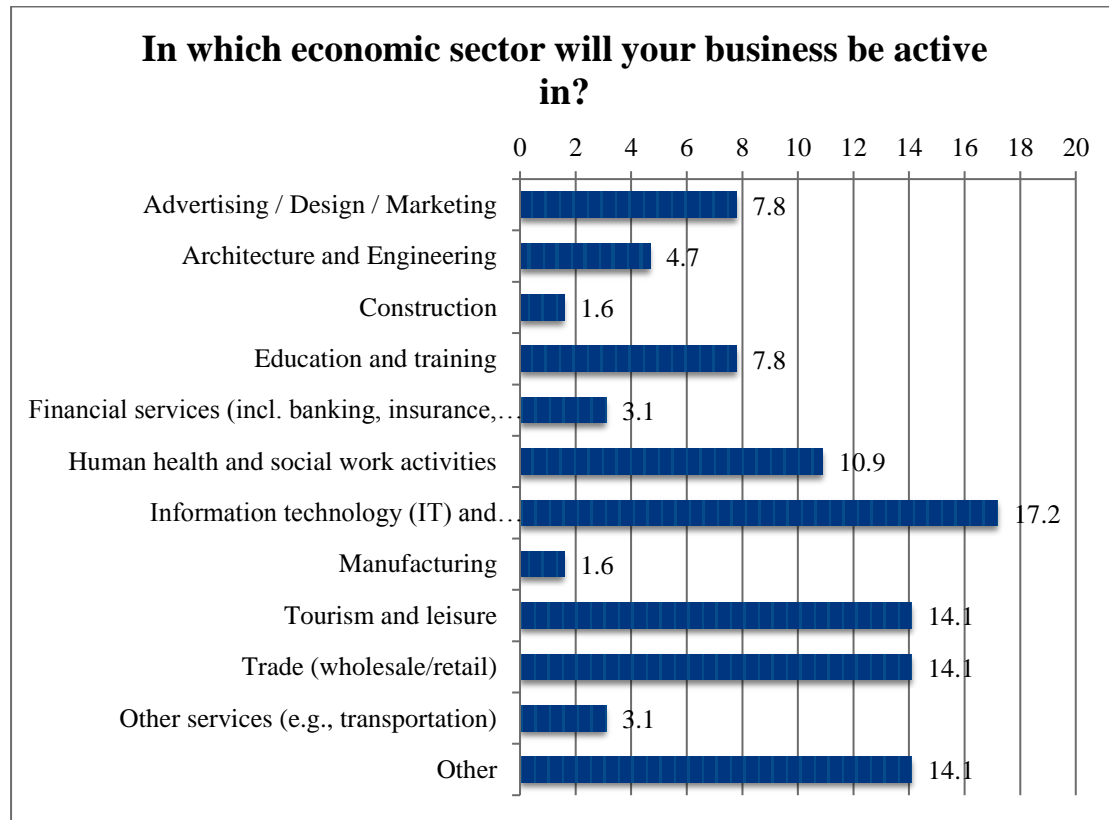
When the students were asked what would be their approximate ownership share in their new business, 28% indicated that they intended to share between 51-75% while 25% intended to have complete ownership.

6.3 Economic Sector of Forthcoming Business

The majority of the respondents want to establish a business in the Information Technology and Communication sector as signified by 17.2% of answers. There is also an attraction to the Trade (14.1%) and Tourism and Leisure (14.1%) sectors. The least

preferred sector was Construction and Manufacturing with just 1.6% of the sample opting for each.

Figure 22: Sector of upcoming business



6.4 Activities Undertaken towards Entrepreneurship

The aspiring/forthcoming student entrepreneurs (N=64) were asked about the activities which they had undertaken in the pursuit of their new venture. As seen in Figure 7 below, 63.79% had discussed the business idea with potential customers while 41.38% had started service or product development. Only 3.45% had actually sold a product or service at the time the survey was conducted.

Table 5: Tasks completed

Activity Completed?	Yes
Discussed product or business idea with potential customers	37 (63.79%)
Collected information about markets or competitors	45 (77.59%)
Written a business plan	29 (46%)
Started product/service development	24 (41.38%)
Started marketing or promotion efforts	9 (15.52%)
Purchased material, equipment or machinery for the business	11 (18.97%)
Attempted to obtain external funding	17 (29.31%)
Applied for a patent, copyright or trademark	3 (5.17%)
Registered the business	5 (8.62%)
Sold product or service	2 (3.45%)

6.5 Motive to Start a Business

Students were asked about their motives in starting their own business (i.e. I will create my firm in order to...) and given a range of items which they were asked to answer from strongly disagree to strongly agree.

Table 6: Motive to Found a New Venture

Motive to Found a Business	<i>strongly disagree</i>	<i>pretty disagree</i>	<i>rather disagree</i>	<i>equal</i>	<i>rather agree</i>	<i>pretty agree</i>	<i>strongly agree</i>
To make money and become rich.	4.8	12.7	15.9	20.6	23.8	12.7	9.5
To mainly achieve financial success.	3.2	11.1	14.3	15.9	22.2	22.2	11.1
To advance my career in the business world.	4.8	4.8	3.2	14.3	23.8	20.6	28.6
To be able to signal my capabilities to others (i.e., future employers, colleagues).	3.2	3.2	6.3	20.6	38.1	11.1	17.5

GUESSS 2016 Report: Ireland

To solve a specific problem for a group of people that I strongly identify with (e.g., friends, colleagues, club, community).	1.6	0.0	8.1	11.3	19.4	21.0	38.7
To play a proactive role in shaping the activities of a group of people that I strongly identify with (e.g., friends, colleagues, club, community).	1.6	0.0	4.8	14.5	33.9	22.6	22.6
To solve a societal problem that private businesses usually fail to address (e.g., social injustice, environmental protection).	3.2	7.9	11.1	19.0	17.5	17.5	23.8
To do something that allows me to enact values which are core to who I am.	1.6	1.6	1.6	12.7	23.8	17.5	41.3
To play a proactive role in changing how the world operates.	1.6	1.6	4.8	12.9	16.1	22.6	40.3

6.6 Importance to Founder

Students were asked about the importance of certain aspects relating to their forthcoming entrepreneurial pursuits (i.e. as a firm founder, it will be very important to me...), and were given a range of items which they were asked to rank from strongly disagree to strongly agree. The analysis showed that 29% of forthcoming entrepreneurs ‘rather’ agreed to operate their firm on the basis of solid management practices with 25% strongly agreeing to it. Moreover, 39.3% had thoroughly analysed the financial

prospects of the business. When students were provided with the statement that making the world a ‘better place’ (e.g., by pursuing social justice, protecting the environment) is an important consideration, 39% strongly agreed.

Table 7: Importance to Founder

Importance to Founder	strongly disagree	pretty disagree	rather disagree	equal	rather agree	pretty agree	strongly agree
To operate my firm on the basis of solid management practices.	3.2	0.0	3.2	12.9	29.0	25.8	25.8
To have thoroughly analysed the financial prospects of my business.	1.6	0.0	3.3	8.2	24.6	23.0	39.3
To provide a product/service that is useful to a group of people that I strongly identify with (e.g., friends, colleagues, club, community).	3.3	1.6	4.9	9.8	9.8	27.9	42.6
To convey to my customers that I want to satisfy needs rather than just do business.	1.6	0.0	0.0	0.0	14.8	23.0	60.7
To be able to express to my customers that I fundamentally share their views, interests and values.	1.6	0.0	1.6	6.6	18.0	26.2	45.9
To be true in serving a group of people that I strongly identify with.	1.6	0.0	6.6	9.8	14.8	27.9	39.3
To be a highly responsible citizen of our world.	1.6	3.3	1.6	9.8	21.3	19.7	42.6

To make the world a “better place” (e.g., by pursuing social justice, protecting the environment).	1.6	3.3	1.6	18.0	14.8	21.3	39.3
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7. Active Entrepreneurs

7.1 In what year did you found your business?

The obtained data showed that majority of the respondents founded their businesses in recent years. Out of the sampling group, it was observed that 32.1% (9 out of 28) started their businesses in the year 2015. In 2016, 28.6% (8) respondents started their own company, while 10.7% were in 2014 (3) respondents founded businesses. The remaining respondents (3.6%) established their own companies in the following years: 1998, 2000, 2001, 2004, 2005, 2008 and 2013.

7.2 How many employees do you have today?

Respondents (33.33%) indicated that they owned businesses with one or two employees. Data showed that 11.1% of the businesses had four employees working for them. All other companies had 3, 7, 10 or 100.

7.3 What is your ownership share in your business?

With respect to ownership in the company, half of the respondents (14 out of 28) in the sampling group had 100% share ownership in their business. Next, 17.9% of respondents had ownership shares in the 26–50% range. Following on, 14.3% of respondents had ownership shares in the 51–75% range. There were 10.7% of the respondents who had ownership shares between 0–25 %.

7.4 Do you want this business to become your main occupation after graduation?

For the above question, 62.1% (18 out of 29) respondents answered ‘yes’. The remaining 37.9% (11 out of 29) answered ‘otherwise’ i.e. their business will not be their main occupation after they graduate.

7.5 How many individuals have an ownership stake in the business?

Businesses with no owners formed 32.1% (9 out of 28 respondents) of the sampling group. Next, 21.4% (6 out of 28) of the respondents had one or two stake owners in their business. Following on, 14.3% of the sample had three individuals with stakes in their businesses and 10.7% (3 out of 28) had more than three stake owners.

7.6 In which economic sector is your business’ main activity?

As evidenced by the data, the majority of businesses operate in both the education and training, and information technology sectors (17.9%). Seven other sectors were cited, representing an accumulative total of 14.3%. The construction sector represents a significant proportion of businesses in the sample at almost 10.7%.

7.7 I created my firm in order...

Out of the sampling group, the majority of the respondents (41.7%) agreed to some extent that they created the firm in order to signal their capabilities to others. Whereas 30.8% of the respondents strongly agreed that doing something that allows them to enact their core values was the reason for creating their firm. Cumulatively, the respondents agreed with the rationale to achieve financial success (60%) and to play a proactive role in shaping the activities of a group of people that they strongly identify with (almost 58.4%). According to the survey, there were equal percentages of respondents who agreed and disagreed with the reason of creating the firm to make money and become rich.

7.8 As a firm founder, it is very important to me ...

The most significant fact from the survey is that zero percentage of respondents disagree that as a firm founder they want to satisfy their customers' needs rather than just do business, yet only 46.4% strongly agree with this statement. As a firm founder, 44.4% of respondents strongly agreed with the statements that it is important to them to be true in serving a group of people and to provide a product/service that is useful to a group of people that they strongly identify with. There was 17.9% agreement among respondents regarding the importance of operating their firm on the basis of solid management practices. Collectively, 85.1% of respondents agreed with the statement that as a firm founder, it is imperative to them to be a highly responsible citizen of our world.

7.9 Innovative Projects

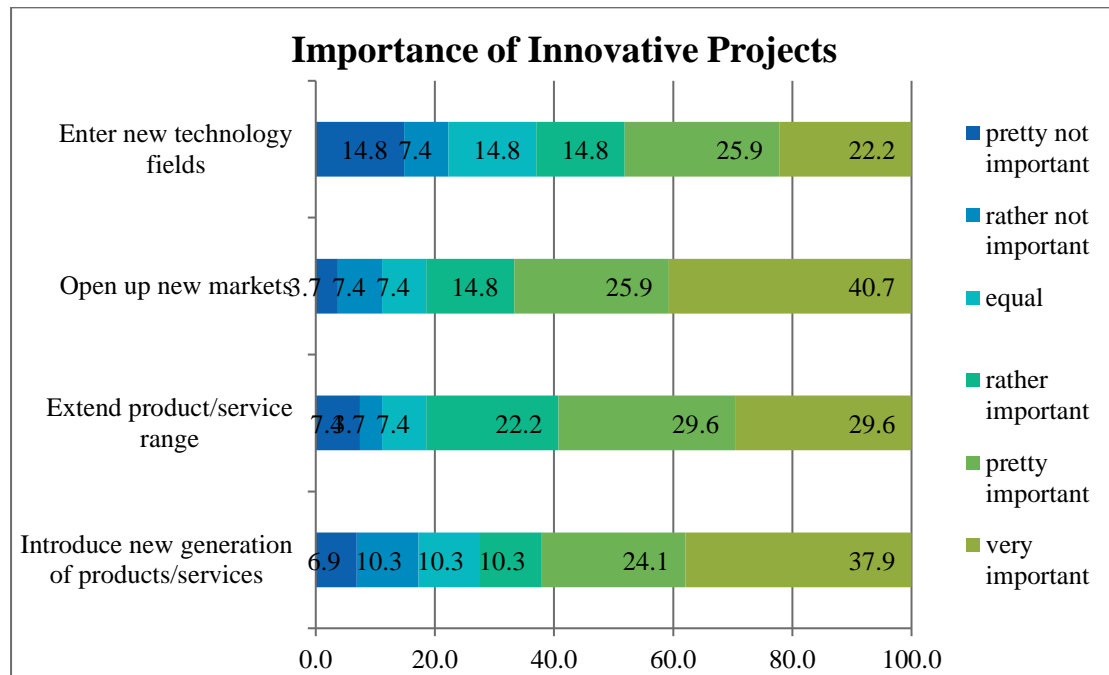
The sample group were asked how important the following objectives are for undertaking innovative projects in their business (using a 6-point scale where 1=pretty not important, 2=rather not important, 3=equal, 4=rather important, 5=pretty important and 6=very important). The results indicate that the two most significant objectives for undertaking innovative projects are to open up new markets and to extend the existing product/service range (See Figure 22 below). Collectively, 81.4% found both objectives to be important with 40.7% scoring 'opening up new markets' with a 7 on the scale.

Entering new technology fields was the least important objective to the sample with 22.2% finding it not important. When how important introducing a new generation of products/services is for undertaking innovative products in business, 72.3% of the participants found it to be important with 37.9% scoring it a 7 on the scale.

Motive to Found a Business	strongly disagree	pretty disagree	rather disagree	equal	rather agree	pretty agree	strongly agree	N
To make money and become rich.	12.5	8.3	20.8	16.7	20.8	12.5	8.3	24.0
To mainly achieve financial success.	8.0	8.0	8.0	16.0	24.0	16.0	20.0	25.0
To advance my career in the business world.	20.0	8.0	4.0	12.0	24.0	20.0	12.0	25.0
To be able to signal my capabilities to others (i.e., future employers, colleagues).	12.5	0.0	4.2	12.5	16.7	41.7	12.5	24.0
To solve a specific problem for a group of people that I strongly identify with (e.g., friends, colleagues, club, community).	8.3	4.2	8.3	20.8	16.7	25.0	16.7	24.0
To play a proactive role in shaping the activities of a group of people that I strongly identify with (e.g., friends, colleagues, club, community).	16.7	4.2	12.5	12.5	12.5	29.2	12.5	24.0
To solve a societal problem that private businesses usually fail to address (e.g., social injustice, environmental protection).	16.7	16.7	8.3	20.8	20.8	4.2	12.5	24.0
To do something that allows me to enact values which are core to who I am.	7.7	0.0	0.0	23.1	19.2	19.2	30.8	26.0
To play a proactive role in changing how the world operates.	16.7	8.3	8.3	8.3	25.0	20.8	12.5	24.0

Importance to Founder	strongly disagree	pretty disagree	rather disagree	equal	rather agree	pretty agree	strongly agree
To operate my firm on the basis of solid management practices.	7.1	0.0	0.0	17.9	25.0	17.9	32.1
To have thoroughly analysed the financial prospects of my business.	0	3.8	3.8	7.7	34.6	23.1	26.9
To provide a product/service that is useful to a group of people that I strongly identify with (e.g., friends, colleagues, club, community).	3.7	3.7	0.0	11.1	11.1	25.9	44.4
To convey to my customers that I want to satisfy their needs rather than just to do business.	0.0	0.0	0.0	3.6	14.3	35.7	46.4
To be able to express to my customers that I fundamentally share their views, interests and values.	0.0	7.7	3.8	3.8	19.2	23.1	42.3
To be true in serving a group of people that I strongly identify with (e.g., friends, colleagues, club, community).	3.7	3.7		7.4	22.2	18.5	44.4
To be a highly responsible citizen of our world.	3.7	0.0	7.4	3.7	29.6	29.6	25.9
To make the world a “better place” (e.g., by pursuing social justice, protecting the environment).	11.1	7.4	0.0	7.4	22.2	25.9	25.9

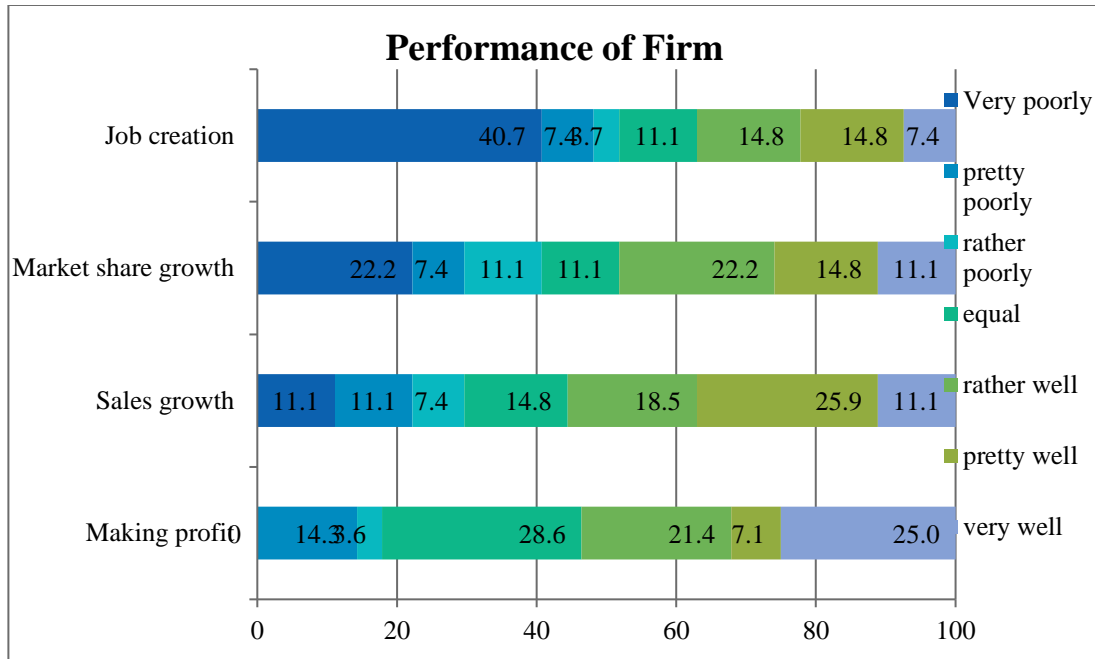
Figure 22: Sector of upcoming business



7.10 Performance

A significant proportion of the sample (89.3%) indicated that their business is generating sales revenue, with 82.1% confirming that their sales revenue covers the costs of the business. Only 21.4% reported that their business is not making a profit.

The report then asked the participants to indicate how well their business performs in the following aspects in comparison to other businesses selling similar products/services (using a 7-point scale where 1=very poorly, 4=equal and 7=very well); this is presented in the graphic below. In terms of profit-making, 25% of the sample said that their business is performing very well against businesses selling similar products and services.



Sales growth was an area in which the sample felt they were performing best against competitors (55.5% in total); accordingly, 25.9% of this group scored this area a 6 on the scale. In reference to market share growth, 48.1% indicated that they were performing well against the 40.7% of those who indicate poor performance, with 22.2% performing very poorly. Job creation was the lowest scoring aspect with 51.8% indicating that they are performing badly against competitors, with 40.7% scoring it a 1 on the scale.

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Dr. Eric Clinton is the DCU Centre for Family Business and a Lecturer in the Economics, Finance and Entrepreneurship group at DCU Business School. His research interests are primarily concerned with strategic entrepreneurial practices in multi-generational family firms. In particular, seeking to understand how family firms can foster entrepreneurship across generations and thus improve their transgenerational potential. His PhD was awarded from the Michael Smurfit Graduate Business School UCD. He has published in leading journals such as Strategic Entrepreneurship Journal, Entrepreneurship Theory and Practice, Entrepreneurship Research Journal, and Family Relations and presented at leading international conferences such as the Academy of Management Conference, Babson College Entrepreneurship Research Conference, and the EIASM Family Firm Management Conference.

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