

Final Year Project as Impetus to Entrepreneurial Intention: A Cross-cultural Analysis

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Abstract

This paper performed a cross-dimensional analysis in three-folds: assessment of entrepreneurial dimensions during the conduct of Final Year Project (FYP), implementation of FYP as start-up and the challenges faced by the students on the realization of the FYP as a start-up. There were 281 survey and 24 focused interview participants from the two private higher education institutions in Oman and the Philippines. The FYP students in both countries and specializations exhibited high entrepreneurial spirit but none of them utilized the projects as a start-up. The challenges faced in turning the project to business venture were lack of business knowledge, entrepreneurial attitudes and skills. Overall, there was one in every six students who intended for a start-up whereas one in every six teachers believed students can do so. One in every three teachers expected students to be employees. The results clearly emphasized an 'employee' culture and 'employment to entrepreneurship' pattern of education. Therefore, colleges and universities must capitalize on the strong entrepreneurial spirit and intention of the students to create start-ups through linking the entrepreneurial support programs to the FYP. The sustainable campus entrepreneurship to address the identified challenges of lack of business knowledge, skills and values must be promoted.

Keywords:

final year project, entrepreneurial intention, campus entrepreneurship, entrepreneurship

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1. Introduction

One of the primary goals of colleges and universities is to produce graduates who can be employees, if not entrepreneurs. With the very limited opportunities for employment, student-entrepreneurs became a hit. Entrepreneurship education was offered across all programs to accelerate students' intention to start own business (Soutaris, Zerbinati & Allaham, 2007). In addition, the higher education curricula included an FYP as an avenue for students not only to develop skills but to conceptualize a feasible project for a start-up business. As FYP develops human capital (Rokiah et al, 2010) through the skills learned, it also equips the students with a realistic view of the industry to belong to. The project proposal gears towards a solution to a specific problem (Lopez et al, 2003) keeping students abreast of the advancement of the industry needs. While the project prepares the students for employment (Thomas, 2008), it also entices students to turn this into a real venture. Adelakun-Adeyamo (2016) notes that experience in the FYP measures the likelihood to continue in the career.

Different programs offer varied FYPs. For most of the business programs, a feasibility study or a business proposal is a common assessment whereas technical programs such as Computing Science and Engineering offer software or hardware development. Whatever output the project requires, it gauges potentials and abilities of the students (Shafie, Janier & Herdiana, 2008) and defines the capacity to provide solutions to industry needs. Hong et al. (2012) observe that projects vary according to the personal characteristics and social context of the students. While students are expected to turn the projects to a money-generating venture, it is also expected for them to possess the qualities of an entrepreneur. However, the intention to turn FYPs as real ventures falls short of expectations. For instance, a study conducted by Velasquez et al. (2018) on the entrepreneurial intention of students in Colombia showed that out of the 80.2% who had been trained to create a company, only 22.4% done so. The same result was obtained by Looi & Khoo-Lattimore (2015) in Malaysia wherein undergraduates' propensity for new business is less likely as an option. Latif, Abdullah, & Mohd (2016) raised the issue of the commercialization of research products to entrepreneurial orientation while Renganathan, Yasin, Perumal, Tahir & Chelvarayan (2012) to entrepreneurial skills. While researchers attribute entrepreneurial intention to various

factors, it is a fact that entrepreneurship education increases the entrepreneurial intention of students (Israr & Saleem, 2018).

Entrepreneurship education aims to convert thinkers to doers. It shapes student behaviors to be entrepreneurial (Fayolle & Gailly, 2005) and influences character to start forming new organizations (Volery & Mueller, 2006). In several studies, entrepreneurship education has been instrumental in increasing the desirability of the students in starting a business (Peterman & Kennedy, 2003; Kuttim et al., 2014; Galloway & Brown, 2002; Gerba, 2012). However, the question remains as to realizing its goal to produce real entrepreneurs after the completion of the programs. Similarly, the realization of FYP as business ventures after completion.

According to Cho & Lee (2018), an entrepreneurial opportunity is the start of a business. This study anchors the FYP as a potential start-up venture for students. It compares two programs: business management and computing science. The former's project refers to the business proposal in the final year that requires preparation of feasibility study and product presentation. The latter's final year proposal is an industry-based system software development that can be licensed and commercialized. This underscores the entrepreneurial dimensions of the students in realizing the project and the perceived challenges in doing so. The comparison of business and non-business programs tests the influence of business orientation on the entrepreneurial intention. This also aims to compare two different cultures and orientations which are Oman and the Philippines. Although these countries are separated by religion, the entrepreneurial trend remains the same. Mendoza (2018) sees more young Omani students thrive in opening business. A similar scenario is described by Reyes (2018) as the rise of Filipino millennial entrepreneurs. As such it is assumed that higher education students in both countries intend to open own business after the completion of the project proposal.

The findings of the study add to the general literature on the value of FYP as a potential start-up since there is a limited study on this nature. In addition, the cross-dimensional analysis which tests the influence of country of origin and program specialization provides a solid background on sustainable campus entrepreneurship. The triangulation of the results through assessments of both the teachers and the students gives concrete data on the strengths and weaknesses of entrepreneurship education in both

countries. The overall utility of this study is indispensable to the various colleges and universities around the world.

2. Literature Review

2.1. Entrepreneurial intention of students

The entrepreneurship insights from 54 countries in the 2018 GUESS Global Report by Sieger, Fueglistaller, Zellweger & Braun (2018) showed a pattern of ‘employee to an entrepreneur.’ The report showed 9% intend to start the business after graduation while 34.7% after 5 years following completion of the degree. The differing percentage of entrepreneurial intention was based on whether a student is from a developed or developing country. Moreover, several studies conducted around the world identified various factors influencing entrepreneurial attitude and intentions such as: entrepreneurship education (Sieger, Fueglistaller, Zellweger & Braun, 2018; Packham, Jones, Miller, Pickernell & Thomas, 2010; Vodál & Florea, 2019), age (Packham, Jones, Miller, Pickernell & Thomas, 2010; Hendieh, Aoun & Osta, 2019), gender (Packham, Jones, Miller, Pickernell & Thomas, 2010; Hendieh, Aoun & Osta, 2019; Vodál & Florea, 2019), degree specialization (Holienska, Holiensková, & Gál, 2015; Abbas, 2013) and support (Denanyoh, Adjei & Nyemekye, 2015; Hendieh, Aoun & Osta, 2019). Studies which applied the Theory of Planned Behavior identified influencing factors such as locus of control (Voda & Florea, 2019; Karabulut, 2016; Hameed et al, 2016), need for achievement (Voda & Florea, 2019; Karabulut, 2016), risk tolerance (Karabulut, 2016; Hameed et al, 2016) and entrepreneurial alertness (Karabulut, 2016). Hendieh, Aoun & Osta (2019) enumerated the reasons for entering the business as earn money, do something new, self-realization, implement own idea, be own boss and exploit market opportunity.

Studies on the entrepreneurial attitude and intentions of Arab students in the Middle East mostly found same factors as degree specialization (Yıldırım, Çakır, Aşkun, 2016; Pauceanu, Alpenidze, Edu & Zaharia, 2018; Parveen, Kassim & Zain, 2019), university (Yıldırım, Çakır, Aşkun, 2016; Mehtap, Pellegrini, Caputo & Welsh, 2017; Holzmann & Halabi, 2017), gender (Yıldırım, Çakır, Aşkun, 2016), support (Mehtap, Pellegrini, Caputo & Welsh, 2017; Holzmann & Halabi, 2017; Pauceanu, Alpenidze, Edu & Zaharia, 2018), financial resources (Holzmann & Halabi, 2017), business attractiveness (Parveen, Kassim &

Zain, 2019) and readiness to do business (Parveen, Kassim & Zain, 2019). Sitte & Rheault (2009) see Arab youth as potential agents of positive change. Although half of young Arabs believe that entrepreneurs think only of monetary gains, there is a plan to start own business in the next 12 months. However, Almobaireek & Manolova (2012) found a mismatch between the attitudes towards entrepreneurship as a career but no serious intention to venture into it. On the other hand, studies conducted within the Southeast Asia mainly identified factors in entrepreneurial attitudes and intentions such as degree specialization (Stouraitis, Harris & Kyritsis, 2019; Zain, Akram & Ghani, 2010; Millman, 2010), innovation (Stouraitis, Harris & Kyritsis, 2019; Othman & Othman, 2019), risk-taking (Stouraitis, Harris & Kyritsis, 2019; Othman & Othman, 2019), self-efficacy (Indarti, Rostiani & Nastiti, 2010; Othman & Othman, 2019), age (Indarti, Rostiani & Nastiti, 2010), gender (Indarti, Rostiani & Nastiti, 2010; Millman, 2010), need for achievement (Othman & Othman, 2019), locus of control (Othman & Othman, 2019; Ambad & Damit, 2016), skills (Othman & Othman, 2019), financial resources (Millman, 2010), support (Zain, Akram & Ghani, 2010; Ambad & Damit, 2016) and culture (Stouraitis, Harris & Kyritsis, 2019). According to Hutt (2016), the recent Southeast Asia's demographics are drastically changed by urbanization and the growth of the middle class. The upsurge in the percentage of living in the city and the number of the middle class are areas for entrepreneurial growth.

The Sultanate of Oman has a high spirit for entrepreneurship (Segumpan & Abu Zahari, 2012) and the higher education students are ready to take the challenge (Kothaneth, 2019; Panikar & Washington, 2011). In the 2019 National Centre for Statistics and Information (NCSI) report, 70% of the youth with higher education qualifications wanted to become entrepreneurs. Several studies that assessed the entrepreneurial behavior of Omani students showed a strong relationship between attitude and intention (Bakheet, Varghese, Al-Qartooqi, & Al-Hamdi, 2019). The factors influencing students' entrepreneurial intention include need for achievement (Atiya, Bilal, Abulhamid & Shoaib, 2019; Amma & Fahad, 2013), self-efficacy (Atiya, Bilal, Abulhamid & Shoaib, 2019), locus of control (Atiya, Bilal, Abulhamid & Shoaib, 2019), university (Atiya, Bilal, Abulhamid & Shoaib, 2019), risk-taking (Amma & Fahad, 2013) and autonomy (Amma & Fahad, 2013). Although the entrepreneurial attitude and intention of the students are positive, Ibrahim, Devesh & Ubaidullah, (2017) found that the preference of the graduates to start own business venture is

low. The study posted 18% of student-respondents who want to be self-employed as against 44% who want to work in the private sector and 38% in the government. The reasons for not starting a venture include risk (Bakheet, Varghese, Al-Qartooqi, & Al-Hamdi, 2019), access to credit (Bakheet, Varghese, Al-Qartooqi, & Al-Hamdi, 2019; Santosdiaz, 2018; Al-Shanfari, 2012) and fear of failure (Bakheet, Varghese, Al-Qartooqi, & Al-Hamdi, 2019).

On the other hand, the higher education students' entrepreneurial spirit in the Philippines is even higher than that of Oman. This is manifested by business and non-business students who have high entrepreneurial knowledge and intention (Abun, Foronda, Belandres, Agoot & Magallanez, 2018; Lacap, 2017; Mendoza & Lacap, 2016; Malolos, 2017). These are attributed to such factors as sex (Lacap (2018), specialization (Lacap, 2018), exposure and experience (Cuerdo, 2013; Lacap, 2018; Pavico & Mercado, 2018; Lacap, 2017), conscientiousness (Lacap, 2017), agreeableness (Lacap, 2017), neuroticism (Lacap, 2017), leadership (Ramos, 2014), creativity (Cuerdo, 2013; Ramos, 2014), problem solving (Ramos, 2014), support (Jumamil, Depositario & Zapata, 2017), achievement (Cruz, 2018), affiliation (Cruz, 2018) and self-efficacy (Jumamil, Depositario & Zapata, 2017).

2.2. The Final Year Project as students' start-up venture

There are lots of leading industries that all started with crazy ideas as university projects which eventually served a market need. According to Haden (2017), 42% of failed start-ups are due to a lack of market need. This is where the university FYP comes in. For most of the student projects, the primary step is an environmental scanning that aims to find out the market needs or social problems that need to be addressed. Hoyt (2015) enumerated some excellent examples of college start-ups such as Microsoft and Google which started with little-to-no-capital but full of vision to make a niche. These simple ideas can be intentionally planned and implemented in entrepreneurial projects (Gupta & Bhawe, 2007). In today's global environment, college students pitch ideas to start a small venture within the university grounds (Chandra, 2015). Amway (2018) as cited by Bliemel (2019) calculated that nearly 50% are willing to take risk of starting own business. For this, colleges and universities should act as breeding grounds for students' start-up projects (Purse, 2019). Colleges provide the resources and the means to help students carry on with the project – from idea generation to support system in the implementation.

There are limited studies on the success of FYPs or even the venture intention of students on the FYPs. There are certain underlying concerns on the not so successful journey of students' FYPs. Zaring, Gifford & McKelvey (2019) argue on the natural influence of education on entrepreneurial skills and attitudes. The authors believe that business modeling might reduce students' willingness to start-up new venture due to risk-averse. Exposing the students to too many theories on the complexities of start-ups discourage them in the first place. However, Xu (2019) is optimistic about the right timing to fund a start-up as a student. There are valuable resources available including the incredible actual learnings from mentors. But with FYP alone is a bit expensive, how much more in turning it to a start-up? While Chand (2019) cites the USA with available venture capital exclusive for start-up projects, this is not the same case with other universities, particularly in Asia where limited funding is available for start-up projects. The majority of the projects are funded by the students themselves. While it is easier for business students, at a much cheaper cost, technical students are a bit disadvantaged. For this, the European Commission (2008) highlights important measures that universities must implement to develop business starters. It was suggested to formulate institutional policies to promote entrepreneurship, comprehensive intellectual property policy to safeguard the innovations developed by students and teachers, supportive incubators, strong links with business and financial institutions and financial grants for starters.

3. Methodology

This study employed quantitative and qualitative methods. The quantitative data were gathered primarily through a survey using a self-made and experts validated questionnaire which specifically measured the students' entrepreneurial capabilities, skills, characteristics and spirit. Moreover, the qualitative data were collected through a focus online interview of the FYP students and teachers.

The survey was conducted on 2017 and 2018 in one of the private university in Oman and in the Philippines, respectively. The respondents were the business and computing students in the final year in the undergraduate program. The survey conducted in Oman on 2017 had 218 respondents (81% response rate) whereas on 2018 in the Philippines had 63 students-respondents (90% response rate). Both the university offer FYP in the two

programs. In Oman, the FYP for the Computing Sciences students is a capstone project on software development which is similar to the Computing Science requirement in the Philippine. On the other hand, the FYP of Business Management students in Oman is an entrepreneurial trade fair of student-prepared products whereas a project feasibility study is a requirement in the Philippines. The data gathering were facilitated by selected teachers of the program.

To supplement the quantitative data, a focused interview of teachers and students was conducted from September 1 to September 30, 2019, through face-to-face and online modes. It was focused on the assessment of the FYP as a start-up and the associated challenges faced. There was a total of 24 respondents segregated into 6 business management lecturers, 6 computing science lecturers, 6 business management students and 6 computing science students. These numbers were equally distributed between Oman and the Philippines. The researcher personally interviewed face-to-face in Oman while online for the Philippines respondents. The student-respondents were personally endorsed by the respective teachers. The respondents were given the interview questions before the actual conduct. Some of them wrote the answers and handed the same during the interview session.

The researcher tried to get the same sets of student-respondents from the two previously conducted surveys. However, there was no mechanism to trace them. Thus selected and endorsed graduates from the academic year 2018 – 2019 were taken as replacements. These students were under the same teachers in the FYP. Although there were different sets of student-respondents, the goal of the study to evaluate the entrepreneurial intention of the students remains the same. Moreover, the teachers who were handling the FYP for the last three years were automatically included for the interview.

The quantitative data were tabulated through the weighted means. The outcome of the interview was analysed using thematic analysis. In a tabular format, the transcript was converted to themes and categories with the associated keywords.

4. Results and Discussion

4.1. Students' entrepreneurial dimensions

Table 1*The WM of the entrepreneurial dimensions*

Entrepreneurial indicators	Computing Science Students				Business Students			
	OM		PH		OM		PH	
	WM	SD	WM	SD	WM	SD	WM	SD
Entrepreneurial capabilities	2.83	0.064	3.26	0.064	2.9	0.163	3.4	0.064
Entrepreneurial practices	3.00	0.057	3.29	0.042	3.21	0.057	3.49	0.000
Entrepreneurial characteristics	2.85	0.049	3.35	0.000	3.09	0.028	3.49	0.000
Entrepreneurial spirit	3.00	0.057	3.51	0.113	3.31	0.127	3.59	0.071
Composite Mean	2.92		3.35		3.13		3.49	

Legend: 3.50 – 4.00 = Very High Extent; 2.50 – 3.49 = High Extent; 1.50 – 2.49 = Some Extent; 1.00 – 1.49 = Least Extent

The comparative results indicated positive entrepreneurial dimensions measured through the composite means distributed as 2.92 (High Extent, Computing Science, Oman), 3.13 (High Extent, Business, Oman), 3.35 (High Extent, Computing Science, Philippines) and 3.49 (High Extent, Business, Philippines). The dimension highly rated by the student-respondents was entrepreneurial spirit with a 3.35 WM. These validated the assumptions of Ibrahim, Devesh & Ubaidullah (2017), Abun, Foronda, Belandres, Agoot & Magallanez (2018), Lacap (2017), Mendoza & Lacap (2016) and Malolos (2017) that collegiate students have a high entrepreneurial spirit. The ratings of respondents from both the programs in the Philippines were higher than both programs in Oman. Grouping by program and country of origin, the dimensions with the highest weighted means were entrepreneurial spirit and entrepreneurial practices, respectively. Although the personal ratings were a little high, it was still relatively clear that some of the students doubt the entrepreneurial characteristics and capabilities.

While it is true what Bliemel (2019) claimed that students are willing to take the risk of starting a new business, the aftermath of the FYP is the realization of the clear intentions. At the height of the FYP, the drive and motivation of the students are high. The students are open to any possibilities on either a new venture or commercialization of the project proposals. Just as the survey conducted by Amway (2018) presumed that 50% are willing to take the risk, the weighted means of each indicator and entrepreneurial dimensions proved that majority of them are ready to kick-off as new entrepreneurs. The results proved a strong

difference with confidence and intention. The FYP students showing strong confidence in readiness and willingness for a start-up does not substantiate the weakness both in resources and capabilities. The high morale during the conduct of the FYP made them idealistic with a very strong conviction to push through with the plans. As the project is presented during the viva, students are more than knowledgeable of all the aspects of the proposal. Getting all the feedback and support from the mentors, students are eager to complete what was started. This momentum is what Zaring, Gifford & McKelvey (2019) believe as a natural influence on entrepreneurial attitudes.

Results show an obvious comparison of specialization and country of origin. The entrepreneurship education alone has a strong influence on the students' intention to venture into business (Sieger, Fueglistaller, Zellweger & Braun, 2018; Packham, Jones, Miller, Pickernell & Thomas, 2010; Vodál & Florea, 2019). The knowledge of business and management impacts on the skills and capabilities. This has affected the confidence level of the computing science students as evidenced by lower ratings than the business students. A number of researchers agree on the influence of specialization on entrepreneurial intention (Holienka, Holienková, & Gál, 2015; Abbas, 2013; Yıldırım, Çakır, Aşkun, 2016; Pauceanu, Alpenidze, Edu & Zaharia, 2018; Parveen, Kassim & Zain, 2019; Stouraitis, Harris & Kyritsis, 2019; Zain, Akram & Ghani, 2010; Millman, 2010; Lacap, 2018). Various aspects of entrepreneurship education cannot be benefited through the theoretical approach alone. For instance, the practical application of innovation and creativity through product or marketing development exposes business students to the real scenario of a start-up. Although computing science offers courses on entrepreneurship, the practical application is still limited. However, the introduction of 'technopreneurship' offers practical applications to students specifically on intellectual property, copyright and commercialization issues. However, it is interesting to note that although entrepreneurship courses are not offered to the computing science curriculum in the Philippines, the confidence level on the entrepreneurial dimensions is even higher than the two programs in Oman. The situation in the country has some emotional effects on the desire to become successful. As the students in the Philippines boost the resilience, the confidence level also increases. During the time of uncertainty of employment, business is the last resort (Berou, 2013). This is in contrast situation in Oman where opportunities both in entrepreneurship and employment are higher.

The results affirm a healthy entrepreneurial mentality of the students as exhibited by selected students in Oman and the Philippines. The positive responses to the challenge of a start-up in terms of the FYP is a good indication that students are equipped with the right attitude to do so. As numerous researchers believe in the role of the youth in entrepreneurial development (Sitte & Rheault, 2009; Ferraz, 2014), the student-respondents gave a strong conviction on the role as change agents. The strong enthusiasm for start-ups is an excellent starting point. The current study finds that even though students have weak to average entrepreneurial capabilities there is a strong desire to start own business.

4.2. Intention for FYP as startup

Table 2

The entrepreneurial intention of students on the FYP

Theme	Category	Keywords
	Employment	need work; working already
Not intended as a start-up	Preparedness	project is not fully developed; not yet finished
	Project commercialization	For own use not to commercialize
	Product development	the product is unique
Undecided	Family business	existing products from family business
	Experience	eager to know the procedures
Business start-up	Promising business	proposal is very promising as a start-up project; make this my own business
	Sell the product	Sell the project to who wants to buy it

Table 2 showcases the students' intention of the FYP. It should be noted that two students from both programs in Oman already have business before the FYP. Except for the two, none of the student-respondents ventured into business right after the completion of the FYP and graduation from the program. The projects were shelved and did not even become a start-up. The results further revealed that 5 out of 12 FYP students are indecisive of the business plans. A ratio of 1 in every 6 students intended for the start-up but did not materialize. Meanwhile, 41.67% of the students intended not to put the projects into business. Surprisingly, one business student did not mention any intention. Segregating the results by

country, the ratio of indecisive students in the Philippines is 1:2. These students considered several factors before reaching a final decision. Meanwhile, the same ratio, 1:2 was the number of students with no business intention. Only 1 out of 6 students both in the Philippines and Oman was definite to realize FYP as a start-up. In terms of specialization, 1 in every 2 computing students was either indecisive or not into starting a business. It was somewhat surprising that only 1 in every 3 business students was either indecisive or positive to start a business.

The results confirm the findings of Almobaireek & Manolova (2011) on the big gap between the attitudes and intentions of the students in both the specializations. Even though the students have a high entrepreneurial spirit (Segumpan & Abu Zahari, 2012), there is extremely low intention to start the FYP as a business venture. Moreover, students who intend to become entrepreneurs are unsure of pushing the same FYP. This also upholds the findings of Ibrahim, Devesh & Ubaidullah (2017) that graduates are more into employment than entrepreneurship. Both the countries show a not so encouraging result while it is no surprise that business students have higher intention than computing students. If the main purpose of entrepreneurship education is to entice students for start-up (Soutaris, Zerbinati & Al-laham, 2007; Volery & Mueller, 2006) and shape entrepreneurial behaviors (Fayolle & Gailly, 2005), it is relatively clear that both countries and specializations fall short of the mission. The FYP does not accelerate the students' intention for a start-up. It is true that it only prepares them for employment (Thomas, 2008). However, there is still high hope for indecisive students to be entrepreneurial. This is the challenge for colleges and universities to produce doers and not merely thinkers.

Table 3 shows that the teachers' perspective on entrepreneurial intention was even more pessimistic as shown by the ratio of 1:6 who believed that the students will venture into business as against 1:3 who expected them to be employees. However, quite surprising was the fact that half of the teachers were not even sure of the students' business intentions. Sorting the responses according to country, it was depressing that none of the teachers in the Philippines trust that the students will be entrepreneurs. Two-thirds of the teachers were not sure of the students' intention whereas one-third believed them to be employees. This was in total contrast with the teachers in Oman where one-third anticipated them to be entrepreneurs. This was also equal to the teachers who were unsure of the students'

entrepreneurial intentions and those who believed them to be employees. In terms of specialization, while none of the business lecturers were positive, 33% of computing lecturers expected the students to become entrepreneurs. The majority (67%) of the business lecturers trust that the students will be employees. The percentage of unsure lecturers was 67% for computing science and 33% for business.

Table 3

The lecturers' perspective on the students' FYP

Theme	Category	Keywords
Not intended as a start-up	Employment	students want a job; prefer more to work; pursuing a job
	Preparedness	no intention; not ready; not aware; too technical to think about it
Undecided	Shows interest	showed interest but not sure if they will pursue; interested in the endeavor
	Knowledge	Some have business but need knowledge
	Background	They have military backgrounds
Business start-up	Nature of project Business venture	Project is difficult to realize as a business become entrepreneur but not their specialization.

The primary purpose of FYP was defeated with the perspective of the teachers. This clearly emphasizes the role and influence of teachers in urging the students to take the risk and start the ventures. The lecturer's perception supports Thomas (2008) that the project prepares students for employment. Taking the thoughts of Zaring, Gifford & McKelvey (2019) on the natural influence of education on entrepreneurial skills and attitudes, the mentality of the teachers in the FYP is quite depressing. As Pursey (2019) points out that the educational institutions are the breeding grounds of a start-up project. However, the perspective of the teacher does not support this. In this case, there is a big mismatch between the teachers' mentality of student-graduates and the course they are teaching. There is no concrete proof to support the mismatch but the findings of Gatchalian (2010) and Morandarte (2015) on the qualifications and training of teachers on the teaching of entrepreneurship might be of explanation on such cases.

Table 4

The challenges faced by the students on the FYP as a start-up

Theme	Category	Keywords
Students' Perspective		
Entrepreneurial behavior	Reluctance	Need to evaluate and think; afraid of less customers
	Creativity	Need to be unique; many competitors
	Taking risks	afraid of less customers
Skills	Marketing	struggle to introduce this business; number of customers; advertise my project
	Planning	strategy; not familiar
Resources	Materials	Material; buy things
	Money	Economic situation; broke; budget
Teachers' Perspective		
Entrepreneurial behavior	Motivation and drive	don't have interest; lazy to manage; lack of self-confidence
	Fear and risk-taking	not willing to take the risk; courage to stand firm; afraid to invest; fear of failure
Skills	Technical know-how	Inexperience; knowledge to start a business; project feasibility; lack of business experience
Resources	Money	lack capital; finance; funding

As reflected in Table 4, the student-respondents ranked the top challenges faced in turning the FYP to start-up business as follows: marketing and competition; capital and business planning. Other challenges include originality and creativity, physical resources, economy, business policy, manpower and business strategy. Of these challenges, 75% pertain to business knowledge, 33.33% refer to resources, and 8.33% are about attitude and skills.

This is a very alarming result for higher education institutions as teachers are tasked to provide relevant knowledge to the students. Majority of the students have limited business knowledge which upholds the findings of Al-Shanfari (2012) and Formoso (2016) that there are weak education and training. However, it refutes the studies of Kirby (2004) and Shaukat & Madbouly (2019), Al-Abri, Abdul Rahim & Hussain (2018) and Arab Human Capital Challenge (2009) on entrepreneurial attitudes and skills. The students have a high entrepreneurial attitude and spirit but weak on the details of business particularly planning and marketing. The issue raised by Latif, Abdullah, & Mohd (2016) on commercialization of projects is due to limited knowledge on how and where to start. This is coupled with the limited financial access the same with the findings of Bakheet, Varghese, Al-Qartooopi, & Al-

Hamdi (2019), Santosdiaz (2018) and Al-Shanfari (2012). Given that the computing sciences offers a very limited course on entrepreneurship or general business, still, it is clear that even business students lack the necessary basic knowledge of business management. Although the entrepreneurship course is offered across all programs in Oman, there is still a gap in the implementation of the same.

The challenges identified by the teachers as shown in Table 4 were in contrast with those of the students. The majority of the teachers in a ratio of 1:2 identified capital and risk as to the top challenges in turning FYP as a start-up. Other challenges include lack of knowledge, drive and motivation, experience, lack of confidence, support, competition and fear of failure. These challenges were mainly students' attitudes and skills with 91.67%. The business knowledge (50%), and resources (50%) were also identified.

While the teachers pinpoint some personal factors on turning FYP as a start-up, it cannot deny the fact that the role is to guide the students to realize the goal. As commonly identified by both the students and the teachers, lack of capital is a big issue. Although there are available programs from both the government and private organizations in both countries, the percentage of student-entrepreneurs availing such support is a question. Moreover, the support must also be given by colleges and universities to fund potential projects for a start-up. The bigger issue facing the education system is the total development of the students. As Fayolle & Gailly (2005) mentioned that education should develop students' entrepreneurial behaviors, the identified challenges reflect on the unmet tasks of teachers. There is indeed a lack of knowledge and skills among students on how to turn the FYP to start-up similar to the findings of Renganathan, Yasin, Perumal, Tahir & Chelvarayan (2012), (Velasco, 2013), Rauh-Bieri (2016) and Formoso (2016). The bigger challenge is an educational system that will equip students with knowledge, skills and values to become entrepreneurs.

5. Conclusion and Recommendation

This study assessed the entrepreneurial intention of business and computing students in the FYP in three-folds: assessment of entrepreneurial dimensions during the conduct of FYP, implementation of FYP as start-up and the challenges faced by the students on the realization of the FYP as a start-up. The respondents were students and teachers from two private higher education institutions in Oman and the Philippines. Both the quantitative and

qualitative methods were utilized from the gathered data through survey and focused interview. The quantitative data in tabular form were treated with weighted mean while the thematic analysis was used for the qualitative part.

The FYP students in both countries and specializations exhibited high entrepreneurial spirit but none of them utilized the projects as a start-up. The challenges faced were lack of business knowledge, entrepreneurial attitudes and skills. The ratio of students with the firm intention for a start-up is 1:6; however, it has not materialized. This is the same ratio of teachers who believed them to be entrepreneurs while the majority of them in a ratio of 1:3 expected them to be employees. Moreover, one in every two computing students was either indecisive or not into starting a business while one in every three business students was either indecisive or positive to start a business. Although there were more indecisive students in the Philippines to venture into business, more students in Oman were not interested.

The results clearly emphasize an 'employee' culture and 'employment to entrepreneurship' pattern of education. It is certain that the FYP develops the entrepreneurial mind-set and increases students' intention but it does not successfully breed start-up projects. There is a big gap between the primary aim and the implementation of entrepreneurship education. The differing expectations of the teachers and students serve as a barrier to the development of student-entrepreneurs. The teachers need to create healthy campus entrepreneurship that will build business knowledge, skills and values. In this regard, colleges and universities must capitalize on the strong entrepreneurial spirit and intention of the students to create start-ups through linking the entrepreneurial support programs to the FYP. It should be ensured that more valuable and viable projects are developed and sustained. Moreover, training and professional development should be given to both the students and teachers. These support programs should be part of the university framework so that more sustainable campus entrepreneurship is achieved.

Since there is a very limited study on the FYP, the current attempt to measure students' entrepreneurial intentions embarks limitations and opportunities. It has a limited number of respondents even though a higher retrieval rate was achieved. It cannot generalize the FYP due to its different nature and structure depending on the university requirements. The different sets of respondents on the two data collection points might have affected the results. Despite the shortcomings, it has mapped out various areas of concern on both the

FYP and entrepreneurship education. It is indeed necessary for follow-up research on the success and failure of start-up projects of the students.

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