

Influence of Entrepreneurship Ecosystem at Sultan Qaboos University on Preparing Entrepreneurs

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Abstract: This study investigates the influence of an entrepreneurship ecosystem at Sultan Qaboos University on preparing entrepreneurs. A Likert-type questionnaire consisted of (45) items divided into seven sections: the students' attendance or participation in activities related, reasons to start their own business, obstacles to start their own business, estimation of the influence of program courses on development their entrepreneurial skills, estimation of the influence of academic staff on the development of their entrepreneurial skills, estimation of the influence of graduation and theses projects on the development of their entrepreneurial skills and estimation of the influence of university activities on development their entrepreneurial skills. The questionnaire was administered to 590 male (n = 231) and female (n = 359) students from nine colleges of the university. The results showed that the majority of study sample students do not attend any programs, courses, workshops, conferences, or symposiums related to entrepreneurship. It also found that that these students lack entrepreneurship knowledge, lack ability to discover opportunities, lack confidence, lack management skills and fear of risk-taking, and that this influences their intention and views of obstacles to starting their own business. The results also showed that the students moderately benefited from their program courses, academic staff, and graduation projects in developing their entrepreneurship. The findings also found that students highly benefited from university activities and attending exhibitions for students entrepreneurs in the field of development of their entrepreneurship. Student's gender and colleges influence their views of entrepreneurship ecosystems.

Keywords: Entrepreneurship Ecosystem, Students, Sultan Qaboos University, Entrepreneurs

1. Introduction

Universities play an essential role in developing professional expertise for national development, producing graduates equipped with the skills and knowledge necessary for their personal careers and economic productivity within the broader economic context. In Gulf Cooperation Council (GCC) countries such as Oman, their importance is amplified by the urgent need to diversify national economies to reduce dependence on oil and gas export revenues. The key to this economic imperative toward sustainable development is to equip native people with a strong education, and to ensure graduates have the commensurate skills and abilities to contribute to private sector activities and job creation. Modern universities are required to have an effective entrepreneurship ecosystem that produces entrepreneurs who

can contribute to national and indeed global economic development, creating wealth and employment for themselves and others through starting their own businesses. The entrepreneurship ecosystem is defined as a "set of interdependent actors and factors coordinated in such a way that they enable productive entrepreneurship" [1].

Enhancing of entrepreneurship ecosystems at universities should be viewed as priority for decision makers, because in current era is not acceptable that universities continue providing traditional degrees when their graduates become as job seekers for prolonged periods due to the inability of the public and private sectors to absorb growing numbers of graduates [2, 3]. Also, traditional degrees may no longer meet the needs of modern economic production [4, 5]. Also, universities themselves are increasingly commercialized, and are required to make a significant contribution to national

economic prosperity, which is the main rationale for various forms of state sponsorship and subsidy they receive [6].

Universities ought to be incubators of entrepreneurs, equipping their students with entrepreneurial potential by preparing them through program courses, events, activities, and collaboration with public and private sectors, with prerequisite funding sources and facilitation. Effective entrepreneurship ecosystems raise students' entrepreneurship knowledge, networking possibilities, and practical opportunities finding financial support [7, 8]. They also equip them with creative and innovative skills [9], the ability to use strategic thinking and influence others' actions [10], sense of confidence and ability to manage their work environment [11], discovering business opportunities and acting upon them [12, 13], ability to cope with different matters and situations [14], and raising their motivation and understanding of procedures and regulations concerning starting their own businesses [15].

In the entrepreneurship ecosystem, universities are 'natural incubators' because they represent of sources scientific knowledge, which is the heart of innovation and creativity [16]. Enhancing entrepreneurship involves developing program courses, and promoting entrepreneurship culture among all academics, to practice it in every aspect of the learning process [17]. Universities should be more concerned about the entrepreneurship ecosystem than they are currently, particularly in developing countries, in order to provide society with entrepreneurs, not with more job seekers, so they contribute to national economic prosperity [18, 19]. Entrepreneurial companies are attractive to both researchers and policy makers due to their substantial contribution in wealth and employment creation, and driving scientific knowledge development [20].

Studies have revealed that raising entrepreneurship awareness among students is a good investment for universities and national economies. Studies have investigated the influence of universities' role in the development of students' entrepreneurship awareness. Some have found that universities often fail to have the desired impact on their graduates' entrepreneurship intention [21]. According to [22] most universities rarely provide students with knowledge and skills to become entrepreneurs. On the other hand, [23] showed that universities have a moderate effect on the development of students' entrepreneurship awareness, while others demonstrated positive impacts on the development of entrepreneurship and intention [24, 25], and increased confidence to start a business [26].

Encouraging an entrepreneurship culture in Sultan Qaboos University (SQU) is essential because it is the only government university in Oman and it is the national flagship institution of learning, with the highest number of students. SQU has the most potential to support all forms of learning, including its facilities, labs, academic programs, events, students associations, research funds, free tuition, funding sources, experts, collaboration with government and private sectors, and all other needed facilities such as technology and

organizing events (conferences, symposiums, training courses, workshops, and seminars). SQU has obtained accreditation from international accreditation and national organizations for its academic programs, but it faces strong pressure from society to link its output with job market needs and economic change [27, 28]. This is an acute issue as the unemployment rate among those with bachelor's degrees is 63% [29].

Based on the varying results of previous studies, this study explores the influence of the entrepreneurship ecosystem at SQU in preparing students to be entrepreneurs. It covers many aspects that have not been investigated in this context by previous studies, in order to come up with the whole picture about current situation. This study investigates student attendance or involvement in entrepreneurship courses, workshops, conferences, associations, and competitions. It also investigates student's intention and reasons for starting their own businesses, and obstacles that they may face. Also, it is concerned to identify the effect of programs, courses, academic staff, graduation, and theses projects and university activities on developing their entrepreneurial skills.

1.1. Research Questions

Do students attend or participate in entrepreneurship courses and activities?

What reasons drive students to start their own businesses?

What are the obstacles preventing students from starting their own businesses?

What is the effectiveness of program courses, academic staff, graduation and theses projects, and university activities on the development of their entrepreneurial skills?

Do students' views on the effectiveness of programs, courses, academic staff, graduation and theses projects, and university activities on the development of their entrepreneurial skills differ due to their gender and college?

1.2. Research Objective

Evaluate the influence of the entrepreneurship ecosystem at Sultan Qaboos University (SQU) on preparing entrepreneurs.

2. Methodology

2.1. Research Approach

A descriptive survey research design was chosen to investigate the four sources of mathematical self-efficacy of college freshmen. A descriptive approach was chosen to investigate students' views about the entrepreneurship ecosystem in SQU due to its suitability to collect data from a large sample, and it can be applied through online surveys.

2.2. Sample

The targeted population of this study was SQU

undergraduate and postgraduate students from the nine science and humanities colleges. The sample of the study consisted of 590 male and female students. Cluster sampling was used to ensure covering all 9 colleges, and adequate gender representation.

Table 1. Study sample distribution.

GENDER	N	%
Male	231	39.2
Female	359	60.8
Total	590	100.0

2.3. Instruments

Data was gathered by a mainly Likert-type questionnaire consisting of several sections. The first section consisted of 5 yes/ no items exploring students' attendance or participation in activities related to entrepreneurship. The second section included 8 items exploring students views about reasons to start their own business (high, moderate, and low). The third section consisted of 7 items (high, moderate, and low) exploring their views about obstacles to start their own business. The fourth section consisted of 10 items (extremely influential, very influential, somewhat influential, slightly influential, and not at all influential) investigating students' estimation of the influence of program courses on development their entrepreneurial skills. The fifth section consisted of 6 items (extremely influential, very influential, somewhat influential, slightly influential, and not at all influential) investigating students' estimation of the influence of academic staff on the development of their entrepreneurial skills. The sixth section consisted of 3 items (extremely

influential, very influential, somewhat influential, slightly influential and not at all influential) investigating students' estimation of the influence of graduation and theses projects on the development of their entrepreneurial skills. The seventh section consisted of 6 items (extremely influential, very influential, somewhat influential, slightly influential and not at all influential) investigating students' estimation of the influence of university activities on development their entrepreneurial skills. This Likert scale was developed based on similar previous studies [30, 31, 23, 32, 33].

2.4. Validity and Reliability

The validity of the instrument was examined by a panel of judges from SQU and an expert in entrepreneurship in Oman. The reliability of the instrument was also examined by applying it in a pilot study with a trial group consisting of 30 students from different colleges. The Cronbach's alpha results were (.955), indicating adequate reliability.

3. Results

3.1. Student Engagement in Entrepreneurship Courses and Activities

Do students attend or participate in entrepreneurship courses and activities?

The results showed that the majority of students did not attend or participate in entrepreneurship courses or activities. Only 22% of them attended an entrepreneurship course, 21% attended entrepreneurship workshops, and 17% of them participated in conferences and symposiums.

Table 2. Student attendance and participation.

Items	Percentage	
	Yes	No
Entrepreneurship course	22%	78%
Entrepreneurship competition	11.5%	89.5%
Students association activities related to entrepreneurship	9.5%	90.5%
Entrepreneurship workshops	21%	79%
Entrepreneurship conferences or symposiums	17.4%	82.6%

3.2. Reasons Students Start Businesses

What reasons drive students to start their own businesses?

The results revealed that increasing income instead of depending on their job salary was the most common reason

(55.2%) students would start a business, followed by having high level of entrepreneurship awareness (54.5%), discovering a good investment opportunity (52%), not having a job (49%), and finding a good partner (37%).

Table 3. Reasons for starting own business.

Items	High	Moderate	Low
Increase my income instead of depending on my job salary	55.2	13.4	31.4
When I have high level of entrepreneurship awareness	54.5	12.5	33
If I discover a good investment opportunity	52	12.8	35
If I don't get a job	49	21	31
Provide job opportunities to my relatives and friends	42.6	26.6	30.8
If I find who encourage me to start my own project	40	28	32
Work independently	39	34.4	26.6
If I find a good partner	37	19.7	43

3.3. Obstacles Preventing Students Starting Business

What are the obstacles preventing students from starting their own businesses?

The results showed that the majority of students highly believed that the lacked of ability to discover opportunities

was the greatest obstacle (74.1%), followed by lack of confidence and fear of risk-taking (70.5%), lack of experience about business (69.9%), and lack of management skills (68.2). The lowest reported obstacle was lacking encouragement from relatives and friends (37.4%).

Table 4. Obstacles preventing starting own business.

Items	High	Moderate	Low
Lack of ability to discover opportunities	74.1	10.8	15.1
Lack of confidence and fear of risk taking	70.5	10.8	18.6
Lack of experiences about business	69.9	12.5	17.7
Lack of management skills	68.2	15.7	16.1
Lack of knowledge about obtaining financial funding	62.9	20	17
Unawareness of regulations of starting a project	62.6	17.7	19.7
Lack of relative and friend encouragement	37.4	23	39.6

3.4. Effectiveness of Factors on Entrepreneurial Skills

What is the effectiveness of program courses, academic staff, graduation and theses projects, and university activities on the development of their entrepreneurial skills?

Table 5. Mean and standard deviation of effectiveness of program courses.

Items	Mean	SD
Importance of entrepreneurship	3.28	1.194
Marketing skills	3.01	1.180
Risk management	2.95	1.158
Human resources management	2.95	1.210
Financial planning	2.92	1.244
Ability to apply my ideas and innovation to an entrepreneurial project	2.90	1.244
Understanding of organizational structure of the entrepreneurship project	2.87	1.309
Understand legislation, regulation, and procedures for starting entrepreneurial project	2.80	1.252
Preparing feasibility study for an entrepreneurial project	2.80	1.229
Ability to discover the investment opportunities for starting a business	2.78	1.194
Average	2.92	1.072

3.5. Program Courses

The findings showed that the program courses moderately influenced the development of students' entrepreneurship. These courses seem to enhance their knowledge about the importance of entrepreneurship (3.28) and marketing (3.01) respectively. It also revealed that developing the ability to discover the investment opportunities to start business was the lowest (2.78).

3.6. Academic Staff

The results show that the influence of academic staff on development of SQU students' entrepreneurship was average (2.98). Academic staff members seem to not extensively discuss entrepreneurship topics. Academics were moderately linking their courses with entrepreneurship (3.04), advising students to start their own entrepreneurship projects (3.02), and encouraging them to read articles related to entrepreneurship (3.02).

Table 6. Mean and standard deviation of effectiveness of academic staff.

Items	Mean	SD
Lecturers are concerned about linking the content of our courses with entrepreneurship	3.04	1.184
Lecturers encourage us start our own entrepreneurship projects	3.03	1.203
Lecturers present types of entrepreneurial projects that can be done in our specialization	3.02	1.179
Lecturers advise us to read articles and projects related to entrepreneurship	3.02	1.223
Lecturers introduce during class successful entrepreneurs locally and globally	3.00	1.249
Lecturers invite entrepreneurs to lecture to share their experience with us	2.79	1.275
Average	2.98	1.063

3.7. Graduation and Theses Projects

The results showed that the influence of graduation and theses project was average (3.34). Furthermore, students:

highly think that their graduation project and theses can be transmitted into entrepreneurial projects (3.50); moderately think that their graduation projects and theses are linked with entrepreneurship (3.15); and moderately think that these projects develop their entrepreneurship (3.40).

Table 7. Mean and standard deviation of effectiveness of graduation and theses projects.

Items	Mean	SD
Graduation and theses projects are linked with entrepreneurship	3.15	1.084
Graduation and theses projects develop students' entrepreneurship knowledge, attitudes, and skills	3.40	1.093
Graduation and theses projects can be transmitted into an entrepreneurial project	3.50	1.233
Average	3.34	1.033

Table 8. Mean and standard deviation of effectiveness of university activities.

University activities	Mean	SD
Attending training courses related to entrepreneurship organized by student associations, deanships, and colleges	3.66	.981
Introduce initiative entrepreneurship projects in discussion events	3.61	1.001
Visiting exhibition of successful entrepreneurs	3.60	.976
Awareness campaign about entrepreneurship	3.57	.981
Attending seminars organized by colleges and deanships about entrepreneurial projects	3.67	.981
Attending exhibition for student entrepreneurs	3.83	1.001
Average	3.65	.858

3.8. University Activities

The results showed that the SQU students believe that the university activities highly influence the development of their entrepreneurship (3.65), and that they benefited more from attending exhibitions for student entrepreneurs (3.83), followed by attending seminars organized by colleges and deanships about entrepreneurial projects (3.67), attending training courses about entrepreneurship (3.66), and finally awareness campaigns about entrepreneurship (3.57).

Students' Views on Effectiveness and Entrepreneurial Skills Development by Gender.

Do students' views on the effectiveness of programs,

courses, academic staff, graduation and theses projects, and university activities on the development of their entrepreneurial skills differ due to their gender and college?

3.9. Gender

The results showed that there were no significant gender differences in SQU students' views about the influence of program courses, university activities, and graduation and theses projects on entrepreneurship development. However, male students reported a greater role of the influence of academic staff on the development of their entrepreneurship knowledge, attitudes, and skills than their female counterparts.

Table 9. T-test results for gender differences.

Dimension	Gender	Mean	Std	t	df	Sig. (2-tailed)
Benefit from program courses	Males	2.96	1.003	.565	303	.573
	Females	2.89	1.116	.579	268.306	
Benefit from lecturers	Males	3.17	1.00	2.514	303	.012
	Females	2.86	1.084	2.559	263.264	
Benefit from graduation and theses projects	Males	3.37	.969	.386	303	.700
	Females	3.33	1.074	.395	267.469	
Universities activities	Males	3.62	.897	.563	303	.574
	Females	3.67	.748	.541	216.036	

Table 10. Results of one-way anova for college benefit dimensions.

Dimension		Sum of Squares	df	Mean Square	F	Sig.
Benefit from program courses	Between groups	60.597	8	7.575	7.749	.000
	Within groups	289.354	296	.978		
	Total	349.951	304			
Benefit from lecturers	Between groups	37.639	8	4.705	4.551	.000
	Within groups	306.034	296	1.034		
	Total	343.673	304			
Benefit from graduation and theses projects	Between groups	41.775	8	5.222	5.463	.000
	Within groups	282.921	296	.956		
	Total	324.696	304			
Universities activities	Between groups	15.991	8	1.999	3.242	.001
	Within groups	182.528	296	.617		
	Total	198.519	304			

3.10. Colleges

The results revealed that there are significant differences in

students' views about the influence of program course, academic staff, graduation and theses projects, and university activities on development of their entrepreneurship due to

their colleges. Scheffe test indicated that students of the colleges of economics and political science believed more in the influence of these factors than students from other colleges (humanities and science).

4. Discussion

The findings indicate that the current entrepreneurship ecosystem at SQU moderately supports the development of entrepreneurship among students, but the majority of the students did not receive any course or attend activities, workshops, conferences, or symposiums related to entrepreneurship. Such results explain the urgent need to rethink about how increase such opportunities in order to ensure to raise students' entrepreneurship awareness. This can be done by introducing compulsory university courses which all students should attend, regardless of their colleges. Also, students need to be encouraged to attend and participate in events and activities related to entrepreneurship. The current study results are not promising, given that previous studies have demonstrated the manifest benefits of attending training courses, programs courses, seminars, conferences, and workshops, all of which are important sources to develop entrepreneurship knowledge, attitudes, and skills among students [55, 56].

The dearth of student exposure to entrepreneurship education negatively influenced their intention to start a business after graduation. The results indicated that students linked starting their own business with development of entrepreneurship awareness, finding a good opportunity to start a project, and linking it with not finding a job. These results could be due to students recognizing their self-perceived weakness in the field of entrepreneurship, which is why they link starting a business to issues concerning their confidence in their ability to do so. Also, students realize the importance of starting their business to increase their income. These results support the literature, which showed the importance of students' entrepreneurship knowledge, attitudes, and skills to enhance their motivation and confidence to start their own businesses [30, 34, 35].

Also, the results revealed that students' lack of entrepreneurship awareness was reflected in their views of obstacles that may face when they endeavor to start their own businesses. It can be noted that these obstacles are linked with their low level of awareness of entrepreneurship, such as a lack of ability to discover opportunities, fear of risk-taking, and lacking the ability to seek or access financial support. These skills should be developed through program courses and other events, and they need both theory and practice to enhance this aspect of students' resources. It worth noting that the obstacles highlighted by SQU students are also highlighted by the results of other studies conducted in other universities and countries [36, 37, 33]. According to [38], a lack of entrepreneurship knowledge and skills is one of the main barriers for students to start their own businesses. The equipment of entrepreneurship knowledge and skills is very important to enhance students' confidence and interest of

risk-taking, which are important factors to start new businesses [39, 40].

Despite the students not being well prepared as entrepreneurs, they have the intention to start their own business if they do not get a job opportunity. This result indicates that having one's own business is not a priority among them, because they do not feel confident that they are qualified to start a business, but they would consider resorting to this under the pressure of not find a job. This result also reflects that the students realize the shortage of job opportunities in Oman due to fundamental economic reasons, including the growing population of working-age people and the need to curtail over-employment in the state sector.

On the other hand, students also envisaged having their own business later on, after getting a job, to increase their income; thus they ideally view entrepreneurial activities as a complement to a steady, salaried professional role. This reflects that investment and fiscal systems in Oman encourage employees to have their own businesses alongside their job. These results are in line with those of previous studies [41-45].

The study outcomes also indicated that the students moderately benefited from their program courses, academic staff, and graduation and theses projects. These results could be due to these courses not being designed to develop their entrepreneurship skills *per se*, rather they seek to focus on their academic specializations. This raises attention for the need to rethink entrepreneurship education and to deliver it through dedicated independent courses, or integration within different existing courses. Effectively involving entrepreneurship in courses highly influences students' entrepreneurship [46, 47, 35].

On the other hand, the results showed that university activities highly influence the development of students' entrepreneurship. SQU realizes the shortage of covering entrepreneurship within program courses and tries to compensate this defect by providing different activities that focus on entrepreneurship. This could be in response to the huge pressure from society, market factors, academic research, the rapidly growing number of job seekers, and government policies all encouraging graduates to start their own businesses through providing them with all facilities and financial support; as the leading national university, SQU must be at the forefront of such efforts [27, 28].

Gender was found in general to have no significant effect on students' views about the role of SQU in developing their entrepreneurship, except in the domain of academic staff influence, which was perceived more strongly by male students than by their female counterparts, corroborating previous studies [48]. It also showed that students who are studying in college of economic and political science believe more than students from other colleges in the role of university in developing their entrepreneurship knowledge, attitudes, and skills. This could be due to economic and political science college programs having dedicated entrepreneurship courses.

5. Conclusion

As an entrepreneurship incubator, SQU is required to do more in order to prepare entrepreneurs in readiness for global trends and societal demands for graduate entrepreneurs in their specialist fields. SQU needs to ensure that their students are well aware of entrepreneurship [49] and have the ability to discover opportunity [50], and it needs to develop its programs courses, benefiting from other universities' experiences and responding to local market demand. This would enhance the level of entrepreneurship awareness among graduates [51, 15].

SQU needs to develop its program to keep up with global trends and changing economic prospects to ensure that their output has the desired contribution to the national economy [18, 2, 19, 3]. SQU programs need to enhance students' skills in management, innovation, risk-taking, feasibility studies, finding financial support, marketing, knowledge of regulation and environmental investment, and their intention to start their own business, instead of seeking a sinecure job after graduation [52, 53, 7, 8, 54]. SQU has all required potential (financial, human resources, and developed infrastructure) and strong support from the government and private sector, it merely needs to operationalize these latent resources to galvanize the entrepreneurial spirit of its students and graduates.

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