



Global University Entrepreneurial Spirit Students' Survey

STUDENT ENTREPRENEURSHIP AT THE UNIVERSITY OF AUCKLAND 2021

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Executive Summary

This report provides insight into students' entrepreneurial intentions and activities. It draws on the ninth wave of GUESSS data collected during 2020-2021, with more than 267,000 completed responses from university students across 58 countries. In November 2020, New Zealand participated in GUESSS for the second time, with 1,899 responses collected exclusively from the University of Auckland.

Career Intentions

- Most students prefer to start their careers as employees. Only 7% of University of Auckland respondents indicated that they would like to begin their careers as entrepreneurs, a figure substantially lower than the global average of 21.2%. Five years after graduation, the proportion of intentional entrepreneurs increased to 24.4%, but that is still below the global average (38.1%).
- A gender gap exists concerning entrepreneurial career intention. The level of interest in entrepreneurship among females was lower than for males, right after graduation (5.7% vs 8.8%) and five years later (20.4% vs 30.4%).
- Career intention is similar across fields of study at graduation but diverges considerably after five years. University of Auckland students studying in Creative Arts and Industries (CAI) and Business and Economics showed a stronger intention to become entrepreneurs than students enrolled in other faculties.

Contextual Effect of University

- About four out of every five students at the University of Auckland have not taken an entrepreneurship course so far, which is substantially higher than the global average (53.2%).
- Students who have attended at least one entrepreneurship course at the University of Auckland scored their entrepreneurial learning (4.7) higher than those in the global sample (4.0). There is no significant difference between genders in learning outcomes from the entrepreneurship courses at the University of Auckland.
- The average perception of University of Auckland students of the university's entrepreneurial climate (4.2) was slightly lower than the global average (4.7). Respondents who have taken an entrepreneurship course assessed the entrepreneurial environment at the University of Auckland more positively than those who have not taken an entrepreneurship course.
- University of Auckland students who have taken an entrepreneurship course showed a stronger aspiration to become entrepreneurs, a similar level of locus of control and a higher level of competence at performing entrepreneurial tasks than the global average.

Nascent Entrepreneurship

- 12.7% of University of Auckland students were nascent entrepreneurs—a proportion lower than the GUESSS average of 23.1%. Many of the respondents were at the early stages of business foundation, with only 9.1% having registered their business.
- Female undergraduates were more likely to be nascent entrepreneurs than male undergraduates, whereas the reverse was the case for postgraduates.
- One in three nascent entrepreneurs at the University of Auckland expect to found their business before graduating, while 27% think they will need two more years after graduation to do so. Overall, 37.6% think the planned business will be their primary occupation after graduation (versus 49.1% in the global sample).

Active Entrepreneurship

- Only 8.4% of University of Auckland students were active entrepreneurs, lower than the global average of 15.3%. Most of their businesses were young and small. Nearly half of active entrepreneurs at the University of Auckland had no co-founders.
- The active entrepreneurs at the University of Auckland were evenly spread by gender and level of study (i.e., undergraduate, postgraduate and PhD).

- 45.3% of active entrepreneurs were prepping to launch a new business and manage their existing business simultaneously (i.e., become serial entrepreneurs). 39.4% of these respondents wanted their existing business to become their main occupation after graduation. This rate was 28.2% for those solely focusing on their existing business.

The findings highlight some demographic differences between gender, study fields and levels that mirror international patterns. However, most entrepreneurial interest and activity measures are lower at the University of Auckland than in the global sample. The results show the positive impact of entrepreneurship education on students' orientation toward and preparedness to engage in entrepreneurship. The dramatic increase in those interested in an entrepreneurial career path five years after graduation suggests opportunities for continuing education and engagement with alumni who are thinking of transiting from employment to entrepreneurship.

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1 Introduction

Entrepreneurship is important to a thriving economy (Hafer, 2013; Urbano et al., 2019). The need for “more and better entrepreneurship” can be met by arming individuals with entrepreneurial skills and encouraging them to pursue an entrepreneurial career path (Hahn et al., 2019; Holienka et al., 2017). Thus, student entrepreneurship has emerged as an essential topic for universities and governments (Morris et al., 2017). The Global University Entrepreneurship Student Spirit Survey (GUESSS) is an ongoing multinational research project contributing to student entrepreneurship research since 2003. It is organised biennially by the Swiss Research Institute of Small Business and Entrepreneurship at the University of St. Gallen (KMU-HSG).

During its ninth wave (2020–2021) more than 2,900 universities across 58 countries participated, yielding over 267,000 completed responses. It was the second time New Zealand participated in this project, with data exclusively collected at the University of Auckland. In Semester 2, 2020, approximately 45,000 students enrolled in any academic courses at the University of Auckland received an invitation by email to complete the survey. After one follow-up reminder, a total of 1,899 responses were collected, representing a response rate of 4.2%. This dataset provides insights into University of Auckland students’ entrepreneurial intentions and activities, focusing on potential differences between demographic subgroups (e.g., gender, level, and field of study) and differences between students at the University of Auckland and those attending the other universities participating in GUESSS.

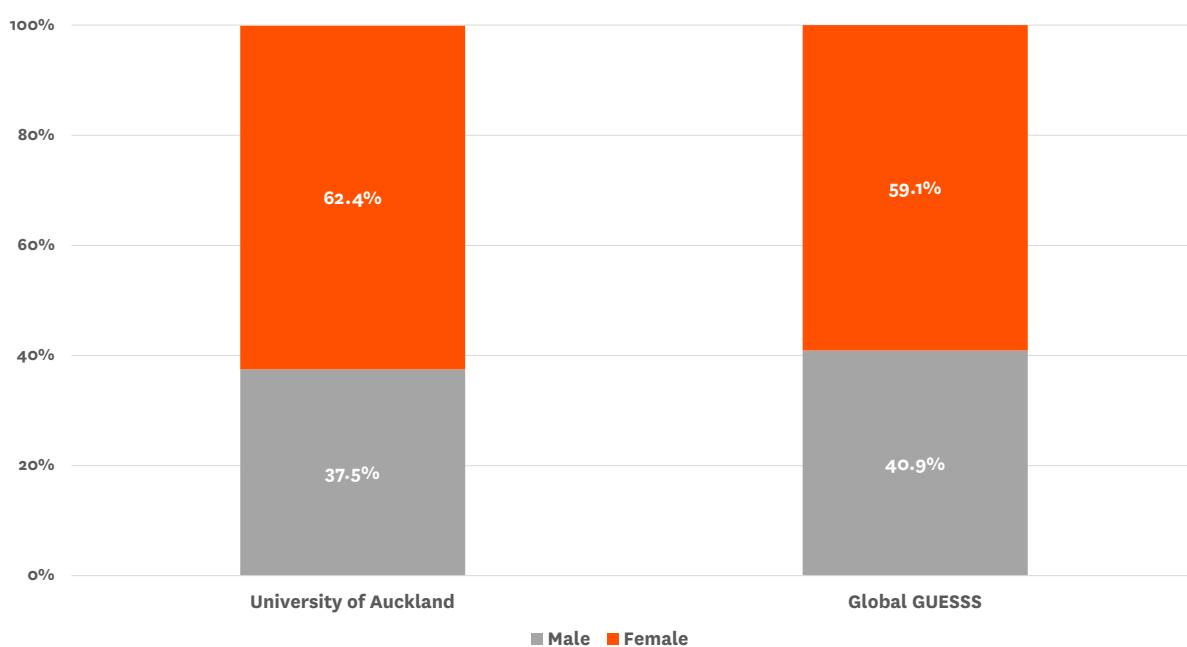
2 Sample Demographics

An email inviting participation in GUESSS was sent to approximately 45,000 students enrolled in any academic course at the University of Auckland during the second semester of 2020. With 1,899¹ completed questionnaires, the response rate was 4.2%. This section briefly compares the characteristics of the University of Auckland GUESSS sample (2020) with the university population (2020) and the global average (2021).²

2.1 Personal Characteristics

The mean age of the University of Auckland respondents is 24.7 years (median = 22 years), which is slightly older than the international GUESSS average of 22.8 years (median = 21 years). More than half of the University of Auckland sample (55%) is aged between 18 and 22. Figure 1 shows that the majority of University of Auckland respondents are female (62.4%).³ This gender imbalance appears to be more pronounced in the University of Auckland sample compared to the university population (57% are female) and the global sample (59.1% are female).

Figure 1 Gender Distribution across University of Auckland and International Samples



Nearly half of the University of Auckland respondents (46.7%) identify as New Zealanders, followed by Chinese⁴ at 17.6% and South Koreans at 6%. Fewer domestic students and more international students are present in the sample than the university population. Figure 2 shows the ethnicity of students in the University of Auckland sample. The two largest ethnic groups⁵ are Asian (46.6%) and Pākehā/European (37%). Other ethnic groups are MELAA (Middle Eastern, Latin American, and African), Māori, and Pacific Islander, comprising 11.6% of the sample. This pattern of ethnic distribution differs slightly from that of the university population, having, for example, more Māori and Pacific students and fewer Pākehā/European students.

¹ Three out of 1,902 cases were deleted because the respondents reported that they attend a university other than the University of Auckland. However, the GUESSS Global Report 2021 includes these three responses, as the global report focuses on countries rather than individual universities.

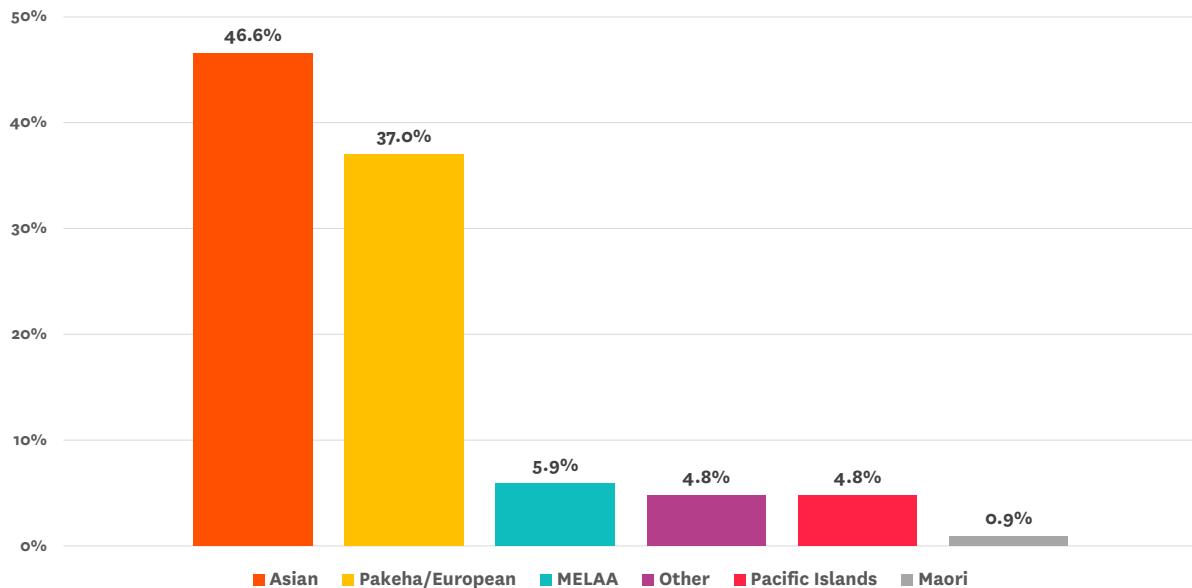
² Our comparison is made with the overall GUESSS (global) average obtained from 57 participant countries (excluding New Zealand).

³ For consistency with the Global GUESSS Report 2021, we only include two gender categories – male and female – throughout this report.

⁴ In addition to those coming from mainland China, students with citizenship in Hong Kong, Macao and Taiwan are all classified as Chinese in the New Zealand GUESSS study to ensure coherence with the classification used at the University of Auckland for administrative purposes.

⁵ The GUESSS survey allows respondents to select multiple ethnic identities. To create mutually exclusive categories, responses with multiple ethnic backgrounds were classified using the following hierarchy: Māori, Pacific Island, Asian, Other and Pākehā/European. For example, a student who selected both Māori and Asian backgrounds is classified as Māori.

Figure 2 Ethnic Distribution within the University of Auckland Sample



2.2 Level and Field of Study

Most University of Auckland respondents are undergraduate students (63.4%), followed by postgraduate (19.8%) and PhD (13.6%) students. The University of Auckland sample consists of fewer undergraduate students and more PhD students than the university population or the global GUESSS sample. Figure 3 shows that the proportions of female students are high in undergraduate (66.8%), postgraduate (56.6%) and other (62.7%) courses. Figure 4 shows that domestic students (56.6%) dominate undergraduate enrolment, but not postgraduate (31%) and PhD (20.6%) enrolments. These differences in the distribution of international students across study levels are statistically significant.

Figure 3 Distribution of Study Levels by Gender (University of Auckland)

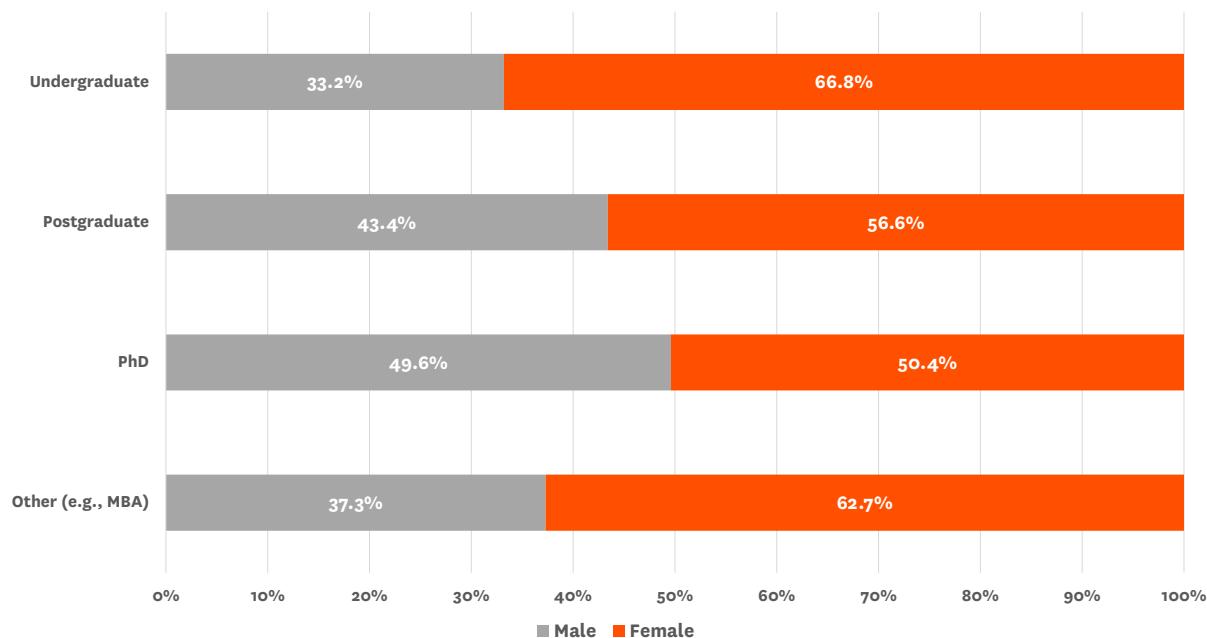
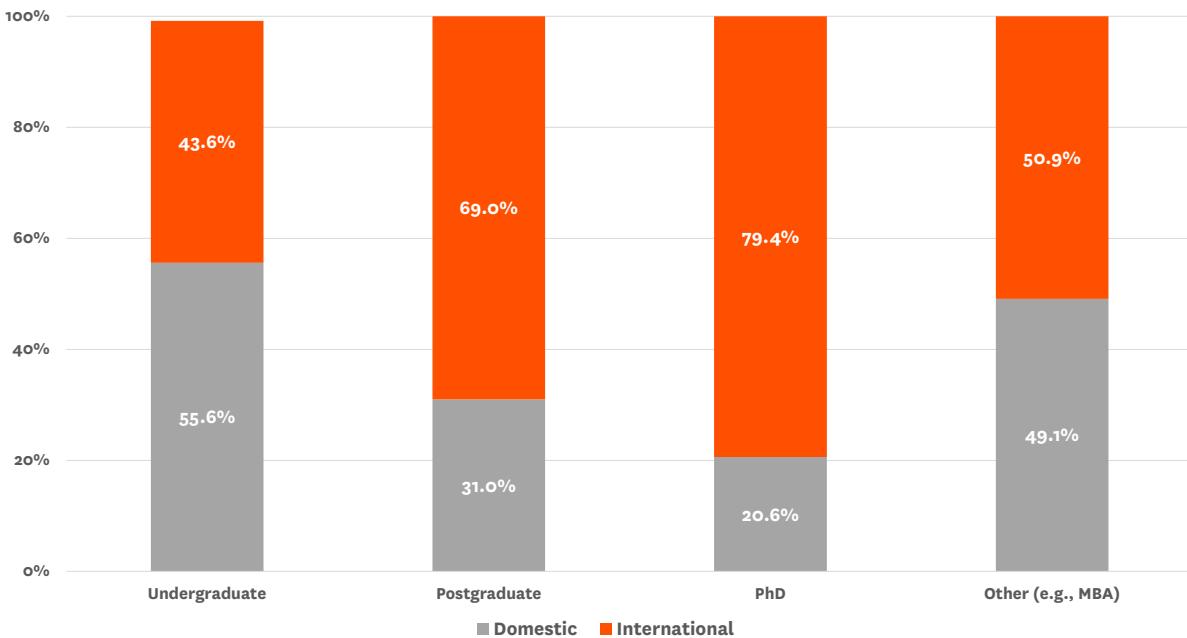
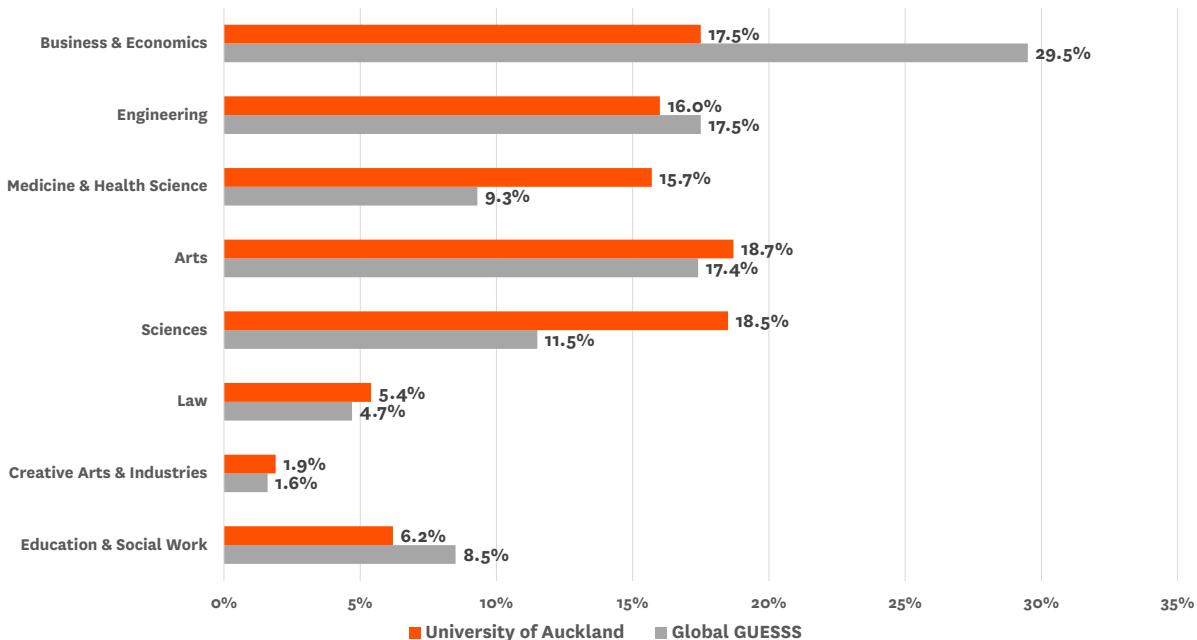


Figure 4 Distribution of Study Levels by Nationality (University of Auckland)



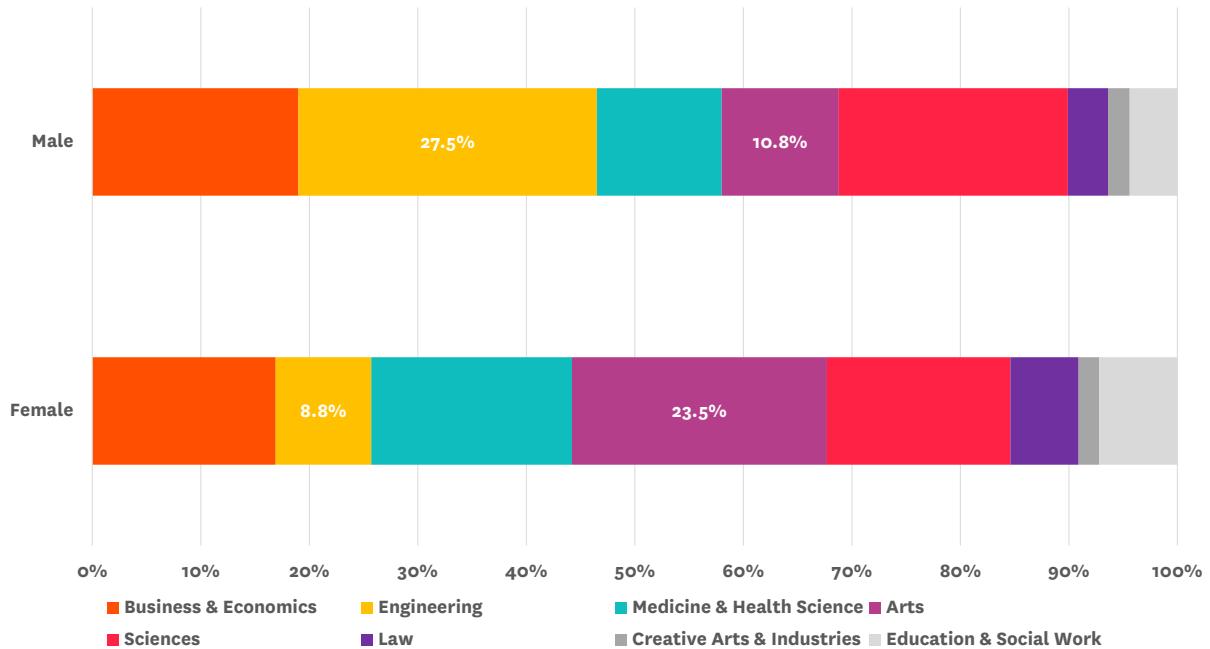
More than half of the University of Auckland respondents are studying arts (18.7%), sciences (18.5%) or business and economics (17.5%)⁶ (see Figure 5). Compared to the university population, the sample overrepresents students from the business and economics, engineering, and arts faculties while underrepresenting students from education and social work. This pattern of study fields also differs from that of the international sample, having fewer students from science and medicine and health science and more students from business and economics. University of Auckland respondents of different genders prefer different fields of study (see Figure 6). For example, engineering (27.5%) is the most popular choice among male students but is relatively less popular among female students (8.8%). The opposite pattern occurs for arts, in which 27.5% of the students are female and 10.8% male.

Figure 5 Distribution of Study Fields across the University of Auckland and International Samples



⁶ This report aggregates the 12 fields used by GUESSS into eight fields that correspond to the University of Auckland's faculty classification.

Figure 6 Distribution of Study Fields by Gender (University of Auckland)



3 Career Intentions

The main purpose of GUESSS is to understand the occupational preferences of university students, including their intention to found a business. This section analyses what career paths the students in the University of Auckland sample intend to pursue immediately after graduation and five years later.

3.1 General Overview

Table 1 summarises the career choice intentions of University of Auckland respondents immediately after graduation and five years later. Upon graduation, approximately seven in ten University of Auckland respondents (71%) want to start their careers as employees, with 24.6%, 15% and 7.8% intending to seek jobs in large, medium and small for-profit enterprises, respectively, and 12.8% intending to work in public service, 3% in non-profit organisations and 14.6% in academia. Of the remaining, 7% prefer to start their own business, and less than 1% plan to take over an existing business. Between 2018 and 2020, the share of University of Auckland students who want to work for for-profit enterprises immediately after graduation decreased, while the percentage of intentional entrepreneurs increased from 4.3% to 7%. However, this 7% is substantially lower than the global average of 21.2% who plan to create their own business straight after graduation.

Five years after graduation, the share of those seeking traditional career paths drops from 71% to 57%. Specifically, 16.8%, 9.3% and 2.9% wish to be employed in large, medium, and small enterprises, respectively, with a further 11.4% wanting to work in public service, 3.5% in non-profit organisations and 13.1% in academia. Being a founder is preferred by 24.4% and taking over an existing business by 2.1%. When comparing this pattern with 2018, the attractiveness of public service has grown. In contrast, interest in entrepreneurship has slightly decreased (from 26.7% to 24.4%). The share of University of Auckland students who see themselves as entrepreneurs five years after graduation is much lower than in the global sample (38.1%).

Table 1 Career Intentions of University of Auckland Respondents

	Right After Graduation		Five Years After	
	2018	2020	2018	2020
Employee in a small business (1–49 employees)	13.7%	7.8%	4.2%	2.9%
Employee in a medium-sized business (50–249 employees)	17.4%	15%	7.4%	9.3%
Employee in a large business (250 or more employees)	21.3%	24.6%	15.2%	16.8%
Employee in a non-profit organisation	3.3%	3%	5.2%	3.5%
Employee in academia (academic career path)	14.4%	14.6%	13.4%	13.1%
Employee in public service	12%	12.8%	8.4%	11.4%
Founder (entrepreneur) working in own business	4.3%	7%	26.7%	24.4%
Successor in parents' / family's business	0.4%	0.4%	1.3%	0.8%
Successor in a business currently not controlled by own family	0.8%	0.4%	2.5%	1.3%
Other / do not know yet	12.4%	17.4%	15.7%	16.6%
Observations	1,920	1,899	1,920	1,899

3.2 Changes in Career Intentions

Table 2 presents transitions between initial career intentions and those five years later for University of Auckland respondents. The ten original career options from Table 1 are aggregated into four categories: employee, entrepreneur, successor and other (which includes “do not know yet” responses). The table shows that students with an immediate intention to create a business have the most stable career intentions, with 80.3% still viewing themselves as entrepreneurs five years later. Five years later, 68.1% of those who initially wished to start their careers as employees expect to remain in that state, while 21.5% want to be entrepreneurs. Students who plan to take over an existing business

show the least stable career intentions. Five years after graduation, only 40% intend to stay in that business, while 20% anticipate starting their own business.

Table 2 Expected Career Transitions among University of Auckland Respondents over Five Years

Right after Graduation	Five Years Later				Total
	Employee	Entrepreneur	Successor	Other	
Employee	68.1%	21.5%	1.8%	8.7%	74.8% (N = 1,421)
Entrepreneur	12.1%	80.3%	3%	4.5%	7% (N = 132)
Successor	13.3%	20%	40%	26.7%	0.8% (N = 15)
Other	29%	14.5%	1.2%	55.3%	17.4% (N = 331)
Total	56.9% (N = 1,081)	24.4% (N = 463)	2.1% (N = 39)	16.6% (N = 316)	100% (N = 1,899)

3.3 Career Intentions by Gender

Table 3 compares the University of Auckland respondents' career intentions by gender. Overall, being an entrepreneur seems a less attractive occupational option to female students than to male students. The gender gap immediate after graduation is not large, with 8.8% of males and 5.7% of females seeing themselves as entrepreneurs. While the attractiveness of entrepreneurship increases among both genders five years later, the gender difference widens, with 30.4% of males and 20.4% of females wanting to create a business.

Table 3 Career Intention of University of Auckland Respondents by Gender

	Right After Graduation		Five Years Later	
	Male	Female	Male	Female
Employee	75%	75.2%	51.8%	60.7%
Entrepreneur	8.8%	5.7%	30.4%	20.4%
Successor	0.9%	0.8%	1%	2%
Other	15.3%	18.3%	15.9%	16.9%
Observations	705	1,172	705	1,172

3.4 Career Intentions by Study Fields

Figures 7 and 8 illustrate the career intentions of University of Auckland respondents by study field (faculty) immediately after and five years after graduation. Figure 7 shows the level of interest in employment is highest in every faculty immediately after graduation. However, students in science (67.3%), education and social work (62.7%) and CAI (50%) have relatively lower levels of interest in starting their career as employees compared to those in the other five faculties. Being an entrepreneur is not an attractive immediate career choice among students, but students from CAI show a relatively stronger intention towards starting their own business (25%). Taking over an existing business is the least favoured immediate career choice, with similar levels of interest across the faculties.

Figure 8 shows career intentions by faculty five years after graduation. Students in every faculty have a lower intention of being employed by an organisation, though it remains the most favoured career choice across all faculties. On average, students' intention to follow an entrepreneurial career path becomes stronger (independent of their faculty). Comparatively, students in CAI (36.1%), business and economics (36.1%) and engineering (31%) are more likely to consider starting a business than those in other faculties. The proportion of students considering taking over an existing business is very small in all faculties. The business and economics faculty has the largest proportion of intentional successors five years after graduation (4.2%).

Figure 7 Career Intentions of University of Auckland Respondents Immediately After Graduation by Study Fields

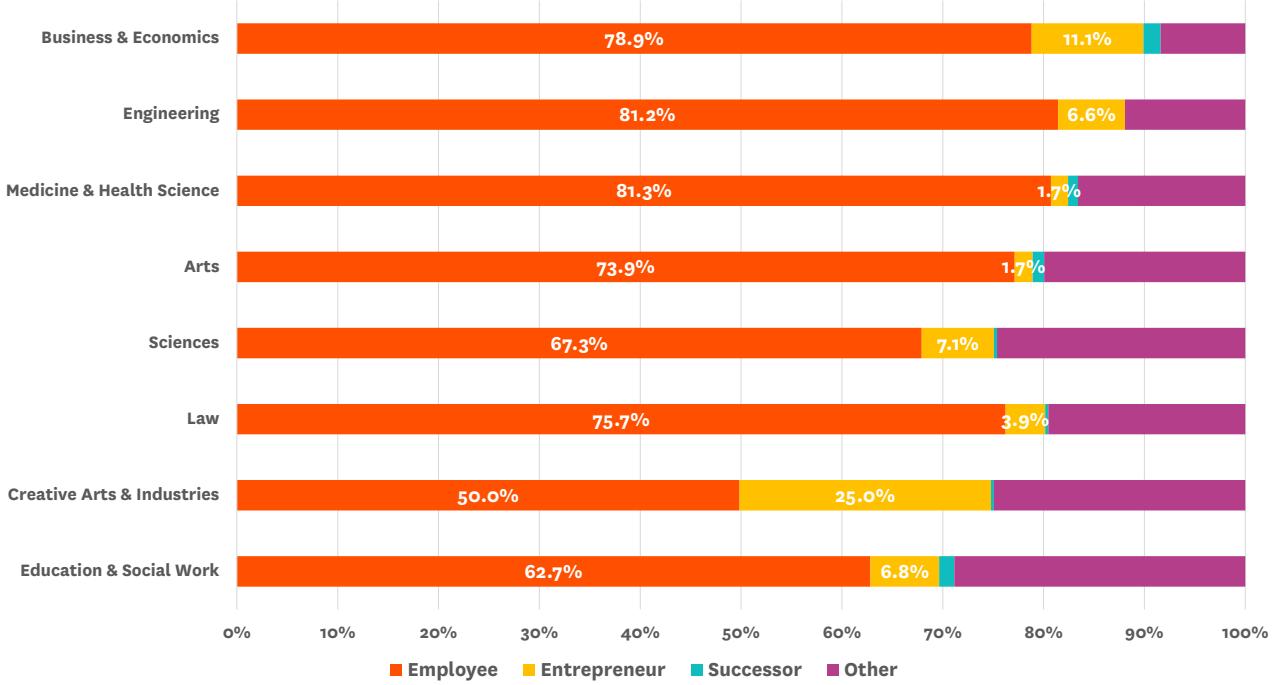
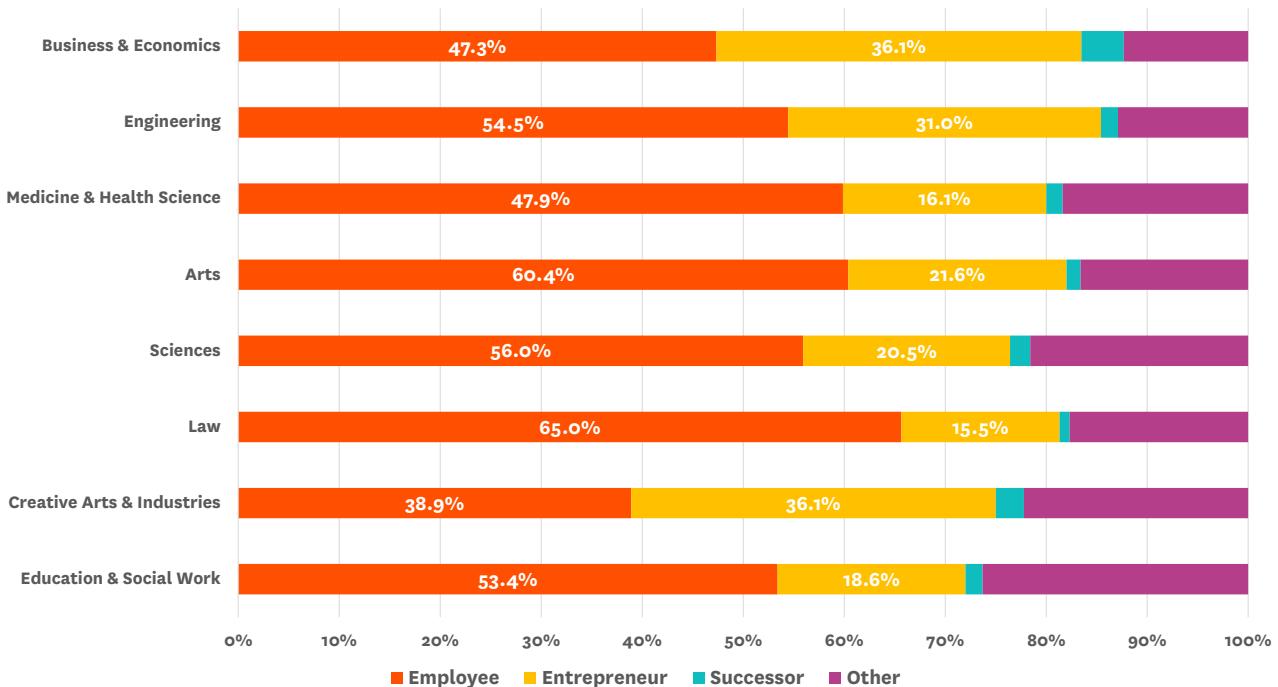


Figure 8 Career Intentions of University of Auckland Respondents Five Years Later by Study Fields



4 Students and Entrepreneurship

This section analyses university context and students' psychological characteristics as essential factors influencing their entrepreneurial intentions.

4.1 The University Context

The core premise of the GUESSS study is that the entrepreneurial intentions of students can be stimulated and developed through entrepreneurship education. Entrepreneurship education embraces "any pedagogical [programme] or process of education for entrepreneurial attitudes and skills" (Fayolle et al., 2006, p. 702). Figure 9 shows that University of Auckland students are less likely to have taken an entrepreneurship-related course than the global average. The share of University of Auckland students who have not taken an entrepreneurship course (79.1%) is 26 percentage points higher than the global sample.

Figure 9 Attendance of Entrepreneurship Offerings in University of Auckland and GUESSS samples

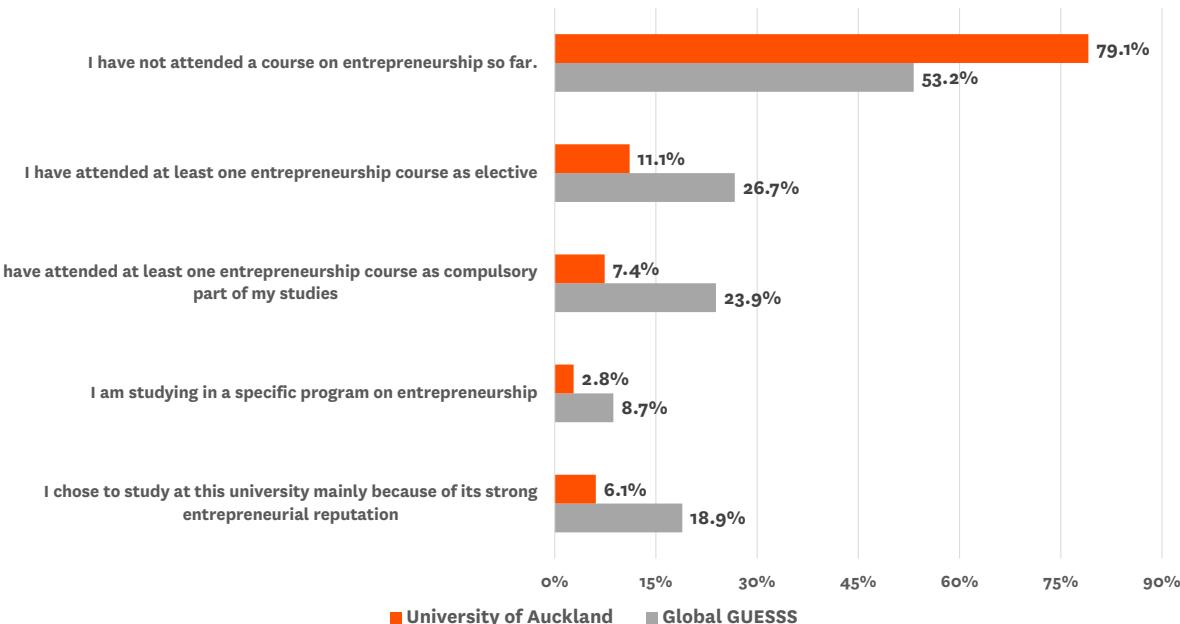


Table 4 compares the learning outcomes of respondents who stated that they had attended entrepreneurship courses between the University of Auckland and global samples. Students were asked to evaluate their learning on a seven-point scale. On average, University of Auckland respondents scored their entrepreneurial learning as moderate (ranging from 4.5 to 4.9). The scores were slightly higher than the global average for all five dimensions (ranging from 3.7 to 4.2). We further split the University of Auckland sample by gender and career intention (i.e., employee vs entrepreneur five years after graduation) to identify differences in the students' scores. Of the University of Auckland respondents who had taken entrepreneurship courses, males and females scored their entrepreneurial learning similarly and thus were not statistically different (all $p > .05$). On the other hand, University of Auckland respondents with entrepreneurial intentions five years after graduation scored slightly higher in their entrepreneurial learning from the courses than those who want to be employees. However, the differences between intentional entrepreneurs and intentional employees are statistically significant for only two items: "Increased my understanding of the attitudes, values and motivations of entrepreneurs" ($p = .035$), and "Enhanced my practical management skills to start a business" ($p = .004$).

Table 4 Students' Learning Outcomes from Entrepreneurship Education

	GUESSS Overall	University of Auckland				
		Overall	Male	Female	Int. Emp (5Y)	Int. Ent (5Y)
...increased my understanding of the attitudes, values and motivations of entrepreneurs	4.1	4.9	4.9	4.9	4.8	4.9*
...increased my understanding of the actions someone must take to start a business	3.8	4.6	4.6	4.5	4.4	4.5
...enhanced my practical management skills to start a business	3.7	4.5	4.6	4.4	4.4	4.9**
...enhanced my ability to develop networks	4.2	4.8	4.7	4.9	4.8	5
...enhanced my ability to identify an opportunity	4.1	4.9	4.7	5	4.8	5
Observations	78,150	387	178	207~209	224~225	70~71

Note. Scale: 1 = not at all; 7 = very much. * and ** refer to significance at the 5% and 1% levels, respectively.

The university's organizational culture can also influence students' entrepreneurial intentions (Bergmann et al., 2018). Table 5 examines the extent to which University of Auckland respondents think their university offers a favourable environment for entrepreneurship. In the survey, students were asked to evaluate three items on a seven-point scale. Looking first at the overall comparison between the University of Auckland and global samples, University of Auckland respondents assessed the university's entrepreneurial climate as moderate (ranging from 4.1 to 4.4). All University of Auckland assessments were slightly lower than the GUESSS average (ranging from 4.6 to 4.8). When comparing the University of Auckland means by whether the respondent had taken an entrepreneurship course or not, those who had taken at least one entrepreneurship course rated the entrepreneurial climate of University of Auckland more positively. However, the only statistically significant difference is for the item "At my university, students are encouraged to engage in entrepreneurial activities" ($p = .014$).

Table 5 Entrepreneurial Climate at the University of Auckland

	GUESSS Overall	University of Auckland		
		Overall	Non-EE Takers	EE Takers
The atmosphere at my university inspires me to develop ideas for new businesses	4.6	4.1	3.9	4.6
There is a favourable climate for becoming an entrepreneur at my university	4.6	4.2	4.1	4.7
At my university, students are encouraged to engage in entrepreneurial activities	4.8	4.4	4.3	5*
Observations	166,499	1,870	1,481~1,492	393

Note. Scale: 1 = not at all; 7 = very much. * refers to statistical significance at the 5% level.

EE = entrepreneurship education.

4.2 Psychological Characteristics

The literature suggests that students' psychological characteristics, such as attitudes, self-efficacy and locus of control, can also influence their intention towards entrepreneurship (Shirokova et al., 2016). Figure 10 compares the students' entrepreneurial attitudes between the University of Auckland and global samples using five items with a seven-point scale (1 = strongly disagree, 7 = strongly agree). Comparing the means, University of Auckland students have a weaker aspiration towards becoming entrepreneurs than do students in the global sample. The exception is the item "Being an entrepreneur implies more advantages than disadvantages to me" (University of Auckland = 5.1, global sample = 4.6).

However, when focusing on students who have taken an entrepreneurship course, the level of entrepreneurial aspiration among University of Auckland students is higher than the global average for all five items (see yellow and grey lines in Figure 10).

Figure 10 Assessment of Students' Attitudes towards Becoming an Entrepreneur

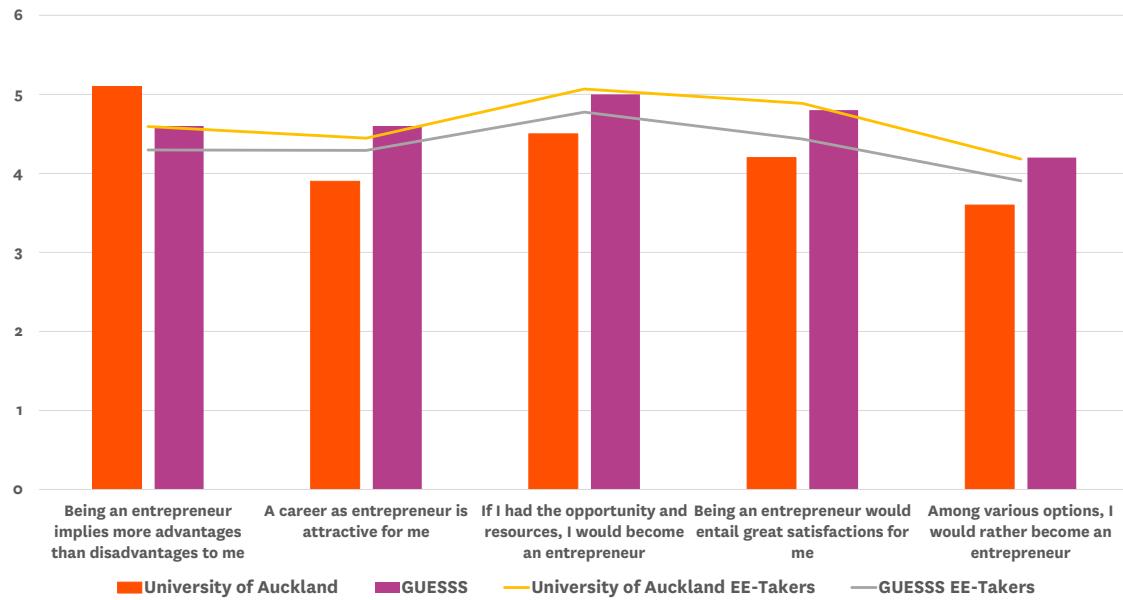
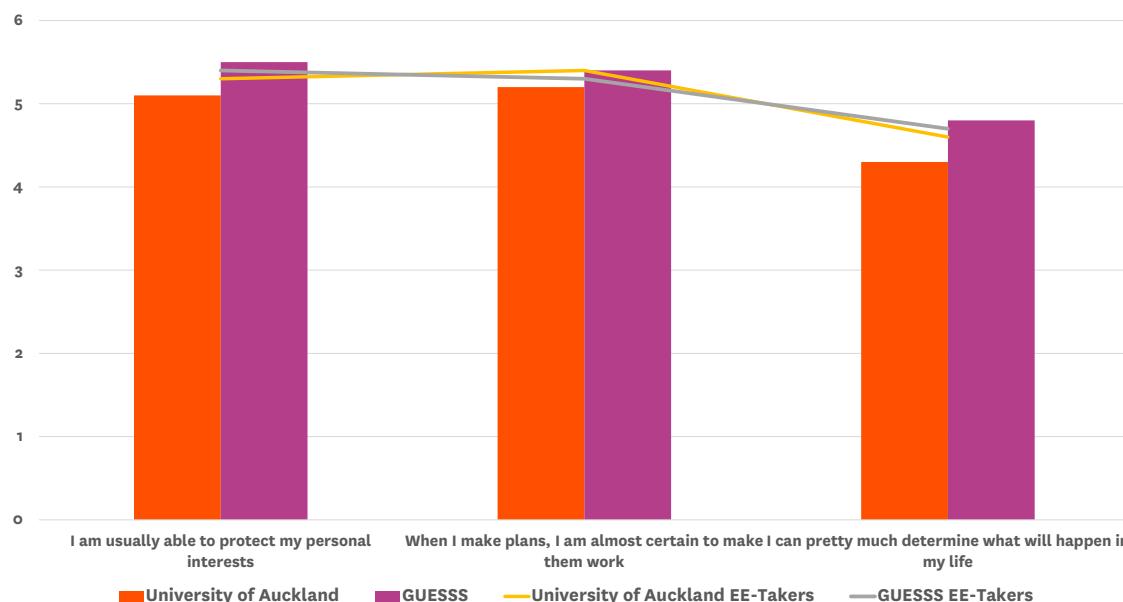


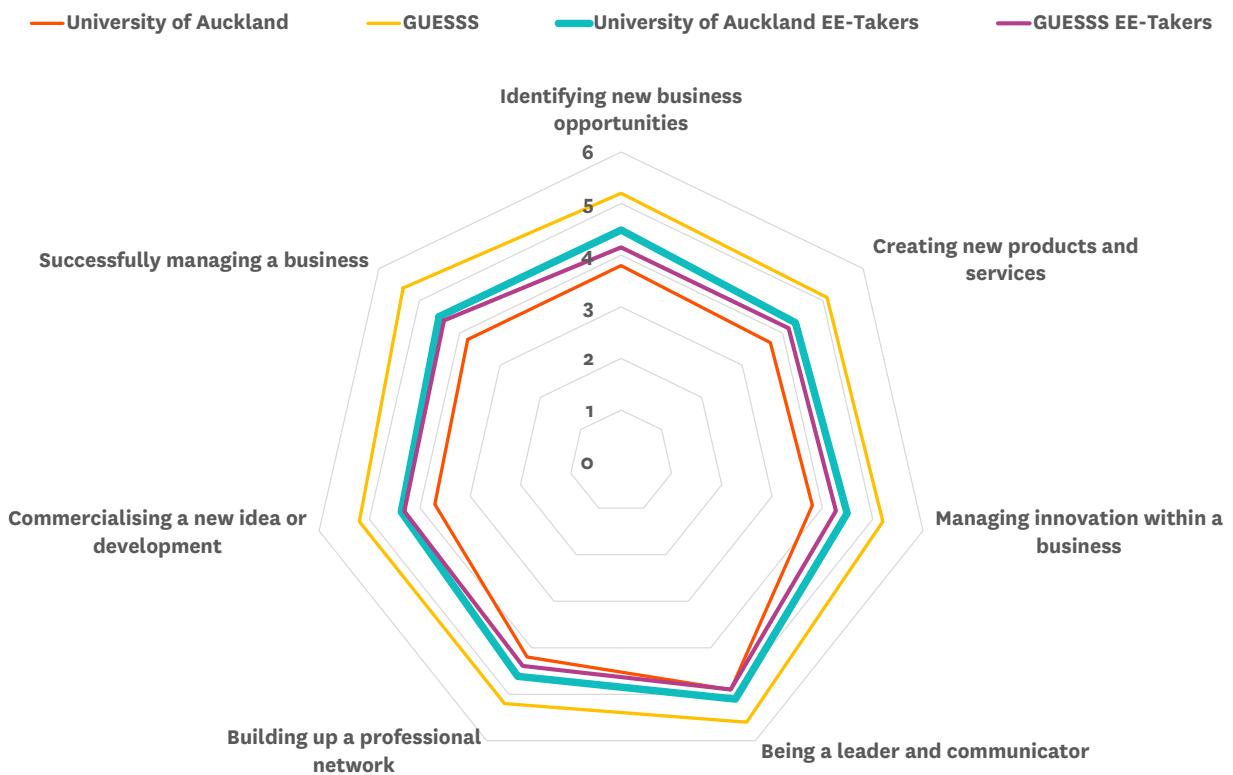
Figure 11 investigates how students in both samples perceive their ability to guide their lives (i.e., locus of control) using a seven-point scale. The mean ratings by University of Auckland respondents were slightly lower than those by international respondents. However, for students who have taken an entrepreneurship course, the means for all three items are similar. Finally, Figure 12 examines students' competence in performing seven entrepreneurial tasks using a measure that ranges from 1 (very low competence) to 7 (very high competence). The orange and yellow lines in the charts represent the mean scores of the University of Auckland and global samples. University of Auckland respondents scored substantially lower in their competence in performing every entrepreneurial task. However, for students who have taken an entrepreneurship course, the level of efficacy among University of Auckland students in performing entrepreneurial tasks (i.e. the green line in the charts) is slightly higher than the GUESSS average (the purple line in the charts).

Figure 11 Assessment of Students' Locus of Control



Note. Scale: 1 = strongly disagree; 7 = strongly agree.

Figure 12 Students' Perceived Level of Entrepreneurial Self-Efficacy



5 Nascent Entrepreneurs

This section focuses on the 12.7% of University of Auckland respondents ($n = 242$) who indicated they are currently trying to start their own business and become self-employed, i.e. nascent entrepreneurs. This is a much lower share than in the global sample, in which 23.1% of respondents are nascent entrepreneurs.

5.1 Characteristics of Nascent Entrepreneurs

The mean age of University of Auckland nascent entrepreneurs is 25.2 years (median = 23 years), reflecting that most (60%) are undergraduate students. Figure 13 splits the sample of University of Auckland nascent entrepreneurs by gender and level of study. The chart shows that female undergraduate students are more likely to be nascent entrepreneurs than are male undergraduate students. In contrast, female postgraduate students are less likely to be entrepreneurs than male postgraduate students. The differences in proportions of nascent entrepreneurship by gender and level of study are statistically significant ($p = .002$).

Figure 13 University of Auckland Nascent Entrepreneurs by Gender and Level of Study

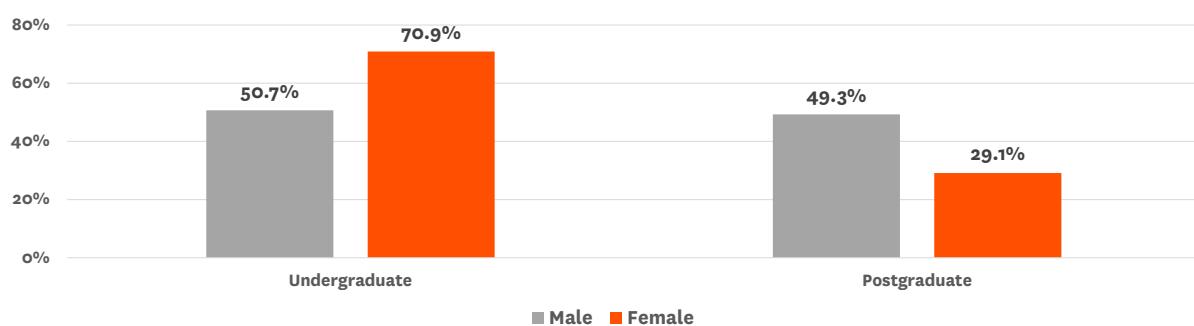
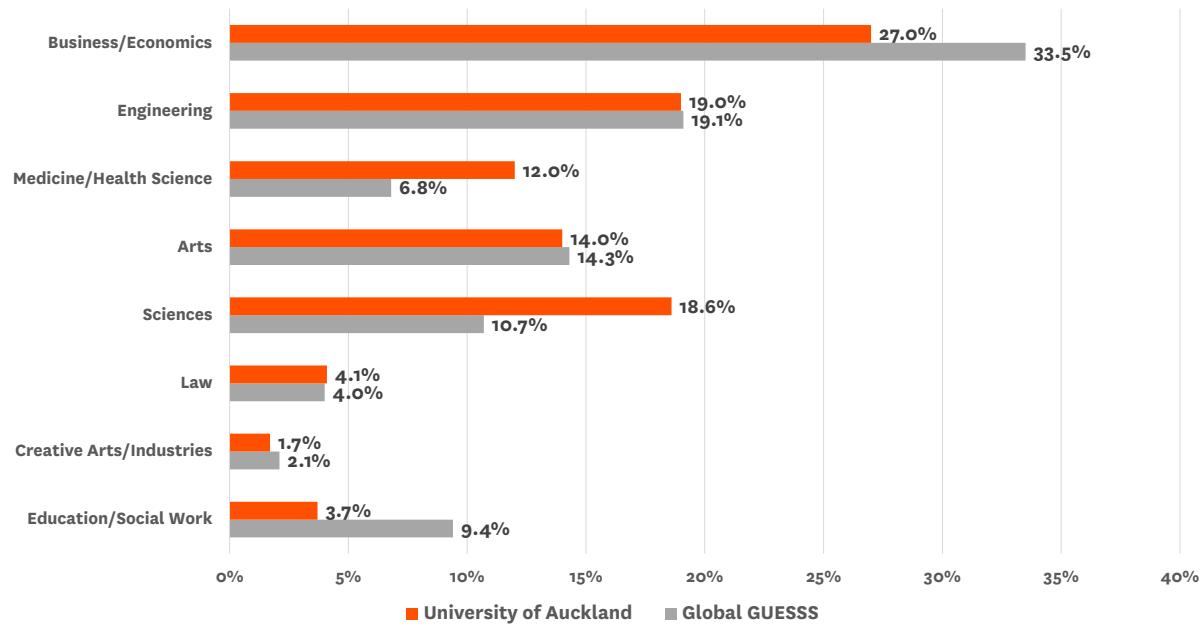


Figure 14 shows the distribution of nascent entrepreneurs by study field. Business and Economics (27%) and Engineering (19%) have the most nascent entrepreneurs. Almost two-thirds of University of Auckland nascent entrepreneurs (66%) are international students. This share is about 26 percentage points higher than the University of Auckland sample in 2018 (40%). In total, 37.6% of University of Auckland nascent entrepreneurs wanted to pursue the planned business as their primary occupation after graduation, while 24.8% expressed their intention to continue on a part-time basis. Compared to the global average (49.1%), University of Auckland nascent entrepreneurs are less inclined to want to continue their business after graduation.

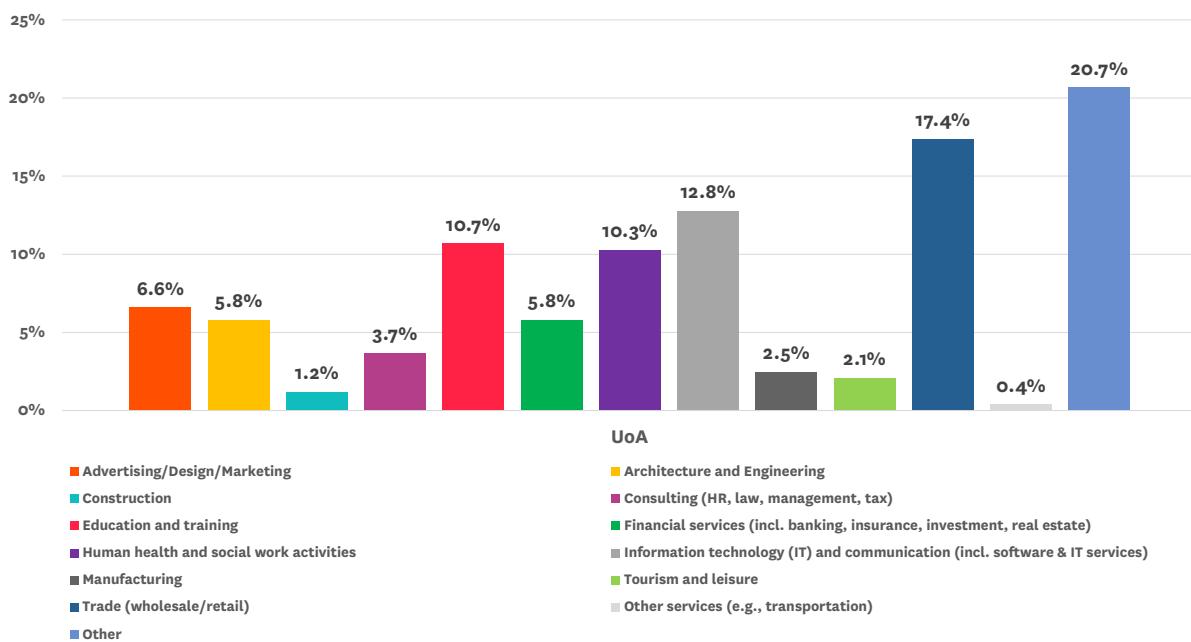
Figure 14 Nascent Entrepreneurs by Study Field



5.2 Characteristics of the Planned Businesses

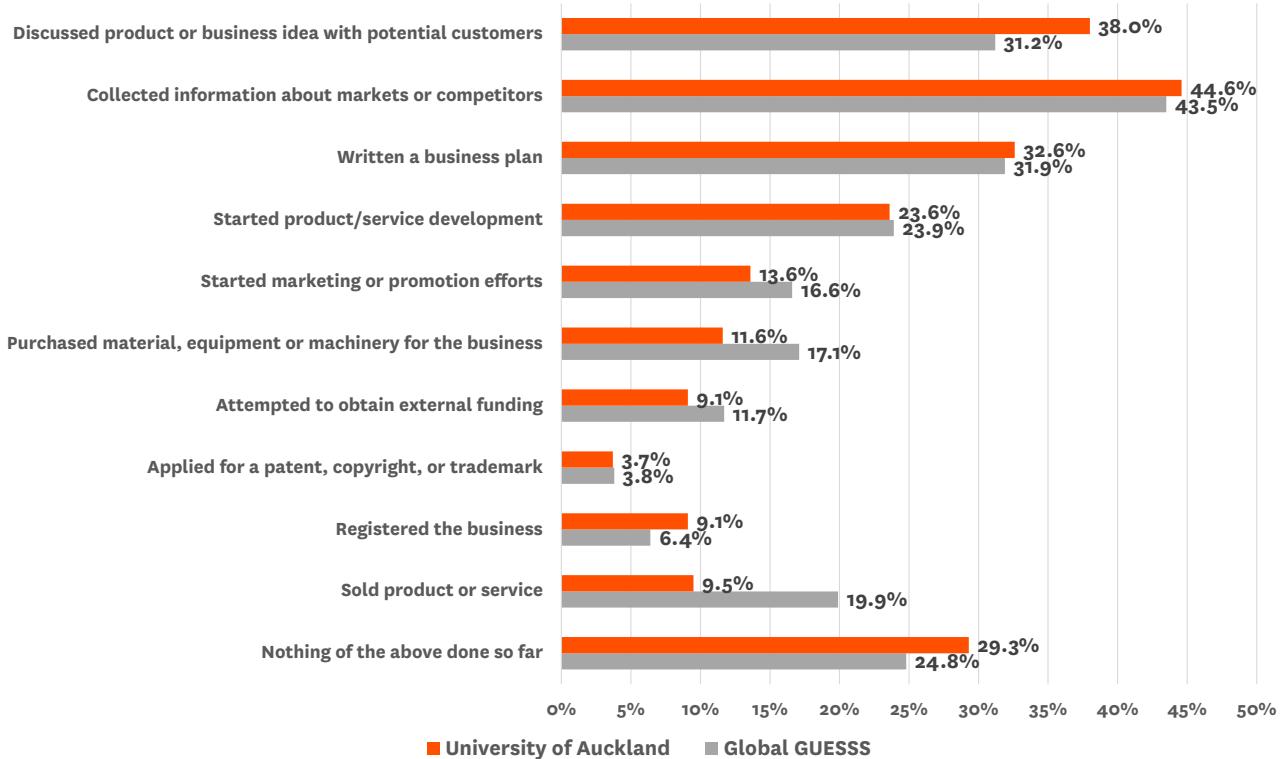
When asked when they would complete the founding process, 34% anticipated their venture would be founded during their university studies. In comparison, 27% thought it would happen within two years after completing their university studies. More than two-thirds (68%) of University of Auckland nascent entrepreneurs reported that the emergence of their start-up is independent of any affiliation with the university. When asked if their plan to create a business is largely due to the implications of the COVID-19 pandemic, 81.4% of nascent entrepreneurs in the University of Auckland sample responded no, which is 6.6 percentage points higher than the global average. The most popular industries to enter among the University of Auckland nascent entrepreneurs were: Other (20.7%), Trade (17.4%) and Information Technology and Communication (12.8%) (see Figure 15). This pattern is like that in the global sample.

Figure 15 Nascent Entrepreneurship by Industry (University of Auckland)



Nearly half of University of Auckland nascent entrepreneurs (48.3%) reported that they plan to start the business alone, 25.8% with one co-founder and 25% with two or more co-founders. The share of nascent entrepreneurs without a co-founder is higher in the University of Auckland sample than in the global sample. Figure 16 summarises what gestation activities nascent entrepreneurs have carried out. Many of the University of Auckland nascent entrepreneurs have already collected information about markets and competitors (44.6%), discussed product or business ideas with potential customers (38%) and written a business plan (32.6%). In contrast, only 9.1% have registered the business. Almost twice as many respondents in the global sample already have sales.

Figure 16 Distribution of the Already Carried Out Gestation Activities by Nascent Entrepreneurs



6 Active Entrepreneurs

This section focuses on the 8.4% of University of Auckland respondents who reported they are already running their own business (i.e., active entrepreneurs). This share is lower than in the international sample (15.3%).

6.1 Characteristics of Active Entrepreneurs

The mean age of University of Auckland active entrepreneurs is 28.8 years (median = 26.5 years), reflecting that 51.6% are undergraduate students. Figure 17 shows that active entrepreneurs of both genders account similarly for undergraduate and postgraduate numbers at the University of Auckland, with no statistical difference ($p>.05$).

Figure 17 Active Entrepreneurs by Gender and Level of Study (University of Auckland)

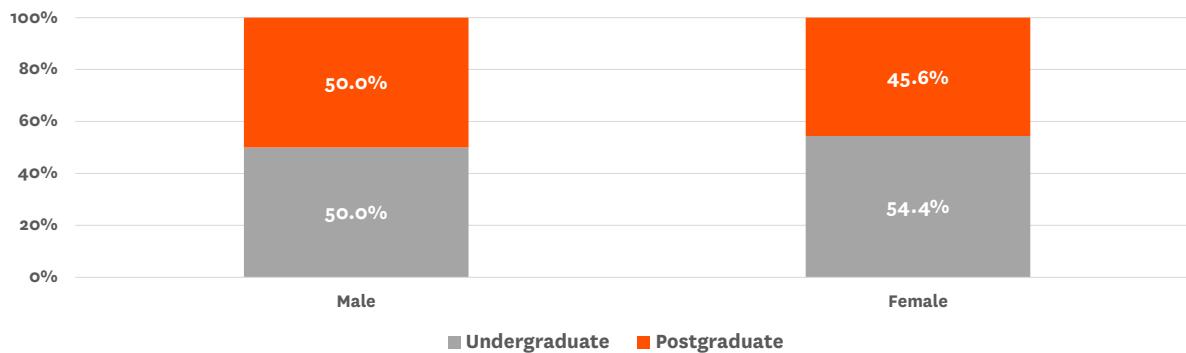


Figure 18 compares the distribution of active entrepreneurship levels across fields of study in the University of Auckland and global samples. Nearly half of University of Auckland active entrepreneurs indicated that they are in Arts (23.9%) or Business and Economics (22.6%). This pattern differs from the global sample, where more active entrepreneurs come from Business and Economics (37.4%) and Engineering (16.6%). Slightly more than half (52%) of active entrepreneurs at the University of Auckland were international students.

Of the active entrepreneurs in the University of Auckland sample, 45.3% planned to start another new business (i.e., become serial entrepreneurs). This share is substantially lower than in the global sample (81.7%). Figure 19 splits the University of Auckland active entrepreneurs into non-serial and serial categories and compares their intention to pursue the existing business as their primary occupation after graduation. In total, 64.7% of active and non-serial entrepreneurs thought they would run their existing business part-time after graduating, while 16.5% planned to do so full-time. The remaining 18.8% expressed uncertainty (“do not know yet”). The differences in the responses between the non-serial and serial groups are statistically significant ($p<.001$).

Figure 18 Active Entrepreneurs by Study Field

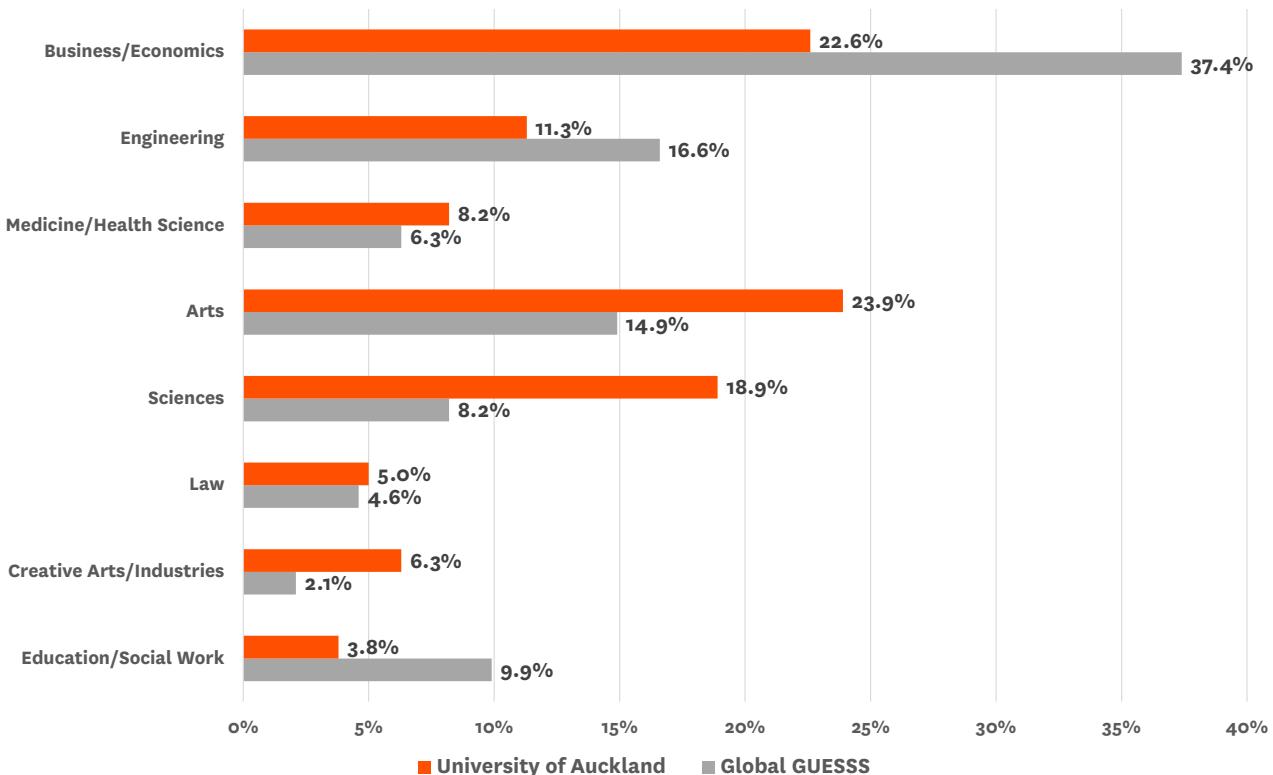
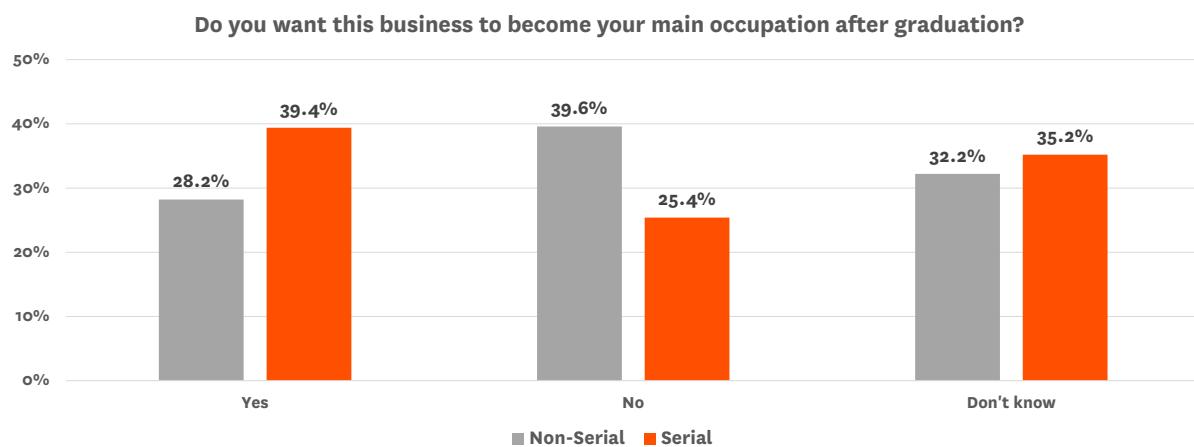


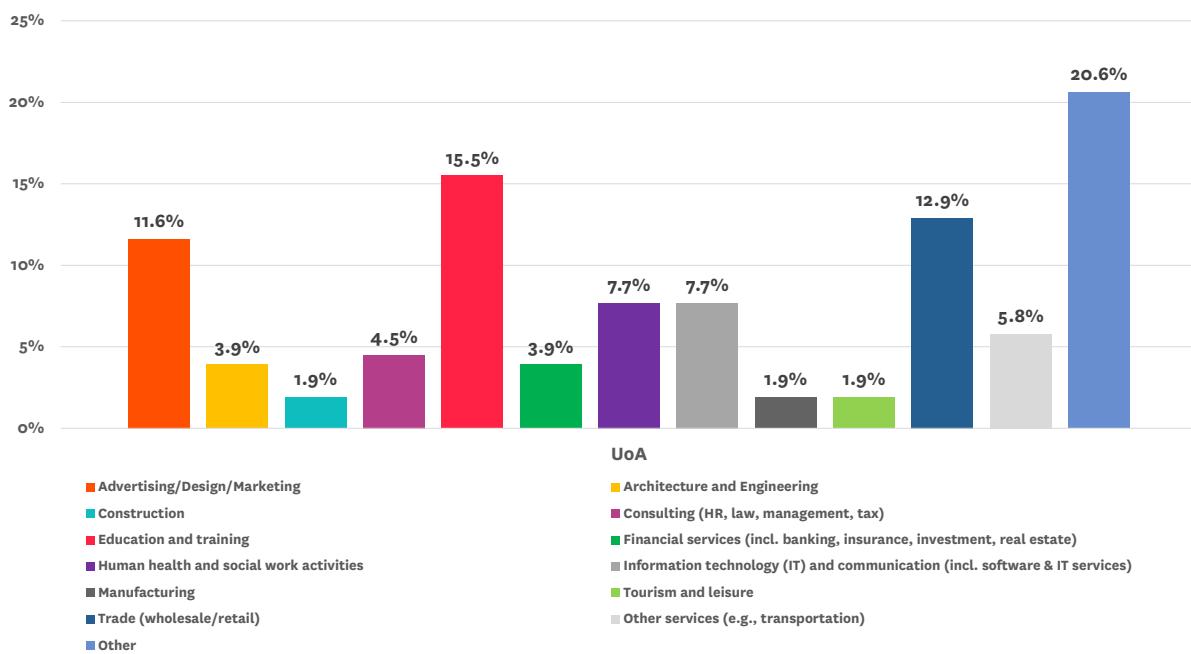
Figure 19 Active Entrepreneurs' Decision for Main Occupation after Graduation by Serial Entrepreneurship (University of Auckland)



6.2 Characteristics of the Existing businesses

More than half (53.3%) of active entrepreneurs in the University of Auckland sample established their businesses within the last three years. One-third of the companies had no employees. When asked whether the implications of the COVID-19 pandemic was the primary reason for their business creation, 87% of the University of Auckland active entrepreneurs answered no. This was substantially higher than the global average (63%). Most University of Auckland active entrepreneurs were operating in the Other (20.6%), Trade (12.9%) and Education and Training (15.5%) industries (see Figure 20). This pattern differs from the international sample, which had higher proportions in the Trade and the Education and Training sectors.

Figure 20 Active Entrepreneurship by Industry



Slightly less than half of the University of Auckland active entrepreneurs (48.4%) identified themselves as solopreneurs, with 31.6% and 20% having one and two or more co-founders, respectively. This pattern of working with co-founders differs from the global sample, which has fewer solopreneurs and more with two or more co-founders. Table 7 investigates how active entrepreneurs rate their business performance compared to their competitors using a scale that ranges from 1 (much worse) to 7 (much better). The first two columns show that, on average, University of Auckland active entrepreneurs scored their business performance lower than those in the global sample. The last two columns compare solo and serial entrepreneurs. The results indicate that those preparing for a new business (i.e., serial entrepreneurs) are more likely to positively assess their existing business's performance than their non-serial counterparts. However, the differences are not statistically significant (all $p>.05$).

Table 7 Perceived Performance of the Business

	GUESS Overall	University of Auckland Active Entrepreneurship		
		Overall	Non-Serial	Serial
Sales growth	4.8	4.1	4	4.3
Market share growth	4.6	3.9	3.6	4.3
Profit growth	4.8	4.1	3.9	4.4
Job creation	4	3.2	2.9	3.6
Innovativeness	5	4.4	4.1	4.8
Observations	20,504	151	82–83	69

7 Conclusions

The New Zealand GUESSS report compiles the results of 1,899 responses from students across all faculties and academic programmes at the University of Auckland, a figure representing 4.2% of the University of Auckland student body. The report compares the responses of University of Auckland students with the global sample of students from more than 2,900 universities in 57 countries.

The entrepreneurship career intention among University of Auckland students is below the global average. Only 7% of respondents preferred to start their career as an entrepreneur at the time of graduation, compared to the global average of 21.2%. 24.4% considered working in their own business as a founder five years after graduation, compared to 38.1% for the global sample.

The shares of nascent (12.7%) and active (8.4%) entrepreneurs at the University of Auckland were larger than those of students whose immediate career intention lies in entrepreneurship (7%). A reason is that many do not see their business becoming their main occupation after graduation (37.6% for nascent entrepreneurs and 23.7% for active entrepreneurs).

Most University of Auckland students (79.1%) have not yet taken an entrepreneurship course at the university compared with 53.2% in the global sample. Their overall assessment of the university's entrepreneurial climate was also lower than the global average. However, students who have taken an entrepreneurship course evaluate their entrepreneurial learning outcomes higher than those in the global sample. This may highlight the effectiveness of entrepreneurship education at the University of Auckland. Those who have taken an entrepreneurship course report, on average, a stronger aspiration to become an entrepreneur, a similar level of locus of control, and higher competence at performing entrepreneurial tasks than do their international peers.

The findings point to some demographic differences between gender, study fields and levels that mirror international patterns. The results also indicate a potential advantage of entrepreneurship education, as it may stimulate a positive psychological stance toward entrepreneurship. The dramatic increase in interest in the entrepreneurial career path five years after graduation suggests opportunities for continuing education and engagement with alumni who are thinking of transitioning from employment to entrepreneurship.

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