

# Entrepreneurial Intention of first year BUas students

Academic year 2023-2024



DISCOVER YOUR WORLD

# Preface

Entrepreneurship is an essential driver of societal health and wealth. It is also a formidable engine of economic growth. It promotes the essential innovation required not only to exploit new opportunities, promote productivity and create employment, but to also address some of society's greatest challenges, such as the United Nations Sustainable Development Goals (SDGs) or shocks from different global events.

Governments and other stakeholders increasingly need hard, robust and credible data to make key decisions that stimulate sustainable forms of entrepreneurship and promote healthy entrepreneurial ecosystems worldwide. To capture a complete picture of an entrepreneurial ecosystem, it is important to go beyond official statistics, like the number of registered businesses. Stakeholders need to understand on the ground perceptions about entrepreneurship (GEM (Global Entrepreneurship Monitor), 2023).

At Breda University of Applied Sciences (BUAs), a lot of attention is paid to entrepreneurship. Both entrepreneurship and an entrepreneurial attitude are part of the central educational vision of BUAs and part of our DNA.

Entrepreneurship remains an important pillar of Dutch society and there are government funded initiatives at national and regional level to promote and stimulate entrepreneurship. In higher education, entrepreneurship is also an integral part of the curriculum. This development has stimulated the curiosity of researcher Adriaan van Liempt and coordinator of Entrepreneurship Education Tijs van Es about the status of entrepreneurial intention within the ranks of BUAs.

This research provides the organisation an insight into the entrepreneurial intention of our students within BUAs and can follow this development over the years. This research has provided valuable insights that will be used to continually improve entrepreneurship education and support students with entrepreneurial intention.



Tijs van Es

A handwritten signature in blue ink, appearing to read 'Tijs van Es', with a stylized flourish underneath.

Coordinator Entrepreneurship Education  
Breda University of applied sciences

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# Summary

This study aims to answer two questions related to first-year BUAs students' interest in starting/owning a business and whether this interest within this group has changed over time. Both questions are answered by looking at figures extracted from the BUAs database. What we observe is a growth in positive entrepreneurial intention over the years. Whilst this growth was moderate in the first years, this year has shown a more significant increase compared to earlier periods.

## *Entrepreneurial intention of first-year BUAs students in academic year 2023-2024*

Across BUAs, 23.0% of the first-year students say they are interested in starting a business. 3.1% have already started a business next to their studies. 15.1% intends to start a business after their studies, and 4.8% are thinking of starting a business during their studies.

Over time, we have seen erratic increases in both relative and absolute positive intention figures. The period 2023-2024 again presented a growth spurt, with a 43% growth rate in positive entrepreneurial intention among first-year students. The highest growth rate we had experienced so far occurred in 2021 (20%), which was about half of what we see today. Even when we exclude the relatively new and rapidly growing Applied Data Science & Artificial Intelligence academy from today's figures, we still see a considerable growth rate of approximately 33%. This means that over the past five years, we've experience an average annual growth rate of 13.1%, which is relevant.

First-year BUAs students exhibit varying levels of entrepreneurial intention across different domains, with notable shifts in interest from Leisure & Events, Hotel, and Media towards Hotel, Games, and Applied Data Science & AI in the 2023-2024 period. Additionally, there are significant differences among first-year students who are already entrepreneurs. Media students lead in the number of students who have already started a business, indicating diverse entrepreneurial tendencies within the different BUAs domains.

Despite a slight decrease in the overall representation of first-year female students from 2018 to 2023, there's a noticeable trend of them increasingly matching or even surpassing male students in entrepreneurial intentions. The gap in intent to start a business during their studies in 2023-2024, however, first-year female students are much less inclined to start a business during their studies, according to their intentions.

First-year international students at BUAs show a higher propensity for entrepreneurial intention compared to their Dutch counterparts. This trend has likely contributed to an overall rise in such intentions as the international student population has grown from 2018-2019 to 2023-2024. While both Dutch and non-Dutch students exhibit increased entrepreneurial intentions over time, international students, particularly in the Hotel and Facility domains, are notably more inclined towards starting a business during or after their studies, driving up the overall positive entrepreneurial intentions at BUAs.

# 1 Entrepreneurial intention among BUas students

In the 2018-2019 academic year, a project was launched to monitor the interest in entrepreneurship among students of Breda University of Applied Sciences (BUas for short) (van Liempt & van Es, 2019, 2020, 2021, 2022, 2023). Similar studies have already been carried out at Saxion since 2009 and at Avans since 2016 (cf. Rovers, 2016).

These studies, like ours, all start with the same basic question: “Do you plan to start your own business?”. A simple question designed to monitor students’ interest and intention in starting their own business. One of the main reasons for monitoring students’ entrepreneurial intention is to get a clearer picture of our students as a whole. As educational institutions, we tend to focus on preparing people for the world of work, to become employees, without assuming that students might want to be employed themselves, or even become employers. Or, as Borbye (2010) suggests, to get out of our own comfort zones and adapt the way we teach more to students’ aspirations, interests and abilities.

This is now the sixth year of data collection. Unfortunately, this year we were not able to collect data for our entire study population. Only new BUas enrollers would get to see the relevant question this year, which means we do not have data for those that have re-enrolled. Therefore in this report, this year we will solely focus on comparing first time enrollers. The main findings from the previous years can be summarized as follows: overall, around 16 per cent of students plan to start a business during or after their studies, or have already started a business. This percentage varies between the different BUas domains where Media, Hotel, and Leisure & Events are using leading in terms of entrepreneurial ambitions. Sex and nationality also influence the results. Students that are registered as males tend to have greater entrepreneurial intentions than females. Similarly, international students are more inclined to have entrepreneurial intentions than national students.

The overall aim of these studies is to gather insights in order to support the goals and intention of both students and entrepreneurship education at BUas. The data used in this publication was collected in November over a period of several years starting in 2018. This report itself covers the study year 2023-2024. Again we will focus on cohorts, but this year we are limited to a comparison of solely first year enrollers of the various cohorts for which we have data so far. Our last year report, van Liempt and van Es (2023), provides many details about the cohorts of 2018 and 2019 throughout their student careers at BUas.

Despite the repeated data collection over the years, the report itself remains limited to an analysis of the quantitative data available at the time of registration. It is a cross sectional description of the situation at one point in time in November 2023.

## 2 Methodology

This year this study aims to answer the following research questions:

1. To what extent are first year BUAs students interested in becoming entrepreneurs?
2. How has this interest developed in first year students since we started collecting data?

The question asked of students has been used in other studies and was copied from Rovers (2016), which in turn has used the question from a comparable study by Saxion, to which Rovers (2016) refers. Using the same question allows us to compare the results of these different reports. The question used in these studies is worded as follows: "Do you intend to start your own business?". The following response categories were available to students in both Dutch and English:

- > No.
- > Maybe.
- > Yes, after my studies.
- > Yes, during my studies.
- > Yes, I have already started my own business.

### 2.1 Data analysis

Data on all students that were enrolled and active in November 2023 were imported from the BUAs central student management system. The data was cleaned in R (R Core Team, 2023) in the R-studio environment (RStudio Team, 2023). The following packages were used to clean and report the data: 'haven' by Wickham and Miller (2021) to import SPSS datasets, 'readxl' by Wickham and Bryan (2019) to import Excel datasets, and 'writexl' to export Excel datasets (Ooms, 2021), 'psych' for data manipulations (Revelle, 2021); 'lubridate' for date calculations (Grolemund & Wickham, 2011); and, finally, 'summarytools' for descriptive purposes (Comtois, 2021).

The analyses are exclusively descriptive in nature (frequencies and percentages). The techniques used include frequency tables and cross tables. In most cases, these tables were exported to Excel 365, where they were processed into tables and figures that could be used in this report.

#### 2.1.1 Data

The analyses reported on in this study included data from 2,248 students enrolled at BUAs in November 2023. In some cases, such as the cohort analyses, data from different academic years were used: 2018-2019 (N=7,049), 2019-2020 (N=7,060), 2020-2021 (N=7,159), 2021-2022 (N=6,848), and 2022-2023 (N=6,823). These data only include students who were enrolled in November of the year in question.

#### 2.1.2 Ethical and inclusive considerations

When students register, they are told that their information may be used for study purposes to improve education. The main purpose of this study is to gain a better insight into student development and, for example, some of the results of previous studies have been used to improve understanding of study delay. Ultimately, BUAs wants to provide students with the best study experience and we believe that understanding students' entrepreneurial intention is part of that. None of the results can be traced back to individual students and where this has been possible, information has been removed from both the data and the report.

We would have preferred using the term gender rather than sex in this report. Where gender refers to emotional and relationship-based preferences. Sex refers to a person's primary and secondary sexual characteristics at birth. As we are confined to identify a person based on what is written in their passport, we cannot do credit to the term gender and hence will use the term 'sex' in this study. This pragmatic choice may influence some of the results. It is for instance possible that in some study programmes the 'gender nonconforming' group is likely to be bigger than the (North-American) population's 0.1% - 2.7% range reported in Goodman et al. (2019).



## 3 Results

The following sections discuss both the overall response and the response to the main research question “Are you planning to start your own business?”. An attempt will be made to make comparisons with previous years and, where possible, to discuss trends. Finally, students’ intention to start their own business will be analysed in relation to their domain (field of study), sex, and nationality.

### 3.1 Response

Almost seven per cent of students are enrolled in more than one programme. However, the figures in the report are limited to a student’s main programme. Figure 1 below gives an overview of our students based on the information in their passports.

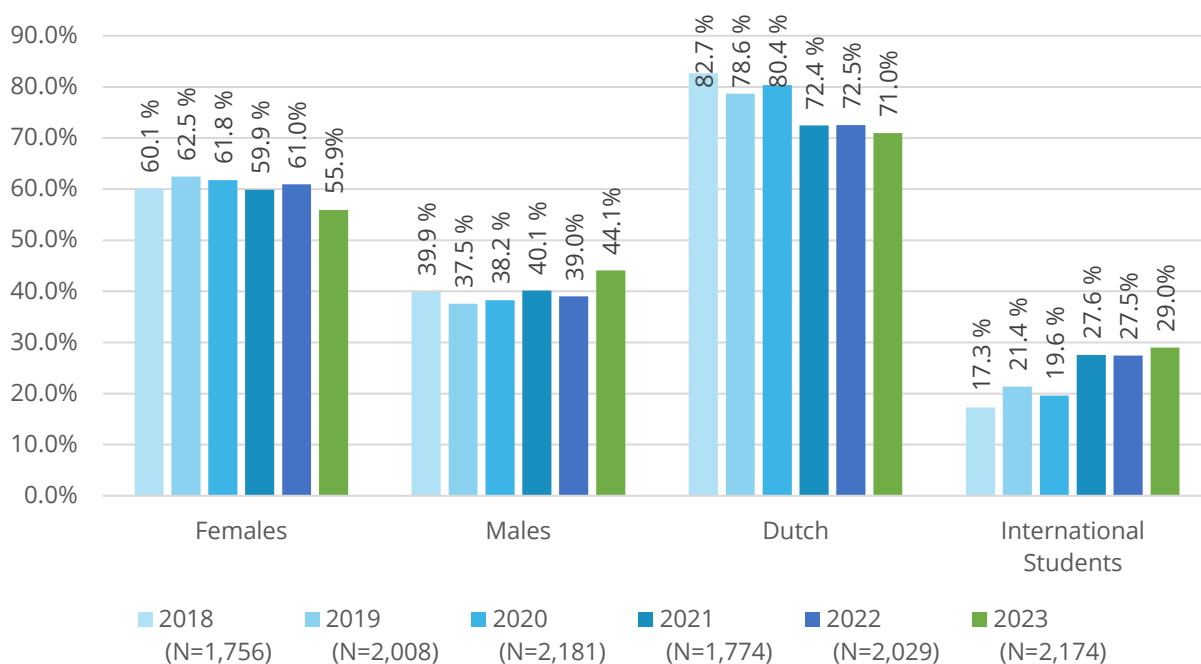


Figure 1 Response study years 2018-2023.

The relative number of women studying at BUAs has dropped in 2023 to 56% from 61%. While women have been generally over-represented in the Dutch higher education system since 1997 (Centraal Bureau voor de Statistiek, 2023), BUAs offers several large study programmes such as Leisure & Events and Tourism, where women are even more over-represented on average. In recent years however, new studies have been introduced, such as applied Data Science and Artificial Intelligence, which attract relatively more male students. The relative number of international students (defined as students who do not have a Dutch nationality in their passport) has increased to 29.0% of the total student population.

### 3.2 A BUAs wide look at entrepreneurial intention of first year BUAs students

This central question of this study is: “Are you planning to start your own business?”. In Figure 2 and Figure 4 below, this question is answered. Figure 2 shows that 23 per cent of the first time enrollers of the 2023-2024 academic year intent to start a business, or have already started a business. The type or form of business the students have in mind is a guess, but van Liempt (2022) reports that most of the students consider themselves to become employers rather than being self-employed, which is different from the general trend towards self-employment (cf. Bögenhold & Klinglmair, 2017).

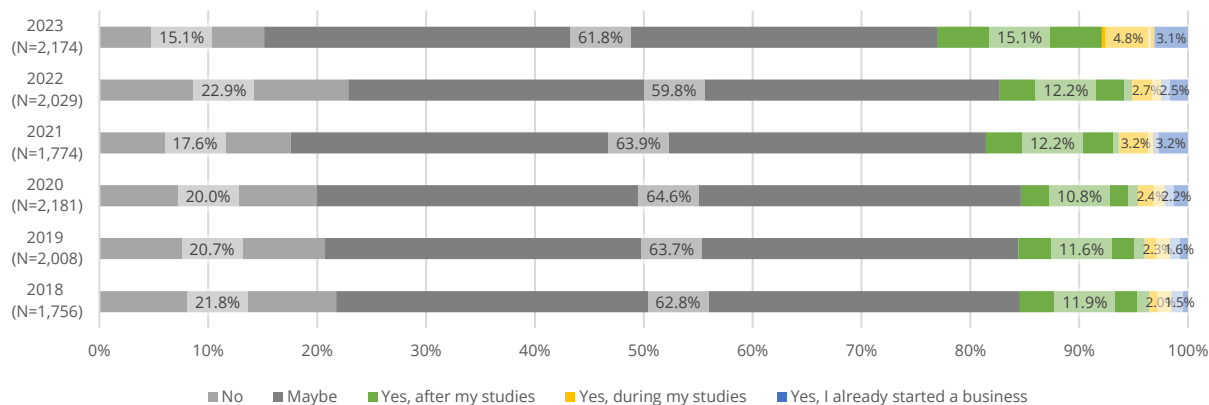


Figure 2 Entrepreneurial intention of first year BUAs students 2018-2023.

As Figure 2 shows, 501 (23%) of our 2,174 first time enrollers are interested in starting a business. 3.1% have already started a business, 4.8% are thinking about starting a business during their studies and the largest proportion, 15.1 per cent, want to start a business after their studies. Almost 61.8% of the students said that *might* start a business at some point in the future. 15% of the students say *no* to becoming entrepreneurs themselves. What appeared to be a decline in interest in entrepreneurial intention last year was apparently temporary.

#### 3.2.1 Growth and decline in positive entrepreneurship over the years

We know from earlier research that students in their first year, on average, tend to be more open ended towards their future (van Liempt & van Es, 2019, 2020, 2021, 2022, 2023). As students' studies progress, as they obtain more experience, students tend to express less doubt and develop a preference for either positive and negative intentions. We also know that students' preferences appear erratic at times and can change within the span of a few months (van Liempt, 2022). When looking at Figure 2 an upward trend in positive entrepreneurial intention is visible over time. Figure 3 expresses the growth over years in absolute and relative terms, including and excluding the new Applied Data Science & Artificial Intelligence programme introduced in 2023. Whilst the absolute growth rates show that roughly 10% in growth in positive entrepreneurial intention can be attributed to this new programme, the relative figures show that, like 2021, 2023 represents a positive outlier in terms of growth. Overall we see an increase of 32 to 33 percent increase in positive intention that can not be attributed to an increase in student numbers due to rapid growth of a new program. A further exploration of the results, below, can hopefully explain this leap in growth rate.

The above means that over the past five years we have experiences of an average annual growth rate<sup>1</sup> in positive entrepreneurial intention of 13.1%, which is considerable and indicative of the relevance of supporting this group of students.

<sup>1</sup> Average Annual Growth Rate =  $\left( \left( \frac{final}{initial} \right)^{\frac{1}{n}} - 1 \right) \times 100$



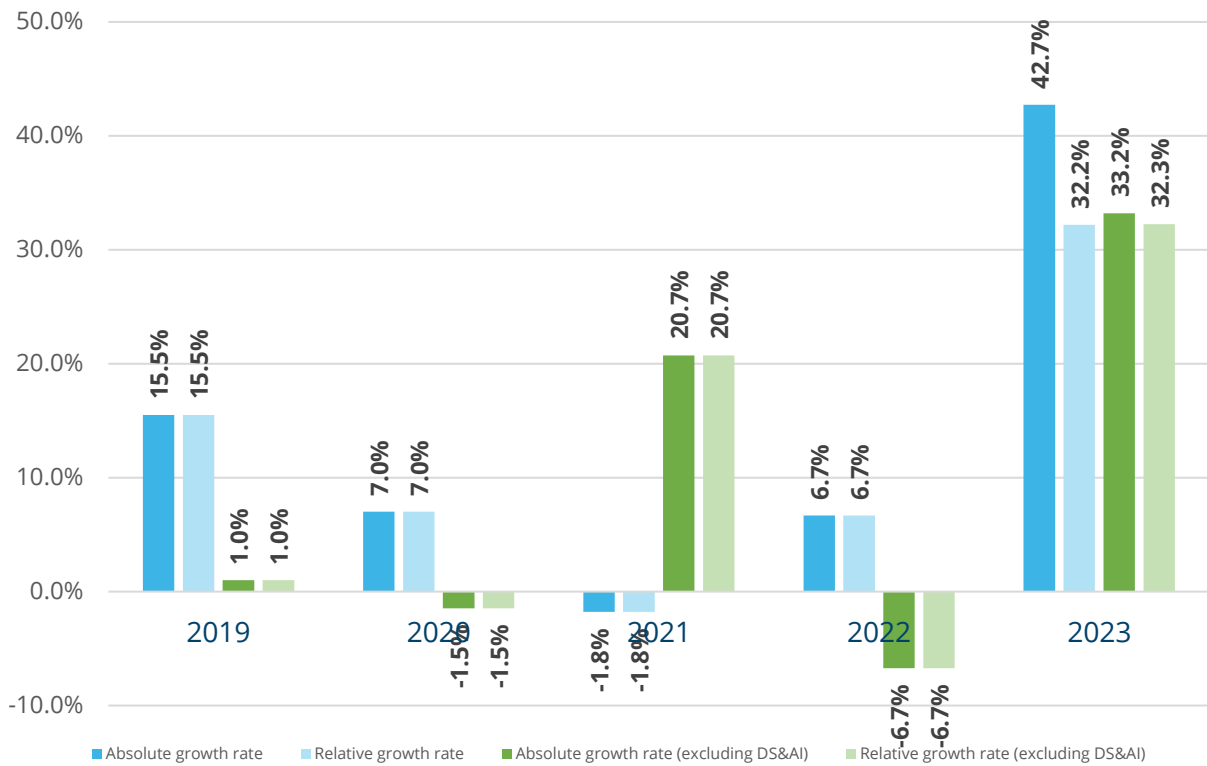


Figure 3 A closer look at the growth rates in positive intention over the years 2019-2023.

### 3.2.2 Comparing entrepreneurial intention of first year BUAs students over the years

Figure 4 compares the positive entrepreneurial intention of BUAs students over the years. With the exception of 2021 there was an overall positive trend in the total number of students with positive entrepreneurial intentions. This holds true for all three categories. Two categories, yes, during my studies and “yes, after my studies, however seem to have increased more significantly than other categories. Especially when compared to earlier years where changes were only minimal and probably spurred by increasing student numbers overall. In relative terms, it’s particularly the groups that intends to start a business during their studies that has grown (21% over and average of 15 % in earlier years).

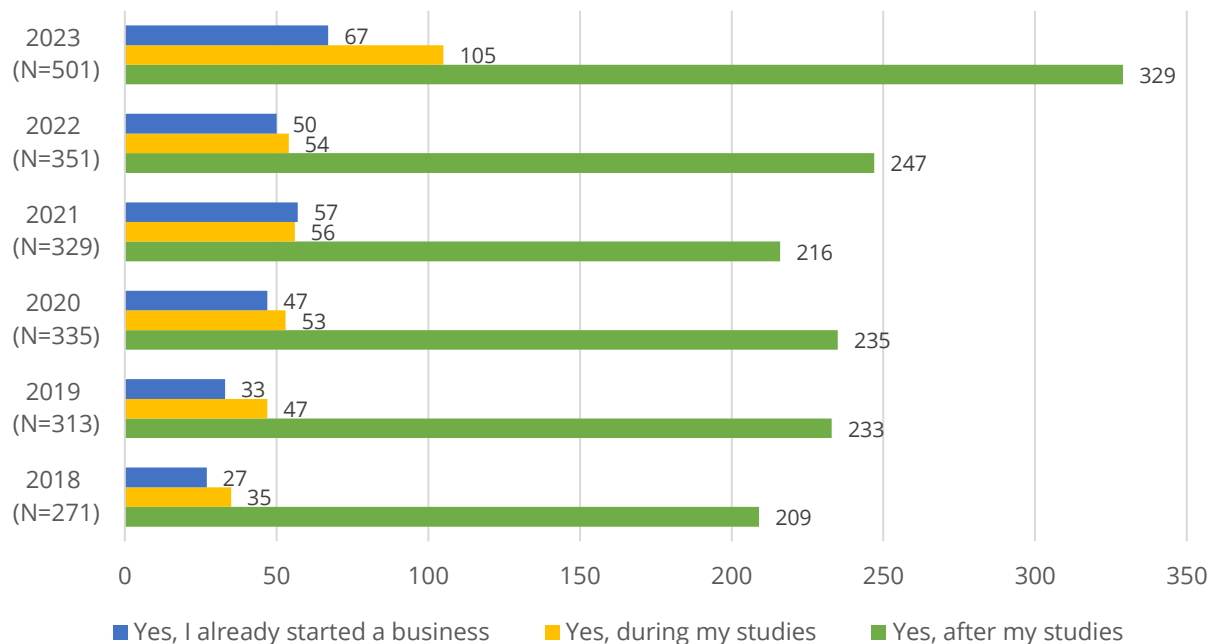


Figure 4 Positive entrepreneurial intention of first year BUAs students 2018-2023.

### 3.3 Entrepreneurial intention of first year BUAs students per domain

BUAs are active in nine different fields of study, or ‘domains’ as we call them. Figure 5 and Figure 6 show that there are sometimes considerable differences in entrepreneurial intention per domain. In both figures, we don’t include those who are undecided about, or not interested in entrepreneurial intention. This helps us get a clearer picture of who is most inclined towards entrepreneurship within different domains. The domains in the figures are ordered by the total relative percentage of students within an academy who have positive entrepreneurial intention.

Historically, within BUAs, students from particularly Leisure & Events, Hotel, and Media, have shown the most interest in entrepreneurship. However, in 2023-2024, shown in Figure 6, this trend has shifted among first-year students. While Hotel students continue to lead in terms of relative entrepreneurial intention, with 37% in 2023-2024 and 27% in 2018-2019, Media finds itself accompanied by both Games and Data Science & AI students. Leisure & Events students who used to rank third, have fallen below the BUAs average for the first time in years. Whilst these shifts are not massive, they are intriguing and it is interesting to follow these students’ intentions in the coming years. E.g., we know from earlier studies that students’ entrepreneurial ambitions tend to wane as they progress through their studies, likely due to changing perspectives. While we can only guess at the reasons — such as career prospects, personality traits, role models, or the influence of their academic and social networks — these factors are worth exploring further.

Similarly to trying to understand the differences between domains, it is interesting to consider the nuances in intention itself. First year Hotel students have a relatively very high positive intention compared to

students from other domains. This difference, however, is mostly driven by students that intent to start a business after their studies. The same can be said about students that have already started a business. Already in the first year of their study there are considerable differences. In 2023-2024 Media is in the lead with 8.5% already having started a business, followed by games with 4.9%. While van Liempt (2022) has demonstrated that BUAs students do not necessarily start a business within their field of study, the differences are striking.

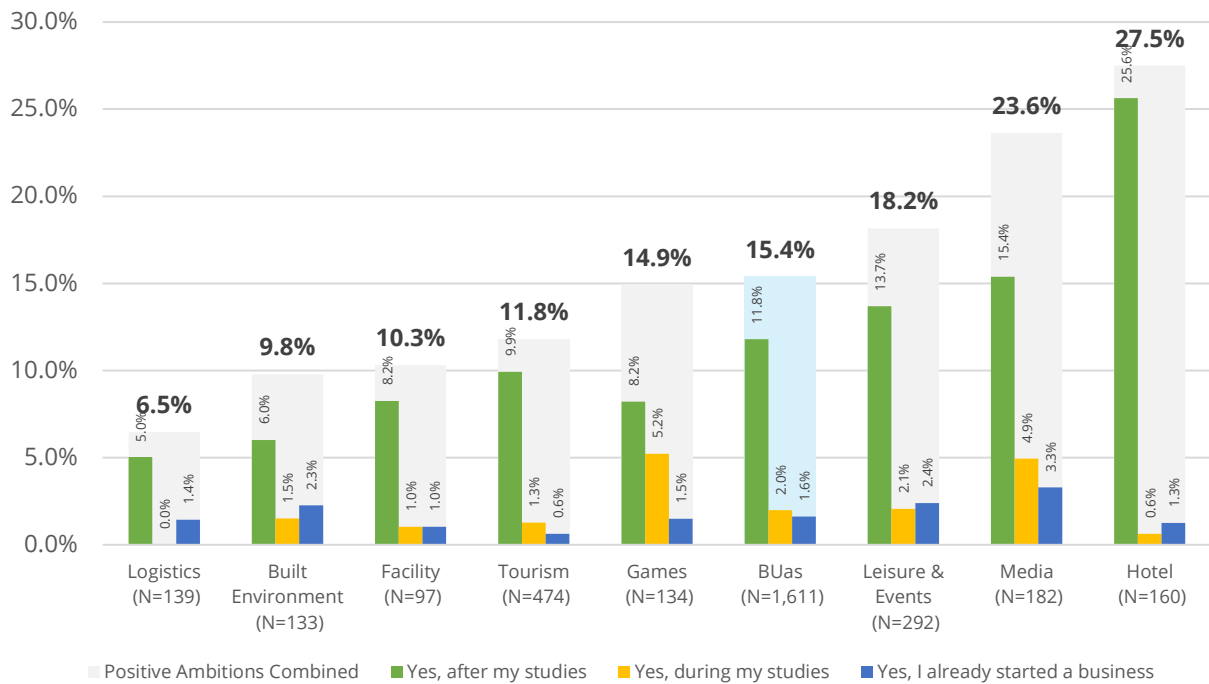


Figure 5 Positive entrepreneurial intention of first year students per BUAs domain in 2018-2019.

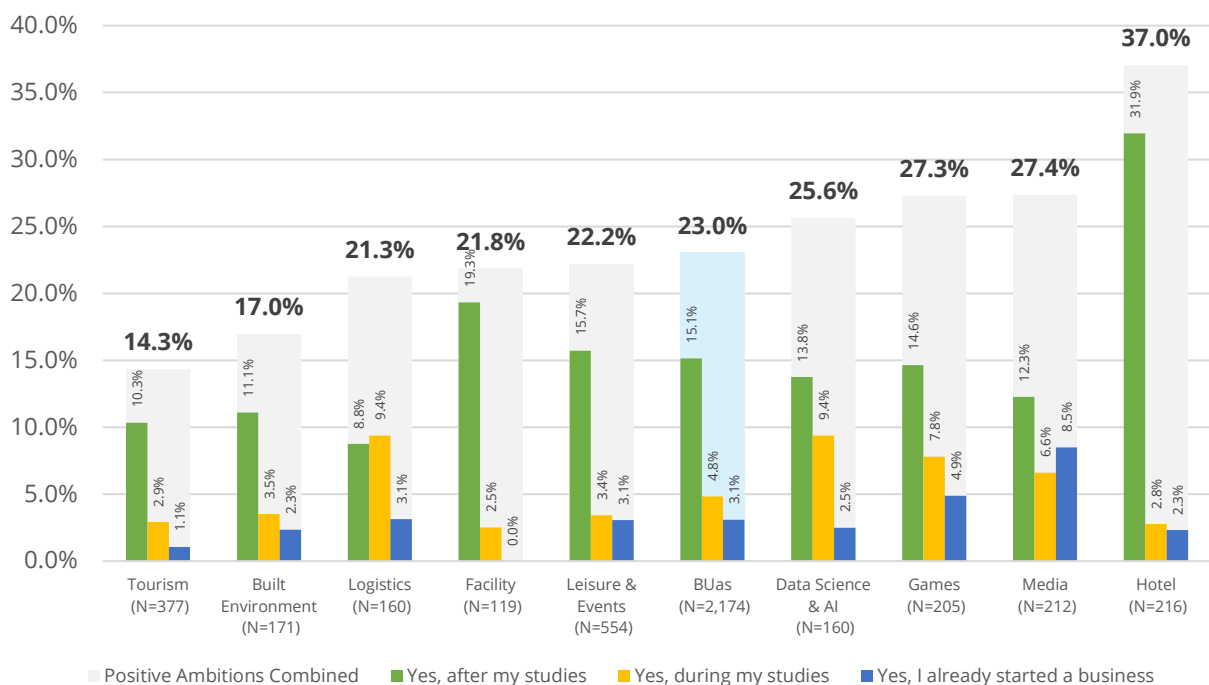


Figure 6 Positive entrepreneurial intention of first year students per BUAs domain in 2023-2024.

### 3.4 Demographic outlook of entrepreneurial intention within first year students

The following sections explore the influence of certain demographic characteristics such as sex, and nationality on interest in entrepreneurship. Age is excluded as there simply is not enough variance when we are solely focussing on first year students.

#### 3.4.1 The influence of sex on entrepreneurial intention

First of all, it is important to reiterate that sex is determined by how students are registered in their passport. It does not necessarily reflect how students identify. Figure 7 and Figure 8 below try to give a more detailed impression of the differences between men's and women's entrepreneurial intention. The most striking difference between first year students in 2018-2019 versus those from 2023-2024 is that women are catching up in terms of entrepreneurial intention compared to men. In some cases, such as the intention to start a business after their studies, even surpass men in terms of intention. It is important to notice that on average BUAs lists 56% female students in 2023, whilst this used to be 60% in 2018. When distributions within segments reflect those of the total population, it means the distribution between males and females is more equal. The surprising relative underrepresentation in females that intent to start a business during their studies in 2023-2024 appears as an outlier. The difference has never looked this dramatic and it will be interesting to not if this difference will manifest over time.

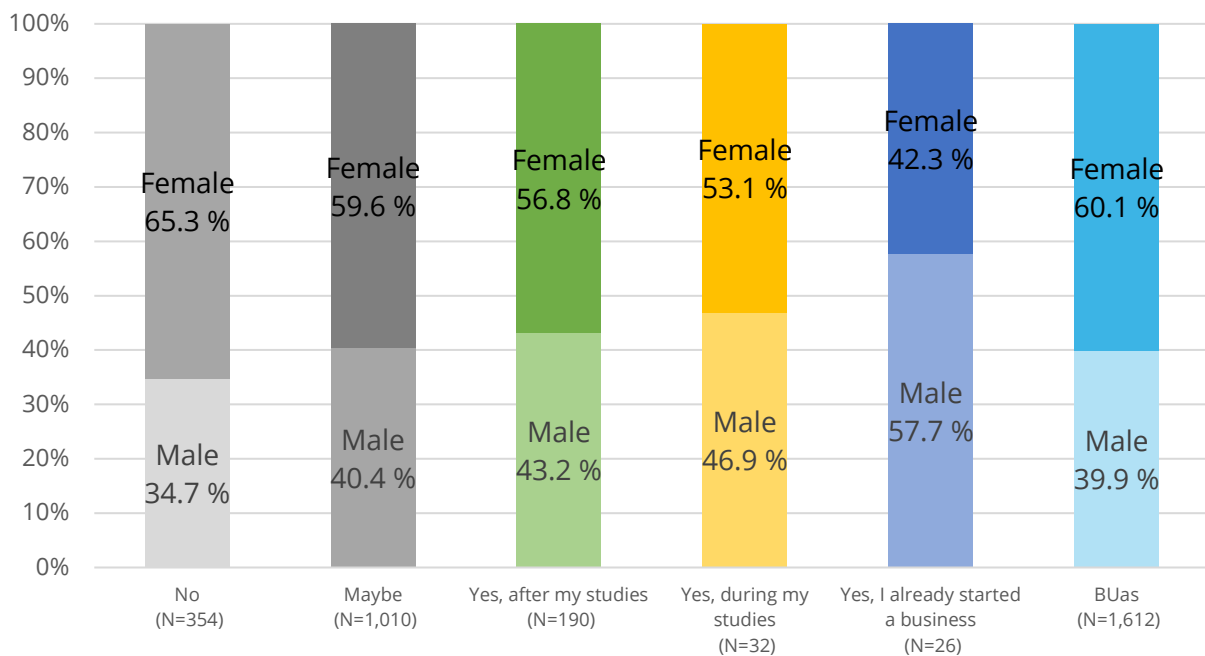


Figure 7 Entrepreneurial intention of first year BUAs students by sex in 2018-2019

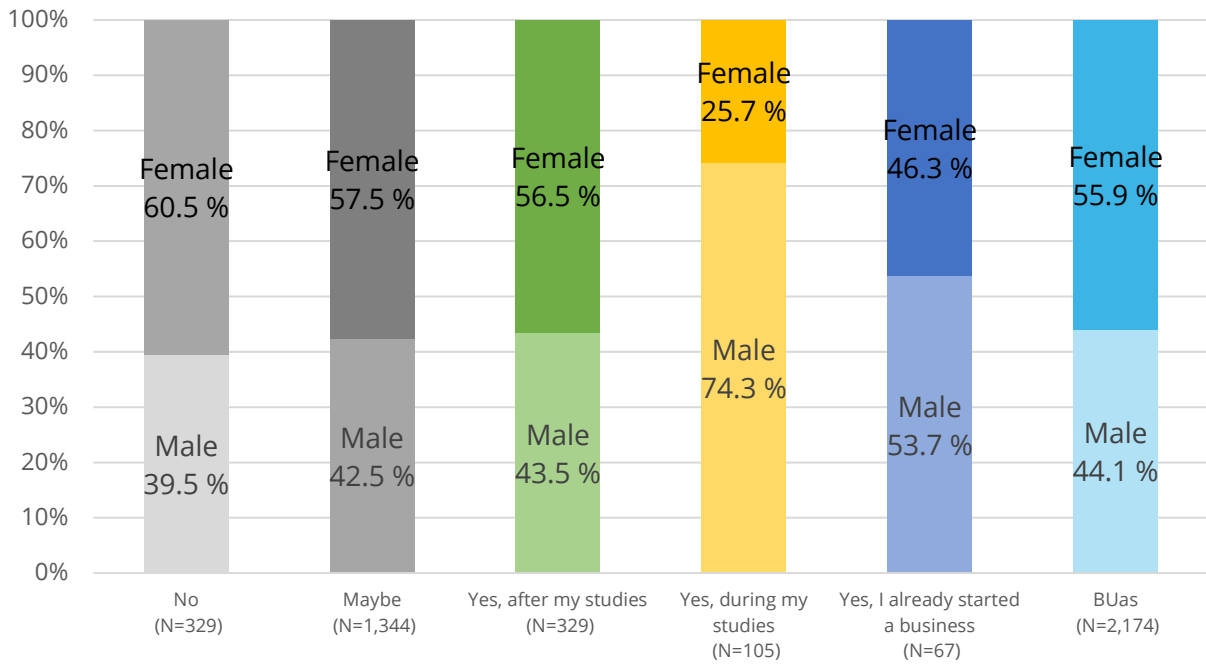


Figure 8 Entrepreneurial intention of first year BUAs students by sex in 2023-2024

In order to visualise the differences between males and females within domains more clearly in 2023-2024 Figure 9 (male) and Figure 10 (female) have been created. Similar to overall intention, in these figures, the domains have been ordered from low to high by the relative number of male and female students. Although it appears the differences between males and females are more pronounced in these figures, the most striking aspect is the difference in the order of the domains due to sex differences. While the hotel domain ranks among the top for both males and females, it is male Media students and female Data Science & AI students who top these relative charts.

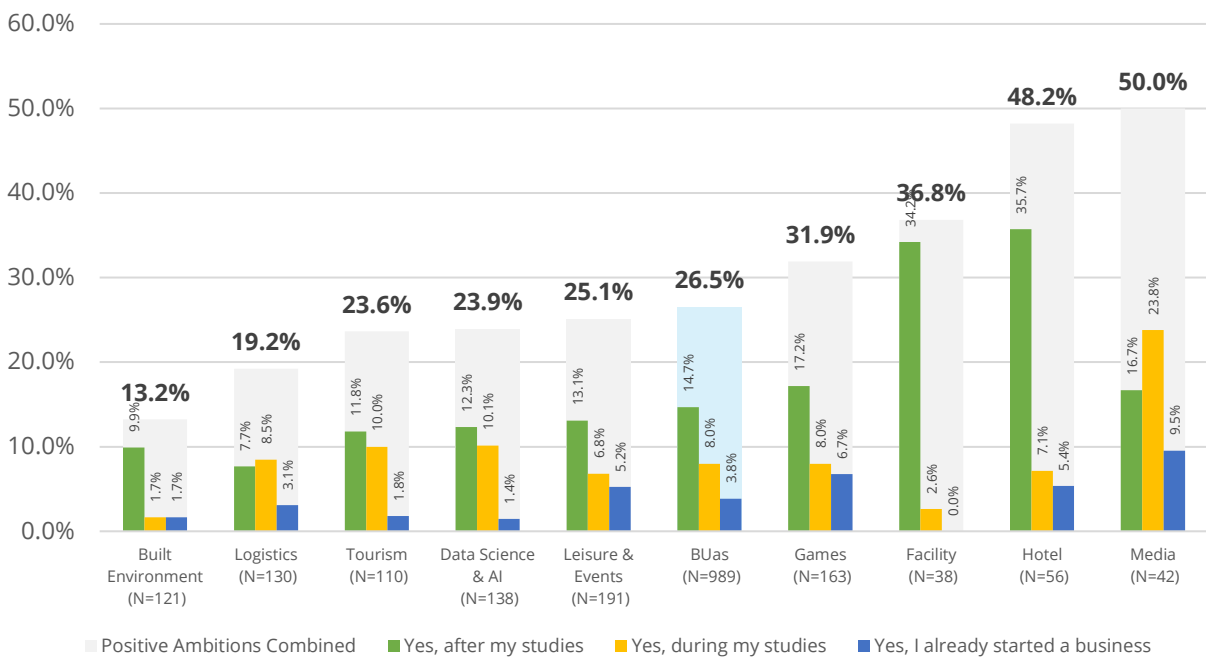


Figure 9 Entrepreneurial intention of first year male students by domain in 2023-2024

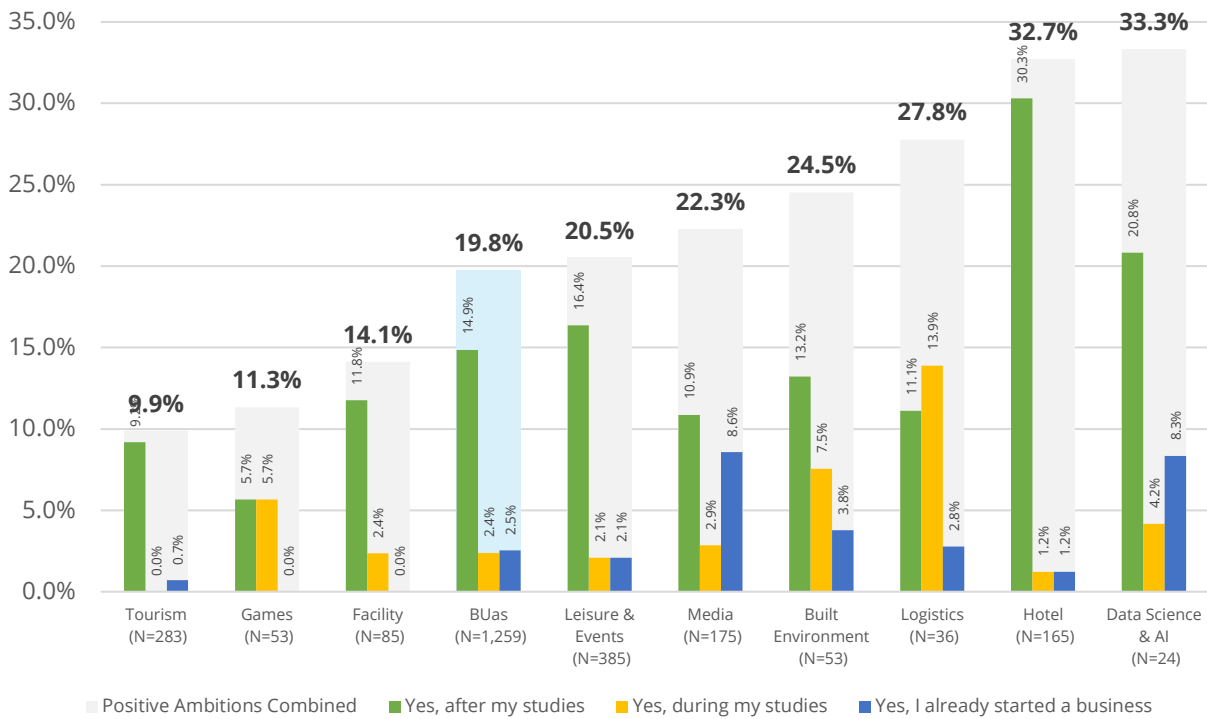


Figure 10 Entrepreneurial intention of first year female students by domain in 2023-2024

### 3.4.2 The influence of nationality on entrepreneurial intention of BUAs first year students

Finally, it is interesting to examine whether nationality affects the intention to become an entrepreneur. First of all, the student population is divided into those with Dutch nationality and those without. Of course, it would be more interesting to have a more precise definition of nationality, but this would have negatively affected the anonymity of students in this study as well as cause problems associated with low cell frequencies.

The results are shown below in Figure 11 and Figure 12. For a long time international students have relatively more positive entrepreneurial intentions than Dutch students. Because we have relatively (and absolutely) more international students at BUAs in 2023-2024 than in 2018-2019, the relative numbers have risen as well. It is difficult to ascertain on these figures that the entrepreneurial intention has risen within this group, it appears to be more the case when considering students that plan on starting a business during or after their studies. There might be many reasons for this difference, but this was not part of our study.



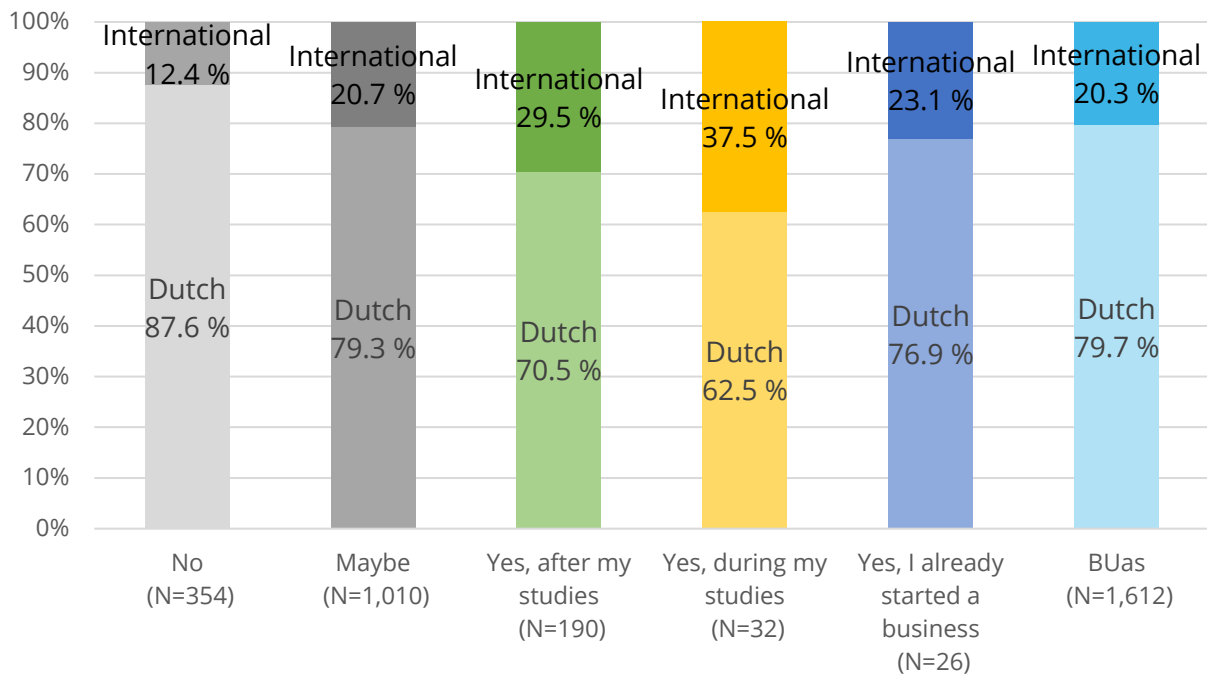


Figure 11 Entrepreneurial intention of first year BUAs students by nationality 2018-2019

However, this does not answer the question of whether students' nationality affects their intention to become entrepreneurs. This is because the comparison was only made within the group of students who indicated that they actually wanted to start a business or had already started one. To illustrate this, Figure 12 below shows that students with a non-Dutch nationality intend to start a business (25.9%) relatively more than students with Dutch nationality (13.4%).

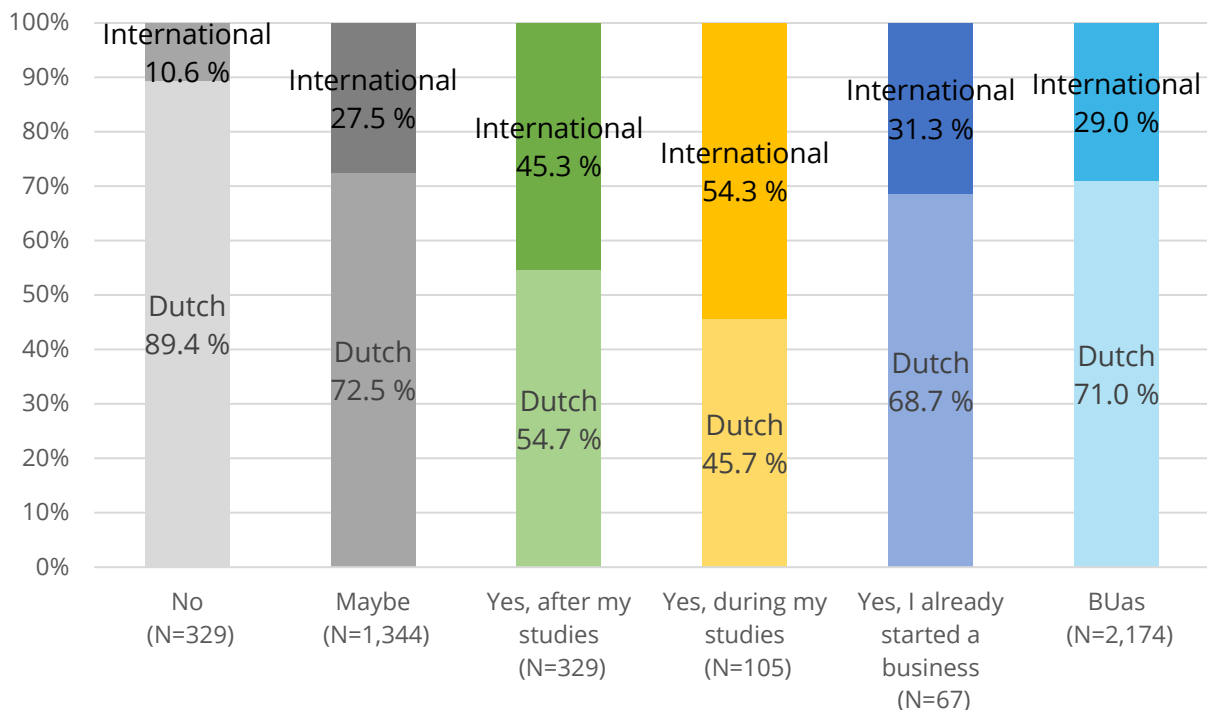


Figure 12 Entrepreneurial intention of first year BUAs students by nationality 2023-2024

The differences in nationality per domain are considerable and mild at the same time. Among the students with a Dutch nationality, it is mostly Hotel students that stand out and have, on average almost 50% more positive entrepreneurial intentions than students from other domains.

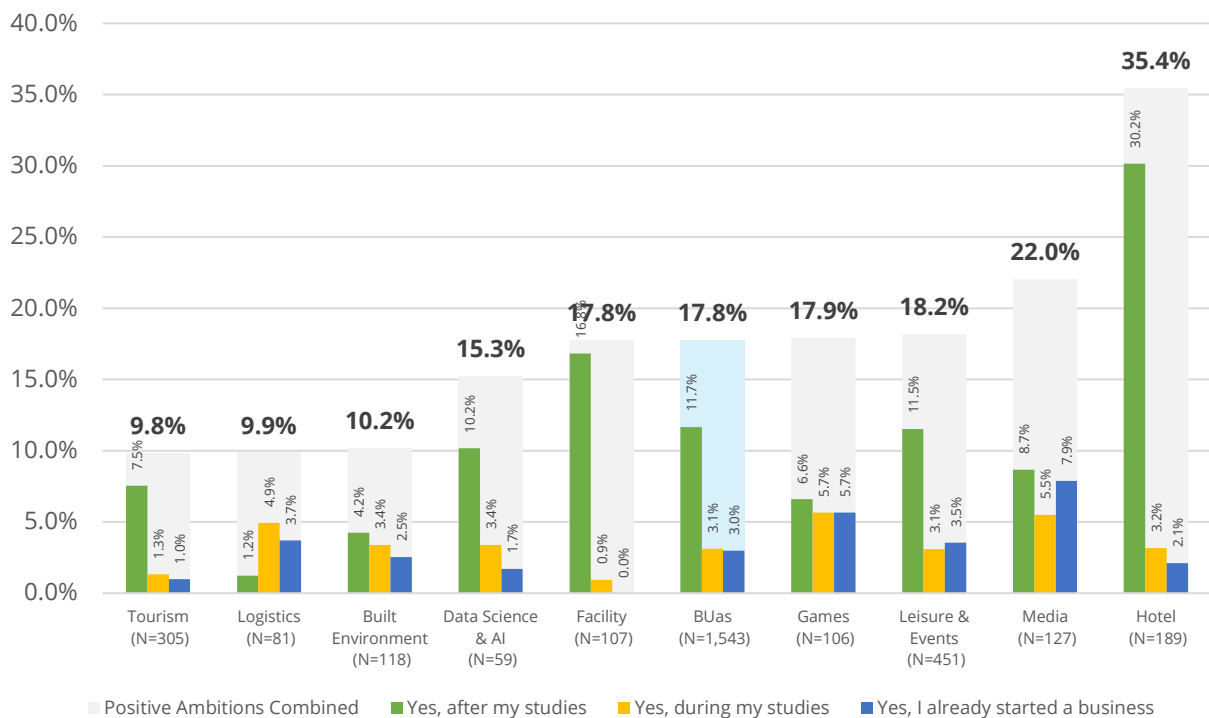


Figure 13 Entrepreneurial intention of first year BUAs students by domain and Dutch nationality 2023-2024

Among international students the difference appear to be greater, but these differences are mostly spurred by Hotel and Facility. Granted in absolute terms we are talking about 12 students, but close to 60% of the international Facility students plan to start a business at some point during or after their studies. Within the Hotel domain this is to a lesser extent also the case. While it is plausible to think that the rise in entrepreneurial intention in 2023-2024 is mostly driven by international students since it is the part of the population that has

grown the most in the past years. As they have positive entrepreneurial intentions more often than Dutch students, it seems very likely they are the ones driving the numbers up.

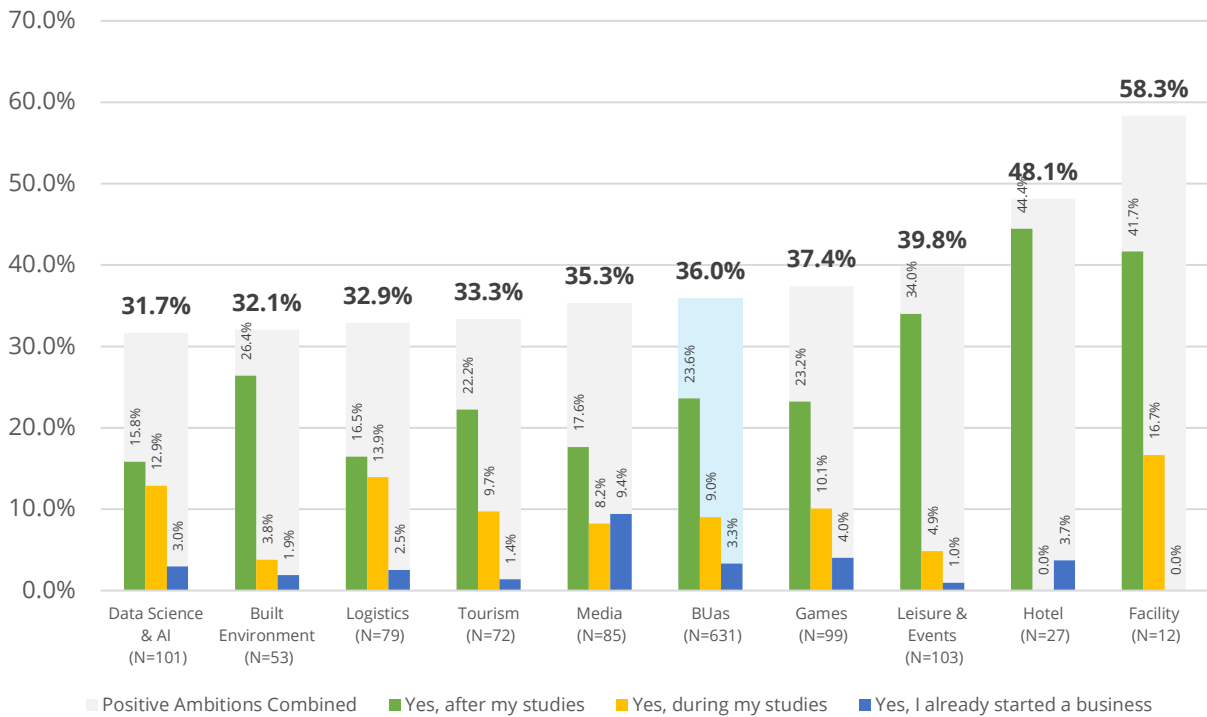


Figure 14 Entrepreneurial intention of first year BUAs students by domain and non-Dutch nationality 2023-2024

At the same time, when comparing Figure 15 and Figure 13, and by focussing on the overall BUAs figures, we can see that in 2018-2019, 13.6% of the students with a Dutch nationality had a positive entrepreneurial intention and in 2023-2024 this is 17.8%, which demonstrates that also the Dutch student population at BUAs has an increased positive intention.

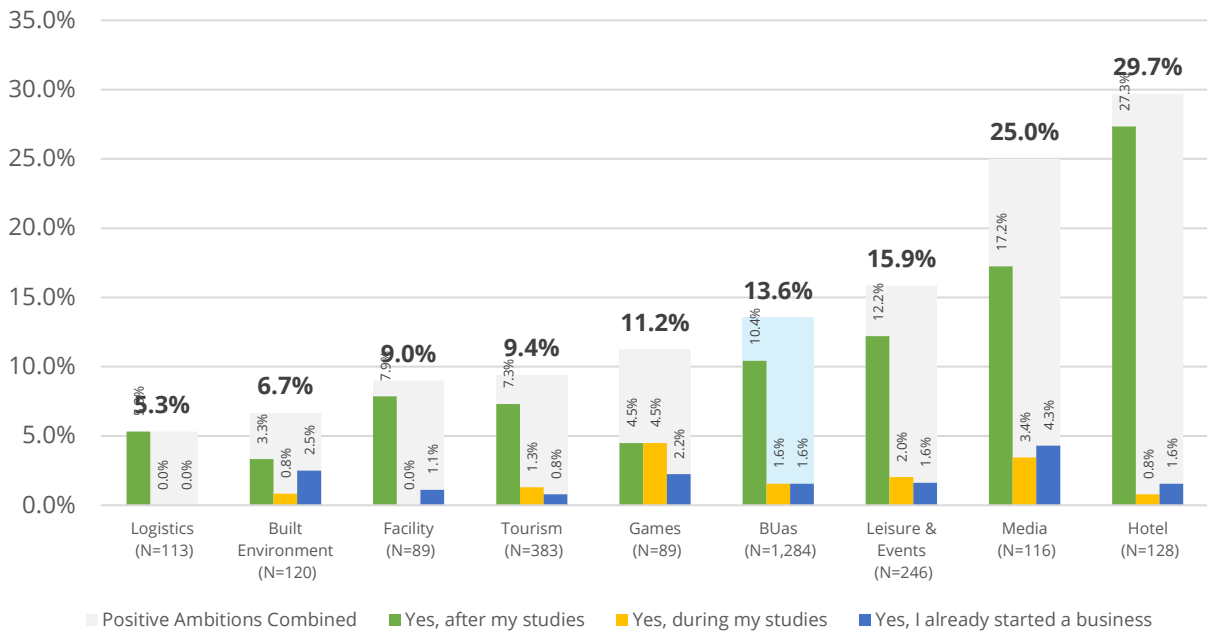


Figure 15 Entrepreneurial intention of first year BUAs students by domain and Dutch nationality 2018-2019

## 4 Conclusion

This year this study aims to answer the following research questions:

1. To what extent are first year BUAs students interested in becoming entrepreneurs?
2. How has this interest developed in first year students since we started collecting data?

### 4.1 Conclusion and discussion

This study's central question "To what extent are first year BUAs students interested in becoming entrepreneurs?" can be concluded that 23.0 per cent of the first year BUAs students answer the main question positively. 3.1% has already started a business next to their studies. 15.1% intends to start a business after their studies and 4.8% is thinking of starting a business during their studies.

The second question, "How has this interest developed in first-year students since we started collecting data?" can be answered positively. Over time, we have mostly seen a moderate increase in both relative and absolute positive intention numbers. The period 2023-2024 deviates significantly, with a 43% growth rate in positive entrepreneurial intention among first-year students. Our data showed an increase in the number of international students who, on average, have relatively more positive entrepreneurial intentions. The inclusion of the Applied Data Science & Artificial Intelligence (DS&AI) program since 2021 has had an important effect on the total growth figures. When we exclude this program, which has grown considerably in 2023, we still see growth figures in the range of 33%. While the DS&AI program attracts relatively more male students than the Leisure & Events and Tourism studies, it can only explain part of the growth figures in terms of the total number of students studying at BUAs. Putting the "blame" on DS&AI is too simplistic, limited, and incorrect because, at the same time, we see increases in more ways. Growth is observed within domains; we noted an increase in female students' entrepreneurial intentions, suggesting it appears to be a matter of overall growth and interest in entrepreneurship.

### 4.2 What does the world look like beyond the border of our institute?

It is impossible to answer some questions stemming from the current results, such as what explains the overall growth figures. Yes, we were able to explain part of the growth we've seen this year, but not what accounts for the overall increase in intention over the years. The changes over the years do not seem to arise from random artifacts or mere fluctuations in student moods. Instead, they appear to reflect a shift in attitude towards life. A more definitive answer could be obtained by looking beyond the confines of our institute, either by examining national data, as shown in Figure 16, or by comparing our results with those from other institutes. We are hopeful that the latter will be possible in the future. In the meantime, nationally, we observe the continuation of a trend that began in the latter part of the last century (CBS, 2024; Stam, 2013). There is an overall increase in entrepreneurship, predominantly through an increase in self-employment. We know that when asked more directly, our students intend to become employers and not necessarily to solely employ themselves (van Liempt, 2022). However, there is currently no ethically feasible way implemented (considering matters of privacy and consent) to track what our students do after their studies.

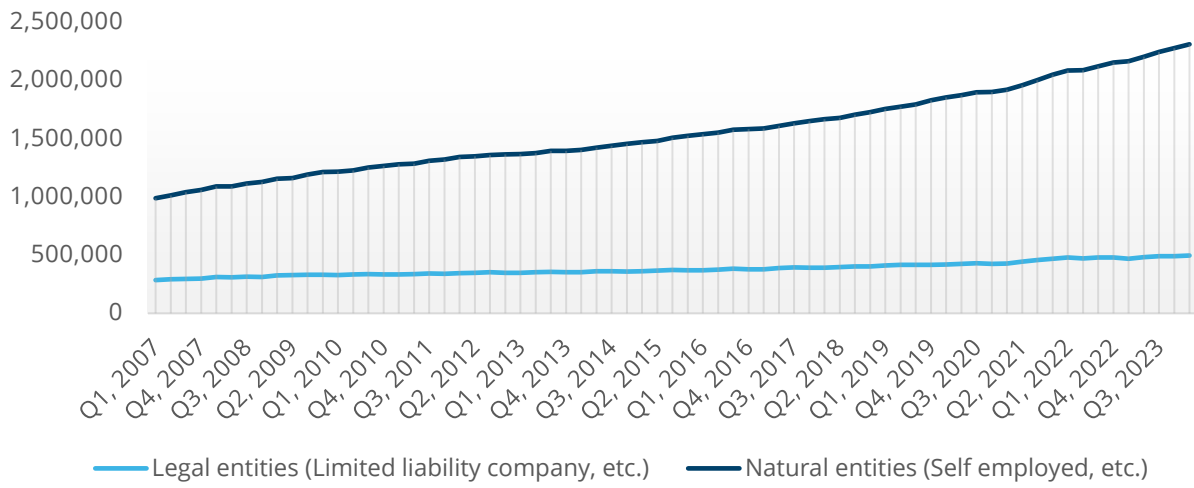


Figure 16 Stacked lines, Q1 2007 - Q1 2024: Companies and legal form.

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## 6 Appendix

Table 1 Quick overview of the number of Businesses in the Netherlands operating in the fields of hospitality, leisure and media, 4th quarter 2019.

<i>Standard Dutch Industrial Classification (SBI) 2008</i>	<i>Total number of businesses</i>	<i>Number of businesses employing 1 person</i>	<i>Percentage of businesses employing 1 person</i>
<i>A-U All economic activities</i>	1828160	1421160	77,74%
1814 <i>Graphic finishing</i>	515	365	70,87%
1820 <i>Repro of sound, video and software</i>	460	415	90,22%
<i>Traditional Catering</i>	42770	13645	31,90%
I <i>Catering</i>	60600	26530	43,78%
55 <i>Accommodation</i>	9355	4815	51,47%
551 <i>hotels</i>	4900	2530	51,63%
55101 <i>Hotel-restaurants</i>	1535	260	16,94%
55102 <i>Hotels (not hotel-restaurants)</i>	3365	2270	67,46%
552 <i>Holiday home rentals etc.</i>	1945	1055	54,24%
55201 <i>Rental of holiday homes</i>	1835	1010	55,04%
55202 <i>Youth hostels, group accommodations</i>	110	50	45,45%
553 <i>Campsites</i>	1990	820	41,21%
559 <i>Other accommodation</i>	520	410	78,85%
56 <i>Eating and drinking establishments</i>	51240	21715	42,38%
561 <i>Restaurants, other eateries</i>	28735	7555	26,29%
56101 <i>Restaurants</i>	14310	2585	18,06%
59 <i>Motion picture and TV production; sound recording</i>	19610	17475	89,11%
591 <i>Production, distribution of films, TV</i>	16360	14690	89,79%
5911 <i>Motion picture and television production</i>	11995	10675	89,00%
59111 <i>Film production, not television films</i>	10890	9695	89,03%
592 <i>Making and publishing sound recordings</i>	3255	2790	85,71%
5920 <i>Making and editing sound recordings</i>	3255	2790	85,71%
73-75 <i>Advertising, design, other services</i>	121140	107865	89,04%
74 <i>Design, photography, translation agencies</i>	84150	77765	92,41%
74101 <i>Graphic design</i>	17180	16040	93,36%
81 <i>Cleaning contractors, gardeners, etc.</i>	28555	20465	71,67%
8110 <i>Facility management</i>	930	745	80,11%
R-U <i>Culture, recreation, other services</i>	221025	192645	87,16%
R <i>Culture, sport and recreation</i>	112285	99830	88,91%
93 <i>Sports and recreation</i>	22825	16355	71,65%
932 <i>Other recreation</i>	9415	7165	76,10%
S <i>Other services</i>	108590	92780	85,44%

Source: CBS (2020)

## 7 About the authors



Adriaan van Liempt, PhD ([liempt.a@buas.nl](mailto:liempt.a@buas.nl)) works as a teacher and researcher in sociology, methodology, applied statistics, data science and AI at the Academy Leisure & Events (BUAs). He studied sociology at Tilburg University and obtained his PhD at the University of Amsterdam with a study on the presence and future of collective labour agreements in the Dutch IT industry. Although he ran a software development agency from 1994 to 2010, during and after his studies, he was never a true entrepreneur in the sense of taking risks and having responsibilities as an employer. Van Liempt was, above all, someone who was able to combine creativity and analytical skills with something that was in demand at the time. Today, Van Liempt is interested in a wide range of topics. As a programming, data and modelling fan, he enjoys developments in the fields of data science and machine learning. As a leisure and tourism researcher, his current focus is on experience and impact. As a labour sociologist, he is interested in the role and position of entrepreneurship in relation to the labour market and its institutions.



Tijs van Es, MA ([es.t@buas.nl](mailto:es.t@buas.nl)), has over fifteen years of experience in innovation, education, and entrepreneurship within higher education. He is passionate about education and talent development, leading a team that offers housing to educational partners, initiates projects, stimulates, and supports entrepreneurship among students, and leads a team that acts as a portal toward industry partners.



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