EJOSS
EDUCATUM
Journal of Social Sciences
UNIVERSITI PENDIDIKAN SULTAN IDRIS
SULTAN IDRIS EDUCATION UNIVERSITY
ISSN 2289-9391 • eISSN 2462-2443

Preliminary Study on Entrepreneurial Intentions Among Female Industrial Design Graduates in Saudi Arabia

Nur Fadhilah Mohd Omar[1,4]*, Wan Noor Faaizah Wan Omar[2], Hema Zulaika Hashim[1], Azyyati Anuar[3]

[1] Faculty of Art and Design, Universiti Teknologi MARA, Shah Alam, Selangor, Malaysia
[2] Faculty of Art and Design Universiti Teknologi MARA, Sg. Petani, Kedah, Malaysia
[3] Faculty of Business and Management, Universiti Teknologi MARA, Sg. Petani, Kedah, Malaysia
[4] Department of Industrial Design, College of Design, Imam Abdulrahman Bin Faisal University, Dammam, Kingdom of Saudi Arabia

***Corresponding author email: 2023120889@student.uitm.edu.my**

ARTICLE HISTORY
Received: 2nd December 2025
Revised: 21st February 2026
Accepted: 30th March 2026
Published: 23rd April 2026

KEYWORDS
Entrepreneurial intention
Female entrepreneurship
Industrial Design
Business course
Sustainable Development Goal (SDGs) 5 of Gender Equality (GE)
SDG 8 related to decent work and economic growth.

ABSTRACT - Entrepreneurship is increasingly recognized as a vital soft skill for students and graduates, especially those in industrial design, to address contemporary global economic and social challenges. Nonetheless, studies investigating entrepreneurial intention among industrial design students in Saudi Arabia remain scarce and have not been thoroughly examined, despite the crucial role in shaping entrepreneurial intentions and preparedness. This preliminary study discusses the intentions toward entrepreneurship among female final-year undergraduate industrial design students. Accordingly, the study uses a questionnaire to collect data, yielding 36 responses from 5th-year female industrial design students who completed business courses over 15 weeks in each term of the Industrial Design Program, with data collected in 2022 and 2023. Correspondingly, the questionnaire was analyzed using a descriptive quantitative method, with statistical data used to present the results and meet the study's goals. Specifically, this study aimed to examine the entrepreneurial intentions of 5th-year female industrial design students who completed business courses, in relation to their entrepreneurial tendencies. The study revealed that female industrial design students in their 5th year have a moderate motivation to pursue entrepreneurship. They demonstrated a fair level of interest in entrepreneurship, with an average score of 3.28 on a 1-5 scale. Many of these female final-year undergraduate industrial design students want to become designer-entrepreneurs and are eager to commercialize their projects. Overall, this inclination suggests the potential for increased entrepreneurial activity among them.

INTRODUCTION

Entrepreneurship has become a research area attracting significant global attention over the last few decades. It is also widely discussed in both practical and academic contexts. Entrepreneurship courses and business programs, as components of entrepreneurship education, are considered key methods for enhancing entrepreneurial intentions and activity. From an industrial design perspective, entrepreneurship education can be viewed as a tool for fostering an entrepreneurial mindset and

https://doi.org/10.37134/ejoss.vol12.sp2.13.2026

intention. According to the 2021 Global Entrepreneurship Monitor (GEM) report, female participation and contributions to entrepreneurship have experienced consistent growth since 2014. It is estimated that 274 million women worldwide are engaged in starting and operating established businesses. Furthermore, the gender gap in entrepreneurship has narrowed to 5%. These data underscore the significant advancements women have made in the entrepreneurial sector. In particular, entrepreneurial activity among females compared to men increased in the Middle East over the last few years (Aljarodi et al., 2022; Alshebami & Seraj, 2022). In a global perspective, the 21st century has marked the beginning of an era of rapid technological advancement, transforming economies and expanding business opportunities worldwide. According to The Guardian (2021-2023), more than half of employers in the United States prioritize candidates with strong business and entrepreneurial skills, reflecting a global shift toward innovation-driven employment. In alignment with these international trends, Saudi Arabia has placed entrepreneurship and gender equality at the core of its national development strategy, as emphasized in Vision 2030 and supported by the GEM Report. Additionally, the GEM Report highlights that nearly 70% of Saudi Arabia's population is under 30, presenting both a challenge and an opportunity for the nation's economic diversification efforts. Notably, a key part of Vision 2030 is to leverage this youthful potential by increasing women's workforce participation from 22% to 30%. This indicates that the demographic shift could impact the design industry and enable women to be represented in creative and design-related professions. The plan also aims to raise the contribution of Small and Medium-sized Enterprises (SME) to GDP (Gross Domestic Product) from 20% to 35% and reduce unemployment from 11.6% to 7% by 2030. At the same time, the Saudi Arabia Small and Medium Entrepreneurship General Authority reports that the SME sector accounts for over 28.7% of the country's total GDP, underscoring the significance of supporting these enterprises.

LITERATURE REVIEW

Related Entrepreneurial Intention Studies Among Females in Saudi Arabia

Abdelwahed and Alshaikhmubarak (2023), in their study "Developing Female Sustainable Entrepreneurial Intentions through an Entrepreneurial Mindset and Motives," examined the links between entrepreneurial mindset, entrepreneurial traits, and entrepreneurial intention. This support promotes entrepreneurship among motivated individuals, with a focus on female students in Saudi Arabia. Other than that, Eid NAA et al. (2023) identified that 64% of respondents are interested in entrepreneurship, indicating a significant opportunity for female entrepreneurs. Meanwhile, the 3.21% who lack interest and the 32% who are uncertain imply a need for better support. The studies were conducted on public institutions in Riyadh among female students only. Another study by Islam and Alharthi (2024) examined the impact of business environments on female students' entrepreneurial intentions, with a focus on gender analysis. Their findings revealed that person-situational norms indirectly influence entrepreneurial intention through various factors. Building on this, the study also reviews the Theory of Planned Behavior (TPB) to develop a framework for female entrepreneurship. Moreover, Alexandre et al. (2013), in their study titled "Study New Directions for Saudi Women Entrepreneurial Intentions," stated that younger Saudi students have a strong aspiration to become entrepreneurs, and that societal norms may need to be challenged if perceived support is lacking. Additionally, Ilyas (2020), in his study "Gender Role Stereotyping and Entrepreneurial Intention among Saudi Females," identified factors such as gender role stereotypes, cultural influences, and education as important determinants of entrepreneurial intention within the Saudi female demographic. In addition, his study emphasized that women play an essential role in economic growth by starting SMEs and creating job opportunities for society. Furthermore, Alzamel (2021), in his study "The Moderating Role of Resource Accessibility to The Theory of Planned Behavior Components: A Study Of E-Entrepreneurship Intention Among Saudi Women," reported that a mindset toward entrepreneurship and confidence were strongly associated with the intention to engage in entrepreneurship. However, subjective norm was not significantly associated. Conversely, Osmani et al. (2022) examined the influence of creativity on entrepreneurial intention. The sample comprised 303 female business graduates, and incorporating creative skills and activities fostered entrepreneurial ambitions among them. Following this, Bhatti et al. (2021) employed experimental pre- and post-measures and examined their effects on entrepreneurial intentions. Collectively, the results positively influence emotional intelligence, such as trait training retention, self-confidence, tolerance for ambiguity, innovativeness, and achievement motivation.

https://doi.org/10.37134/ejoss.vol12.sp2.13.2026

Female Entrepreneurship in the Saudi Arabian Context

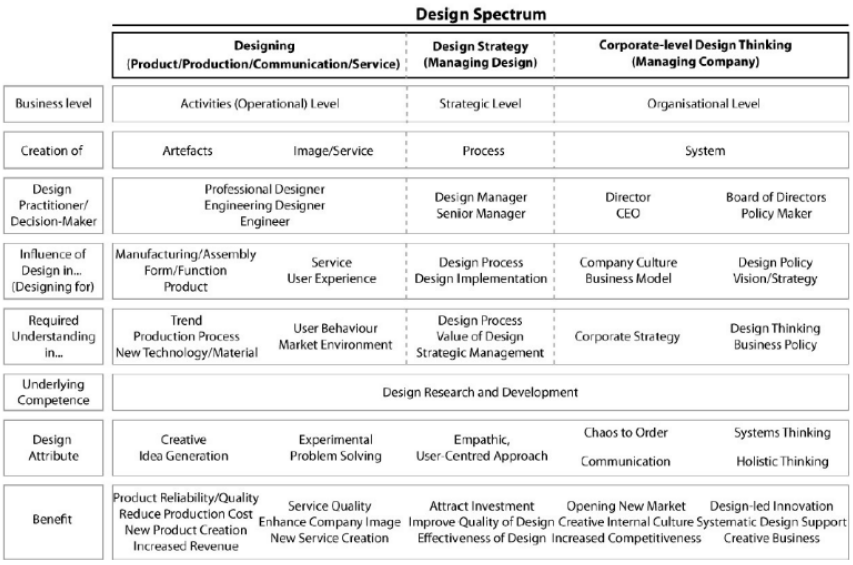
Female entrepreneurship refers to women's ability to effectively lead and manage a startup or business that demonstrates financial resilience and can survive and thrive in the long term (Shabir Ahmad, 2024). Specifically, entrepreneurship refers to the process of establishing a new venture or business by undertaking risks associated with generating sustainable profit (Ramadani et al., 2015; Syed et al., 2019). According to Arab News (2017), the percentage of female entrepreneurs in Saudi Arabia rose to 37%, up from 35% in 2016. Moreover, between 2018 and the end of 2022, the employment rate of Saudi women in the labor force rose from 20% to 35% (World Bank, 2023). Correspondingly, this result reflects the active involvement of women in the workforce, contributing to economic growth, innovation, and social development within the community. In the Saudi context, a previous study by Abdulrahman Sameer Basahal (2020) investigated the motivations behind Saudi women launching their own businesses. This research involved 19 women who established their ventures over the past decades. Notably, the study's findings were identified through thematic analysis, revealing themes such as family relationships, financial support, entrepreneurial inspiration, and constraints. Together, the study suggests that there should be a greater emphasis on push factors, as opportunities for women have expanded. In line with this, a study by Shabir Ahmad (2024) examined how product innovation affects the success of female entrepreneurs in Saudi Arabia, using a survey questionnaire administered to 256 female entrepreneurs. The findings indicate a positive relationship between product innovation and their intentions. Simultaneously, a study conducted by Alghamdi et al. (2021) emphasized the need for a curriculum for female entrepreneurship education in Saudi Arabia. The research gathered insights from 10 female entrepreneurs and proposed a blueprint for education aimed at Saudi women entrepreneurs. The findings revealed that female entrepreneurship education encompasses seven key elements identified by participants, including business, financing, networking, government support, cultural influences, and perceptions of gender dominance and sensitivity. Concurrently, this study recommends collaboration among higher education institutions, government entities, entrepreneurial business initiatives, and private and public organizations to implement these elements within the framework effectively.

Industrial Design and Product Design Program in Saudi Arabia.

According to Na, J., Choi, Y., and Harrison, D. (2017), the term ‘design’ functions as both a noun and a verb. This refers to both tangible and intangible outputs across various design disciplines. The disciplines involved include industrial design, engineering design, product design, fashion design, graphic design, and service design, as noted by K. Best (2006). On the other hand, Muminovic AS et al. (2019) clarified that there is a distinction between product design and industrial design in the field of science, as evidenced by scientific journals that have published articles in both areas. At present, the term is used more frequently than industrial design, with product design encompassing a broad spectrum of disciplines. The establishment of Industrial and Product Design Programs began around 2014, with the Product Design Program at Effat University and Princess Noura University launched that year. The Industrial Design Program was introduced in 2015, initially offered as the Product Design course and later renamed. Recently, the scope of industrial and product design has broadened to encompass a wider range of areas. In a business context, the following table illustrates the identification of design, design strategy, and corporate-level design thinking across different business levels. It also outlines the roles of design practitioners, the influence of design on designers, the necessary understanding, the underlying competencies, the attributes of design, and its benefits. In this context, industrial design plays a central role in creating and delivering value across industries, from product manufacturing and commercialization to user experience.

This table is referenced from the study titled "The Design Innovation Spectrum: An Overview of Design Influences on Innovation for Manufacturing Companies" by Na, J., Choi, Y., and Harrison, D. (2017).

https://doi.org/10.37134/ejoss.vol12.sp2.13.2026



Source: "The Design Innovation Spectrum: An Overview of Design Influences on Innovation for Manufacturing Companies" by Na, J., Choi, Y., and Harrison, D. (2017).

The business courses under the Industrial Design Program

The Industrial Design Program at the College of Design features a course that combines Business One and Business Two, attended by final-year students. Specifically, Business One aims to introduce undergraduate students to fundamental business and marketing concepts from both theoretical and practical viewpoints. In particular, this course equips students with a foundational grasp of key marketing concepts, branding, and advertising to effectively function within an organization, highlighting the significance of customer service orientation. Meanwhile, in Business Two, students delve deeper into how industrial designers manage their own commercial enterprises, offering proven goods and services to consumers, generating profits, and developing products within their business models. Essentially, this course builds upon Business One by providing a more theoretical understanding, while Business Two focuses on the application and implementation of problem-solving skills in design projects.

Problem Statement

The literature reviews reveal a lack of research on entrepreneurial intentions, motivations, and aspirations. Furthermore, there is a necessity to promote awareness of Industrial Design Programs that provide courses in business and entrepreneurship. These programs have the potential to foster critical thinking and equip students with vital business skills. Thus, it is essential to investigate the attitudes and intentions of final-year students who aspire to launch their own businesses. This study aims to explore the intentions of female final-year undergraduate industrial design students who have undertaken business courses, focusing on their entrepreneurial tendencies. Notably, the research employs the 12-item entrepreneurial intention scale created by Liñán and Chen (2009) and later modified by Pavan Kumar (2021) to evaluate attitudes towards entrepreneurship. In this context, the research question is: What are the entrepreneurial intentions among female final-year undergraduate industrial design students who have completed the business course?

https://doi.org/10.37134/ejoss.vol12.sp2.13.2026

METHODS AND MATERIALS

This research aims to evaluate the entrepreneurial intention among female final-year undergraduate industrial design students. Accordingly, purposive sampling was employed, as the study population comprised female final-year undergraduate industrial design students enrolled in a business-related program. This course was part of the first Industrial Design Program in Saudi Arabia, exclusively available to female students. Specifically, the target sample includes 42 female final-year undergraduate industrial design students, representing the entire cohort for this course. Consequently, data were gathered through questionnaires completed by 36 female final-year undergraduate industrial design students. The selection of 5th-year female industrial design students as the sample was made due to the course's female-only enrollment. This, in turn, offers a concentrated context for exploring entrepreneurial intention within this distinct environment.

Building on this, the questionnaire included 12 statements on entrepreneurial intention, the tendency to pursue an entrepreneurial approach in the final project, and the career pathway chosen after graduation. In particular, the first 10 questions focused on entrepreneurial intention toward the business course, Question 11 on the consideration of applying the entrepreneurial approach in the design project, and Question 12 on the professional goal in exact terms. The 12-item construct uses a Likert scale from 0 to 5, with options for Total Disagreement, Disagreement, Neutral, Agreement, and Total Agreement. Some demographic items were also included in the current-semester questionnaire. Subsequently, the collected data were analyzed using statistical methods to determine the mean and standard deviation for each item. In total, the study included 36 participants across two batches (n = 12, 2022) and (n = 24, 2023). For this analysis, the statistical software used is SPSS (Statistical Package for the Social Sciences). Additionally, this study utilizes a cross-sectional survey employing a quantitative approach, as outlined by Creswell (2014). At the same time, the theoretical underpinning of this analysis is Ajzen's (1999) TPB. The questionnaire was distributed two weeks after the completion of the business course in November 2022 and December 2023, yielding 42 respondents. Note that the questionnaire was designed to assess entrepreneurial intention among female industrial design students, applying the TPB by Ajzen (1991, 2005).

Table 1. List of statements (construct)

Number	Statements	Sources
1	A career as an entrepreneur is totally unattractive to me	Adopted from Linan and Chen (2009) and Pavan Kumar, S. (2021)
2	My family and friends would approve of my decision to start a business	
3	I am ready to do anything to be an entrepreneur	
4	I believed I would be completely unable to start a business	
5	I will make every effort to start and run my own business	
6	I have serious doubts about even starting my own business	
7	If I had the opportunity and resources, I would love to start a business	
8	Among various options, I would rather do anything but an entrepreneur	
9	I am determined to create a business venture in the future	
10	If I tried to start a business, I would have a high chance of big, successful	
11	In my final year project, I will consider marketing my design and commercializing it (Yes/No)	
12	My professional goal is to be as ……	

Data collection for this research used a Google Form questionnaire and printed surveys administered directly to 5th-year female industrial design students in the Industrial Design Program at the College of Design, Imam Abdulrahman bin Faisal University, in January 2022 and February 2023.

https://doi.org/10.37134/ejoss.vol12.sp2.13.2026

The survey measured entrepreneurial intention using the 12-item scale adapted from Liñán and Chen (2009) and Pavan Kumar (2021). As such, the instrument was administered to evaluate the entrepreneurial intentions of female final-year undergraduate industrial design students who had completed the business courses.

FINDING AND DISCUSSION

In this section, demographic data such as age and the current semester of study were included in Section A. For Section B, 12-item statements were included. Specifically, the study targeted participation from students enrolled in Business courses and the Industrial Design Program at the College of Design, Imam Abdulrahman Bin Faisal University in Dammam, Saudi Arabia. The participants in the pilot study were aged 22 to 25 years, as indicated in the table below. Most of them had taken related courses in Business, Entrepreneurship, and Management. A total of 86% responded at the 5th year, the current semester, and level 9 of study.

1. Demographic information of respondent

Demographic information for respondents came from female final-year undergraduate industrial design students in the Industrial Design Program. It was classified based on 36 samples in which only females answered the questions. The age groups below 22 years accounted for 44.50% and 55.5%, respectively.

Table 2. Group participants' demographics and other data

Demographic	Groupings	Frequency	Percentage
Age	Below 22 years 23-24 years Above 25 years	16 20 0	44.5 55.5
Total		36	100.0
Level of study	5th year/9 semester	36	100.0
Subject related	Business Management Entrepreneurship	36	Yes

2. Result Entrepreneurial Intention

In this preliminary study investigating entrepreneurial intention, it was revealed that female final-year industrial design students at the College of Design have a moderate intention to start a business. This study reports that, among female final-year undergraduate industrial design students in the program, respondents had a fair level of interest in becoming entrepreneurs. Referring to the first, fourth, and eighth statements, which are negative, their meanings are reversed. In addition, respondents generally viewed an entrepreneurial career positively, as indicated by their disagreement with the statement that a career as an entrepreneur is unattractive (Mean = 3.72). Furthermore, they also believed that their family and friends would support their decision to start a business (Mean = 3.81), indicating they feel encouraged by those around them. However, their readiness to do whatever it takes to become an entrepreneur was only fair (Mean = 2.97), suggesting they are not yet fully confident. Conversely, respondents disagreed that they would be completely unable to start a business (Mean = 2.36), implying they believe they can do so. They were also willing to make some effort to start and run a business (Mean = 3.31). Notably, some had doubts about starting their own business (Mean = 3.69). This nevertheless demonstrates a positive attitude, as they only slightly agreed with that concern. On a similar note, respondents mentioned they would like to start a business if they had the opportunity and resources (Mean = 3.17). By contrast, they disagreed with the idea that they would rather do anything but be an entrepreneur (Mean = 2.75), denoting they prefer entrepreneurship. Additionally, their determination to create a business in the future was fair (Mean = 3.47), and they believed they had a fair chance of success if they tried (Mean = 3.61). Overall, the findings exhibited that respondents have a moderate yet positive interest in entrepreneurship. They display some confidence and determination, though there is still room for stronger motivation and belief in their ability to succeed

https://doi.org/10.37134/ejoss.vol12.sp2.13.2026

Table 3. Mean Standard Deviation of Entrepreneurial Intentions

Intention to become a Designer Entrepreneur	Mean	SD	Level
A career as an entrepreneur is totally unattractive to me	3.72	1.125	Good
My family and friends would approve of my decision to start a business	3.81	1.215	Good
I am ready to do anything to be an entrepreneur	2.97	0.975	Fair
I believed I would be completely unable to start a business	2.36	1.123	Fair
I will make every effort to start and run my own business	3.31	1.238	Fair
I have serious doubts about even starting my own business	3.69	1.191	Good
If I had the opportunity and resources, I would love to start a business	3.17	1.134	Fair
Among various options, I would rather do anything but as entrepreneur	2.75	1.131	Fair
I am determining to create a business venture in the future	3.47	1.158	Fair
If I tried to start a business, I would have a high chance of big successful	3.61	0.838	Good
Total Average	***3.28***	***1.125***	***Fair***

Based on the scale (1.00–2.33 = Weak, 2.34–3.66 = Fair, 3.67–5.00 = Good), the overall mean of 3.28 indicates that respondents have a fair level of interest in becoming entrepreneurs.

3. Open and closed-ended questions of respondents

The closed-ended question (Question 11) and the open-ended question (Question 12) were designed to explore the mindset and career aspirations of female final-year undergraduate industrial design students after completing business courses in the Industrial Design Program. The results demonstrate a strong inclination toward commercializing design outcomes and pursuing entrepreneurship as part of their professional identity. For Question 11, which asked female final-year undergraduate industrial design students whether they would consider marketing and commercializing their final-year project, 88.9% of respondents implied they would, while only 11.1% mentioned they would not. Thus, this indicates a high level of entrepreneurial awareness and interest in transforming academic projects into marketable products. Moreover, the finding suggests that most female final-year undergraduate industrial design students view design as both a creative activity and a potential business opportunity. Additionally, for Question 12, which asked female final-year undergraduate industrial design students to state their professional goals, 72% expressed the desire to become both an industrial designer and an entrepreneur. In comparison, 8% planned to pursue only an industrial design specialist. Conversely, 20% remained uncertain or reported a conflict of interest. This implies that most female final-year undergraduate industrial design students aspire to combine design practice with entrepreneurial activity, aligning with global trends in which designers increasingly adopt entrepreneurial roles in the creative industry. Nonetheless, the proportion of unsure respondents reflects a need for clearer guidance, greater exposure, and stronger support systems within entrepreneurial pathways in industrial design education.

This study indicates that female final-year undergraduate industrial design students demonstrate a fair level of entrepreneurial interest (overall mean = 3.28 on a 1–5 Likert scale), denoting moderate motivation to pursue entrepreneurship. Following this, the total number of final-year female undergraduate industrial design students expressed a desire to become designer-entrepreneurs and to commercialize their projects, suggesting potential for growth in entrepreneurial engagement.

https://doi.org/10.37134/ejoss.vol12.sp2.13.2026

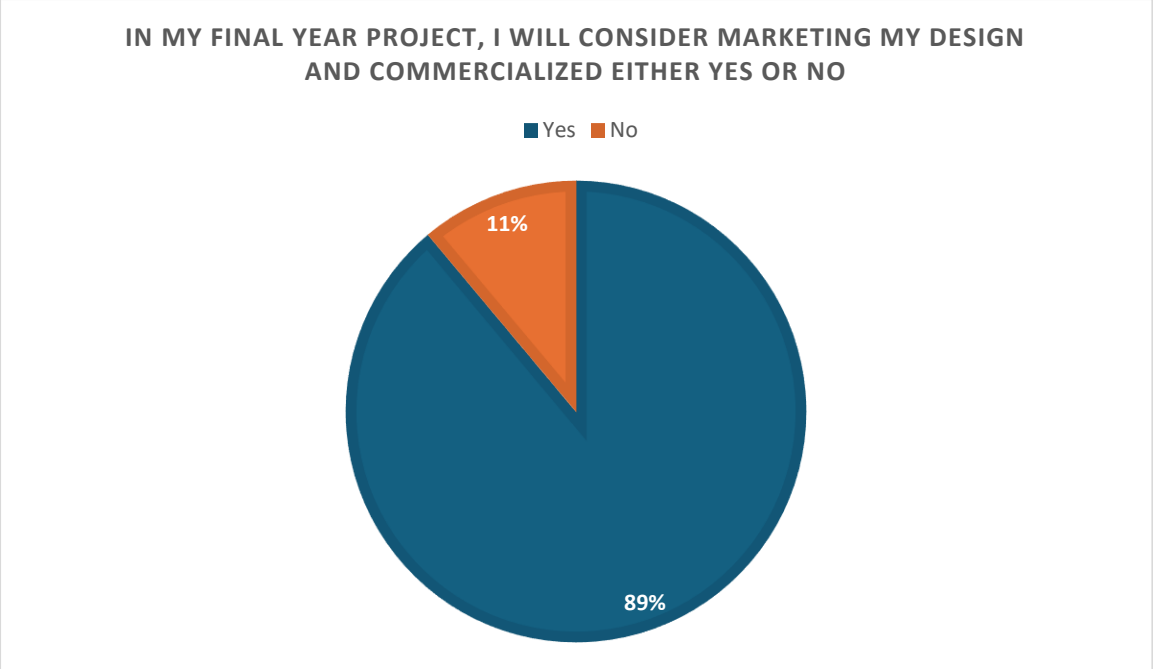


Figure 1: Graphical representation Question 11

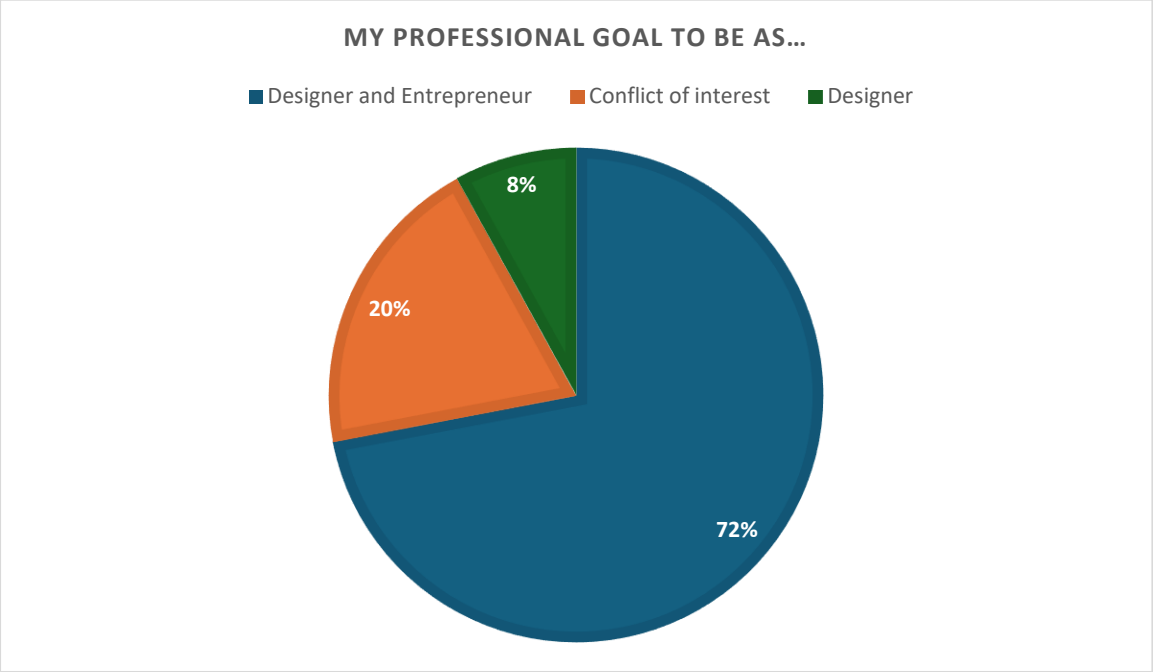


Figure 2: Graphical representation Question 12

Generally, the findings highlight a promising entrepreneurial intention among female final-year undergraduate industrial design students, reflecting a shift in mindset from traditional design employment toward self-driven innovation and business ventures. Hence, this suggests opportunities for institutions to strengthen further entrepreneurship-based modules, mentorship initiatives, and commercialization support to nurture students' entrepreneurial potential.

https://doi.org/10.37134/ejoss.vol12.sp2.13.2026

CONCLUSIONS

The value of this study lies in identifying the level of entrepreneurial intention among final-year female industrial design students who completed the business course. It highlights the research context in the design field related to entrepreneurial intentions and the potential to prepare more capable female entrepreneurs in Saudi Arabia with a design background. Furthermore, business courses have positively influenced students' application of skills and capabilities. Still, limitations include the focus on descriptive analysis, including mean, median, and standard deviation. Thus, future analyses should include SmartPLS and other statistical methods. SmartPLS is a software with a graphical user interface for variance-based structural equation modelling (SEM) using the partial least squares (PLS) path modelling method. For example, incorporating sophisticated techniques such as inferential statistics, analytical tests, exploratory and confirmatory factor analysis, reliability analysis, correlation analysis, and structural equation modeling will help assess the holistic framework formulated for the study. In this study, the respondents were limited to those who took business courses in their final year of the Industrial Design Program. Therefore, expanding the sample to include female students enrolled in business and entrepreneurship courses at both public and private institutions would yield a larger dataset. Interestingly, this dataset could monitor individuals from their final year through the early stages of their careers. Moreover, this study cannot be generalized to all female students. In response, the possible uses and avenues for upcoming research will enhance understanding of other factors that contribute to intention in related contexts and their integration with various methodologies, such as qualitative insights, a mixed-methods approach, or qualitative research, to enrich the findings. Overall, from a practical standpoint, the research could propose integrating entrepreneurship into the industrial design curriculum, tailored to the needs and skills of female students.

ACKNOWLEDGEMENT

The authors wish to express their heartfelt appreciation to the Industrial Design Department at the College of Design, IAU, for its support and resources during the study. Additionally, sincere thanks are given to all participants/respondents who kindly shared their time and insights during the data collection process. The author is a PhD student at Universiti Teknologi MARA, focusing on Female Entrepreneurship, Industrial Design Education, and Intention Behaviour among Industrial Product Graduates.

CONFLICT OF INTEREST

The authors declare no conflicts of interest

AUTHORS' CONTRIBUTION

Author 1: Conceptualization, Methodology, Writing and Editing **Author 2**: Supervision and Validation **Author 3.** Supervision and Validation. **Author 4**: Supervision and Validation

AVAILABILITY OF DATA AND MATERIALS

Data available on request from the authors.

DECLARATION OF GENERATIVE AI

The authors declare that no generative AI was used in the writing of the manuscript.

https://doi.org/10.37134/ejoss.vol12.sp2.13.2026

ETHIC STATEMENTS

'Not applicable'

REFERENCES

Aljarodi et al., (2022) Female Entrepreneurial Activity and Institutions: Empirical Evidence from Saudi Arabia https://doi.org/10.1016/j.resglo.2022.100102

Alshebami AS and Seraj AHA (2022). Exploring the Influence of Potential Entrepreneurs' Personality Traits on Small Venture Creation: The Case of Saudi Arabia. Front. Psychol. 13: 885980.doi: 10.3389/fpsyg.2022.885980

Abdelwahed, N.A.A.; Alshaikhmubarak, (2023) A. Developing Female Sustainable Entrepreneurial Intentions through an Entrepreneurial Mindset and Motives.Sustainability 2023,15, 6210.https://doi.org/10.3390/su15076210

Eid, N.A.A.; Alkhathlan, K.A.; Haque, M.I.; Alkhateeb, T.T.Y.; Mahmoud, D.H.I.; Eliw, M.; Adow, A.H. (2023) Exploring the Entrepreneurial Intentions of Princess Nourah Bint Abdulrahman University Students and the University's Role Aligned with Vision 2030.Sustainability 2023,15, 16769. https://doi.org/10.3390/su152416769

Islam, M.M., & Alharthi, M. (2024). Business environment's impact on female students' entrepreneurial intentions: Gender analysis. South African Journal of Business Management, 55(1), a3962. https://doi.org/10.4102/sajbm.v55i1.3962

Alexandre-Leclair, L., Aloulou, W., and Redien-Collot, R. (2013), "New directions for Saudi Women Entrepreneurial Intentions", in ICIE 2013: Proceedings of the 1st International Conference on Innovation and Entrepreneurship, 4-5 march, Jordan.

Ilyas, M, (2020) Gender Role Stereotyping and Entrepreneurial Intention Among Saudi Females in International Transaction Journal of Engineering, Management, & Applied Sciences & Technologies DOI: 10.14456/ITJEMAST.2020.167

Alzamel, S., (2021). The Moderating Role of Resource Accessibility to The Theory of Planned Behaviour Components: A Study Of E-Entrepreneurship Intention Among Saudi Women. Journal of Technology Management and Business,6(3)

Osmani M, Weerakkody V, Hindi NM, et al. (2022) The influence of creativity on theentrepreneurial intention of university female graduates: An SEM approach Industry and Higher Education2021, Vol. 0(0) 1–12

Bhatti, MA; Al Doghan, MA; Saat, SAM; Juhari, AS; Alshagawi, M, (2021) Entrepreneurial intentions among women: does entrepreneurial training and education matters? (Pre- and post-evaluation of psychological attributes and its effects on entrepreneurial intention) Journal of Small Business and Enterprise Development Vol. 28 No. 2, 2021pp. 167-184© Emerald Publishing Limited1462-6004DOI10.1108/JSBED-09-2019-0305

Ahmad, Shabir (2024): The impact of product innovation on female entrepreneurship success: A case of Saudi Arabia, Agora International Journal of Economical Sciences (AIJES), ISSN 2067-7669, Agora University Press, Oradea, Romania, Vol. 18, Iss. 1, pp. 1-17, https://doi.org/10.15837/aijes.v18i1.6706

Ramadani, V., Gërguri-Rashiti, S., & Fayolle, A. (2015). Female entrepreneurship in transition economies: Trends and challenges.

Syed, A. M., Alaraifi, A., & Ahmad, S. (2019). Entrepreneurs in Saudi Arabia: risk attitude and predisposition towards risk management. Journal of Entrepreneurship Education, 22(4), 1-18.

Basahal A, 2020) female Entrepreneurship in Saudi Arabia: Motivations And Barriers International Journal of Human Potentials Management (IJHPM), Vol.2 (2), 2020

Alghamdi, Hamdan, Amani.K., El-Hassan, W.S., Aldossari, A.T., & Alrasheed, H.S. (2021). Toward a female entrepreneurship educationcurriculum in Saudi Arabia. Journal of Entrepreneurship Education, 24(5)

https://doi.org/10.37134/ejoss.vol12.sp2.13.2026

Na, J., Choi, Y., & Harrison, D. (2017). The design innovation spectrum: An overview of design influences on innovation for manufacturing companies. International Journal of Design, 11(2), 13-24.

Best, K. (2006). Design management: Managing design strategy, process and implementation. Lausanne, Switzerland: AVA Publishing Muminovic et al. 2019 Research about characteristics of designs from industrial designers and product designers Periodicals of Engineering and Natural Sciences ISSN 2303-4521 Vol. 7, No. 2, June 2019, pp.860-869 Available online at: http://pen.ius.edu.ba.

Liñán, F., & Chen, Y.-W. (2009). Development and Cross-Cultural Application of a Specific Instrument to Measure Entrepreneurial Intentions. Entrepreneurship Theory and Practice, 33(3), 593–617. https://doi.org/10.1111/j.1540-6520.2009.00318.x

Saudi General Authority for Statistics (2022) Q3 2022

Ajzen, I. (1991). The theory of planned behavior. *Organisational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.1016/0749- 5978(91)90020-T

Ajzen, I. (2005). *Attitudes, personality, and behavior*. McGraw-Hill Education (UK).

Pavan Kumar (2021). Exploring the relationship between students' inclination to sports and their entrepreneurial intentions Journal of Engineering Education Transformations, Volume 34, January 2021, Special issue, eISSN 2394-1707

Creswell, J. W. (2014). Research Design: Qualitative, Quantitative and Mixed Methods Approaches (4th ed.). Thousand Oaks, CA: Sage.

https://doi.org/10.37134/ejoss.vol12.sp2.13.2026