

University of Bahrain

College of Science



**Environment and Sustainable Development
Program**

**An Assessment of
Youth's Perception Towards Blue
Economy Entrepreneurship in Bahrain**

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of
Philosophy (Ph.D.) in Environment and Sustainable Development

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ABSTRACT

Youth entrepreneurial intentions form a considerable contribution to social and economic innovation required to enhance sustainable development at local, national, and global levels. Additionally, the blue economy emerges as a crucial element for structural transformation, offering a pathway for the young entrepreneurs to transition from education to self-employment sustainably. This study aims to investigate the factors influencing the youth entrepreneurial intention towards blue ocean economy, which provides a more holistic vision that embraces economic growth, especially in the Kingdom of Bahrain, which seeks to diversify its economy. This study adopts a quantitative research approach by using Theory of Planned Behaviour (TPB) and uses structural equation modelling (SEM) to analyse the data, which examine the factors that affect youth intention towards the contributing of entrepreneurial efforts in the sector of blue ocean economy. A sample of two hundred thirty university students from various disciplines at the University of Bahrain were surveyed. Employing random sampling techniques, the study aims to better understand the factors influencing Bahraini youths' entrepreneurial intention. Findings indicate that the business environment, support systems, and social influences from peers and relatives significantly shape entrepreneurial intentions of young Bahrainis. Conversely, factors such as weather conditions, knowledge levels, and personal control over behaviour were found less significant predictors on the entrepreneurial intention of youth in Bahrain's blue ocean economy. In conclusion, this study serves to help the different stakeholders and policymakers formulate appropriate policies to foster the entrepreneurial intention of youth within the blue economy sector. This sector represents a significant and growing segment of Bahrain's economic landscape.

Keywords: Blue Economy; Entrepreneurship; Youth; Entrepreneurial intention; Theory of Planned Behaviour; Bahrain.

DEDICATION

This thesis is a tribute to my beloved parents, who departed from this life. They were my first teachers, my biggest supporters, and my constant source of inspiration. They showed me how to follow my dreams in a harmonious way, to strive for excellence, and to persevere in the face of various obstacles. How I wish they could witness this day. Equally, I share this accomplishment with my life partner, my wife Hana Alsaeed, whose faith in me never wavered, providing solace and strength through every challenge in this long endeavor. This moment belongs to the three of them as much as it does to me, and I honor them with this milestone.

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Chapter One: Introduction to the Study

Chapter One

Introduction to the Study

1.1 Research Background

Entrepreneurship is increasingly recognized as a global critical driver of economic growth and innovation (Acs et al., 2018; Baumol, 1996; Schumpeter & Swedberg, 2021). It offers opportunities for capacity building, wealth creation, and mobility for populations (Anokhin et al., 2008; Nexford, 2022) through employment opportunities and fostering the acquisition of skills such as creativity and problem-solving (Schoof, 2006), primarily as entrepreneurs identify and pursue new business opportunities that can lead to breakthrough innovations and progress (Shane & Venkataraman, 2000). Thus, fostering entrepreneurship is paramount for nations transitioning from resource- and manufacturing-oriented economies towards more diversified and innovative economic paradigms (Wong et al., 2005).

In recent years, entrepreneurship has evolved to encompass more specialized domains that address pressing global challenges (Zahra & Wright, 2016). One such domain that has gained significant traction is entrepreneurship within the blue economy sector (Wenhai et al., 2019). The World Bank (2017) defines the blue economy as "the sustainable use of ocean resources for economic growth, improved livelihoods, and jobs while preserving the health of ocean ecosystems" (p. 6). This intersection of entrepreneurial activity and ocean-based sustainable development presents unique opportunities for innovation, economic growth, and environmental stewardship (Voyer et al., 2018).

As nations worldwide grapple with the dual imperatives of economic expansion and ecological preservation, the blue economy has emerged as a promising paradigm for achieving these seemingly disparate goals (Patil et al., 2018; Lee et al., 2020). This multifaceted concept transcends traditional sectoral boundaries, integrating upstream activities such as resource extraction and downstream processes, including value-added manufacturing and services (Lee et al., 2020).

Furthermore, the blue economy's significance is underscored by its potential to simultaneously address multiple Sustainable Development Goals (SDGs) (Northrop et al., 2020). As elucidated by Northrop et al. (2020), sustainable ocean-based initiatives can contribute to poverty alleviation (SDG 1), food security (SDG 2), clean energy provision (SDG 7), and climate action (SDG 13) while directly advancing the conservation and sustainable use of marine resources (SDG 14).

Recent scholarship has expanded the blue economy definition to encompass a more holistic view of ocean-based economic activities (Brent et al., 2020). Wenhai et al. (2019) posit that the blue economy framework incorporates diverse sectors including, but not limited to, fisheries and aquaculture, maritime transport, coastal tourism, offshore renewable energy, seabed extractive activities, marine biotechnology, and ecosystem services. This comprehensive approach necessitates harmonizing economic exploitation with ecological conservation, underscoring the intricate interplay between anthropogenic activities and marine ecosystems (Claudet et al., 2020).

This evolving landscape of blue economy entrepreneurship is particularly relevant for island nations like Bahrain (Manikarachchi, I, 2022). As a microcosm of the global shift towards sustainable ocean-based economies, Bahrain's experience offers valuable insights into the challenges and opportunities facing young entrepreneurs in this sector (Atalay et al., 2016). Bahrain's situation exemplifies the potential for blue economy initiatives to address economic and environmental challenges.

Bahrain has historically relied on oil and gas production but is now proactively addressing the need for diversification into renewable energy and blue economy sectors (Oxford Business Group, 2022; UNDP, 2018). This shift is crucial for achieving a more balanced and sustainable future, especially given Bahrain's environmental challenges due to its high population density. With 2,052 people per square kilometre in 2021 (World Bank, 2023), Bahrain experiences intense environmental pressures, including severe water scarcity, waste management issues, and habitat degradation.

Al-Ansari et al. (2019) found that groundwater extraction rates in Bahrain exceed natural recharge by 100-315%, leading to increased aquifer salinity. The Bahrain National Environment Strategy 2021-2024 (Supreme Council for Environment, 2021) reports that municipal solid waste generation has risen to 1.67 kg per capita daily, straining the country's waste management infrastructure. Moreover, Al-Zubari et al. (2018) highlight that over 90% of Bahrain's original coastal habitats have been altered by land reclamation and urbanization, significantly impacting marine biodiversity. These interconnected challenges underscore the need for innovative, sustainable solutions that could be addressed through blue economy initiatives.

To combat these challenges and align with global sustainability goals, Bahrain has set a net-zero emissions target for 2060 (Khan & Al-Ghamdi, 2023). The country is strategically developing its hydrocarbon industry alongside emerging sectors such as offshore wind and the blue economy (Oxford Business Group, 2019; UNDP, 2018). With just 717.5 square kilometres of land but surrounded by 7,552 square kilometres of sea (Bahrain Land Bureau, n.d.), Bahrain has unique opportunities to leverage the ocean economy for sustainable development.

The potential of the blue economy is significant. According to the OECD (2016), it is poised for substantial growth, with an estimated worth of \$3 trillion by 2030, providing over 30 million jobs and supplying a vital source of protein to over three billion people. This burgeoning field addresses numerous ocean-related opportunities and challenges, including climate change, food security, biodiversity, energy, and transportation (Nurse-Bray et al., 2019).

Despite these opportunities, Bahrain's economy remains heavily dependent on hydrocarbon resources. The Central Bank of Bahrain (2023) reports that the oil and gas sector contributed 17.8% to the country's GDP in 2022, accounting for approximately 60% of government revenues. However, youth participation in this crucial sector is notably low. A Labour Market Regulatory Authority (LMRA, 2021) study revealed that only 8.3% of Bahraini nationals employed in the oil and gas industry were under 25 years old, rising to 23.7% for those under 30.

Alshehabi (2019) attributes this underrepresentation to several factors, including the industry's highly specialized nature and limited job growth potential. Many young Bahrainis need more technical skills for petroleum engineering and related fields, partly due to misalignment between educational curricula and industry needs. Furthermore, the Bahrain Economic Development Board (2020) reported that new oil and gas sector hires decreased by 28% between 2015 and 2019, primarily due to technological advancements and automation.

These trends underscore the urgency of creating diverse economic opportunities for Bahrain's youth beyond traditional hydrocarbon industries, particularly in emerging sectors like the blue economy. The blue economy presents an opportunity to address this challenge by creating new, sustainable job opportunities that align with Bahrain's environmental and economic goals.

Meanwhile, Bahrain's youth population can contribute significantly to this entrepreneurial opportunity. One of the demographic features of Bahrain is its large youth population, which made up about 20.38 per cent of the total population in 2021 (O'Neill, 2023). This percentage is slightly higher than the regional average of 19.8 per cent for the Middle East and North Africa (World Bank, 2022). The youth population is also part of the working-age population, defined as those aged 15-64. According to the World Bank (2022), this group accounted for 71.1 per cent of the total population in 2020. Research shows that early entrepreneurial competencies developed in adolescence, such as opportunity recognition and creativity, positively predict later venture creation success (Obschonka et al., 2011). However, complex personal and contextual factors influence their entrepreneurial intentions, requiring dedicated study (Liñán & Chen, 2009; Krueger et al., 2000).

This study applies the Theory of Planned Behaviour (TPB) (Ajzen, 1991) to examine factors affecting Bahraini youth's intentions for blue economy entrepreneurship. The TPB suggests attitudes, subjective norms, and perceived control shape intentions. Although Bahrain has high general entrepreneurial activity, there needs to be more regarding innovative marine ventures (Kontakos, 2019). Analysing youth entrepreneurial intentions using the TPB can better inform policies to promote youth

participation in the blue economy, contributing to Bahrain's economic diversification, innovation, and enhance youths' skills.

The TPB (Ajzen, 1991) posits that attitudes, subjective norms, and perceived behavioural control shape intentions to perform a behaviour. Attitudes reflect the degree to which the behaviour is perceived as desirable or valuable based on expected outcomes and personal beliefs (Liñán & Chen, 2009). Subjective norms arise from social influences like family, community, and societal norms regarding behaviour (Carr & Sequeira, 2007). Perceived behavioural control refers to one's self-assessed capability to perform the behaviour based on skills, abilities, and resources (Walter & Block, 2016; Fitzsimmons & Douglas, 2011).

The youth's perspective on blue economy entrepreneurship is shaped by their beliefs about its appeal and the influence of their social circles' views on marine entrepreneurship (Smith & Johnson, 2019). To foster a sense of capability towards blue-economy entrepreneurship, they may require enhanced practical experience, expanded networks, access to financing, and greater knowledge. Educational background, self-efficacy, and creativity are fundamental in cultivating favorable attitudes towards such entrepreneurial ventures, as evidenced by Bae et al. (2014) and Obschonka & Stuetzer (2017).

Thus, this study aims to make four main contributions to the growing body of literature on entrepreneurial intentions and the theory of planned behaviour (TPB). First, despite the prevalent application of TPB in entrepreneurship research, limited studies have examined intentions towards the emerging blue economy sector. This study addresses a clear gap in the literature by focusing on antecedents of youth's blue entrepreneurship intentions (Ibrahim & Lucky, 2014; Liñán & Chen, 2009; Walter & Block, 2016).

Second, this study responds to calls for greater insight into drivers of entrepreneurial intentions among youth populations (Chigunta, 2017; Schoof, 2006). Understanding factors shaping youth inclinations allows tailored interventions to nurture entrepreneurship, which enables innovation and inclusive growth outcomes (Hussain et al., 2018; Naudé, 2011).

Third, the study provides empirical evidence on antecedents of blue economy entrepreneurial intentions among Bahraini youth, affirming TPB premises on the role of perceived control, social norms and attitudes (Ajzen, 1991; Walter & Block, 2016). The study demonstrates how weather conditions, knowledge and supportive environments are crucial for Blue Entrepreneurship. It provides evidence-based insights for policymakers who want to design effective policies that foster conducive frameworks.

Fourth, the research demonstrates the applicability of TPB for understanding entrepreneurial motivations in understudied contexts like blue economy sectors and youth populations. The study provides a model for future research examining drivers of entrepreneurship across different emerging fields and demographic groups.

This study advances scholarly understanding of TPB and entrepreneurial intentions while delivering practical insights for enabling youth, innovation, and economic dynamism. The research makes notable theoretical and empirical contributions relevant to academia and policy. Further research can expand on these results to continually inform evidence-based policies that harness Bahrain's ocean economy while creating new economic opportunities for its people.

1.2 Problem Statement

Bahrain has made its youth a core part of its development efforts. However, while many of the programs targeting the Bahraini youth, such as entrepreneurship-based programs, have been created to ensure local youth actualise their potentials and become financially independent, “blue economy” has not yet been part of an entrepreneurship-focused programs initiatives. Hence, youth involvement in Bahrain’s blue economy has been low (O'Neill, 2023).

The "blue economy" concept has increasingly captured global attention as a strategic framework for sustainable development, emphasizing the utilization of the oceans' and seas' vast resources to spur economic growth, enhance livelihoods, and create job opportunities, all within the ambit of preserving marine ecosystems' integrity.

According to the World Bank, the blue economy encompasses the "sustainable use of ocean resources for economic growth, improved livelihoods, and jobs while preserving the health of ocean ecosystem" (Smith-Godfrey, 2016). This holistic approach underlines the blue economy's dual objective: harnessing the economic potential of maritime resources while ensuring environmental sustainability.

However, transitioning to a blue economy is fraught with complexities, involving multifaceted challenges and prospects that necessitate comprehensive scholarly research and calculated policymaking (Martinez et al, 2021). The intricacies of balancing economic development with ecological preservation call for innovative solutions and cross-disciplinary collaboration. As such, the blue economy's conceptual and operational dimensions are ripe for in-depth academic inquiry and practical experimentation to navigate its potential effectively and sustainably (Heidkamp et al, 2022).

A review of existing literature reveals a growing interest in the blue economy as a lever for sustainable development globally (Pauli ,2010). However, studies focusing on the entrepreneurial aspect of the blue economy, especially in the context of Gulf Cooperation Council (GCC) countries like Bahrain, are conspicuously limited (Habip & Dogan, 2022). This scarcity of research highlights a significant gap in understanding how Bahrain's youth perceive blue economy entrepreneurship and what factors influence their intentions to engage in such ventures.

However, in the last decade, youth entrepreneurship in Bahrain gained government attention and has become a new youth employment window force (Amara & Albastaki, 2021). Changes in academic and business environments have stimulated the interest of scholars in the study of entrepreneurship intentions in Bahraini context (Darwish et al., 2022). In the context of Bahrain, research on entrepreneurship intentions has started to carve a significant niche within the broader domain of business and economic studies. This emerging focus is attributed to Bahrain's strategic efforts to diversify its economy, encourage innovation, and support small and medium-sized enterprises (SMEs) as pivotal elements of its economic vision. A notable body of work

is beginning to showcase how entrepreneurial intentions are influenced by various factors unique to Bahrain's socio-economic landscape.

Key findings in this area highlight the critical role of cultural, educational, and policy-related factors in shaping the entrepreneurial landscape. For instance, the influence of Bahrain's entrepreneurial education and training programs in universities and colleges has been investigated to understand its impact on shaping students' and young professionals' attitudes towards entrepreneurship (Al-Mubarak & Busler, 2013). These studies often underscore the importance of practical, hands-on experiences and mentorship in fostering entrepreneurial intentions among the youth. Furthermore, the role of government policies and support mechanisms, including the Bahrain Development Bank and Tamkeen, has been examined for their effectiveness in encouraging start-up formation and growth. Research indicates that such support, combined with Bahrain's regulatory environment designed to facilitate business operations, plays a vital role in enhancing entrepreneurial intentions and activities (Al-Swidi & Al-Hosam, 2012).

The social and cultural dimensions of entrepreneurship in Bahrain also receive attention, with studies exploring how family support, societal attitudes towards entrepreneurship, and networking opportunities within the Bahraini context influence individuals' propensity to engage in entrepreneurial ventures (Khalifa et al., 2015 & Ahmed, 2011). However, challenges such as access to finance, market saturation in certain sectors, and the need for more robust entrepreneurial education are also highlighted in the literature (Skalli, 2022). These challenges call for increasing the ongoing attention to refine and enhance the ecosystem for entrepreneurship in Bahrain.

Bahrain, an island nation with a rich maritime heritage, is at a pivotal juncture. Its economy, traditionally reliant on oil, faces the urgent need for diversification to ensure sustainable development. Concurrently, global environmental challenges stemming from climate change underscore the necessity for innovative solutions. The blue economy, with its promise of sustainable job creation and environmental conservation, emerges as a compelling avenue. However, the pathways for Bahraini youth to engage

in this sector are not clearly charted, indicating a gap in both policy and academic domains (Saleh & Munir 2023).

The global discourse on the blue economy emphasizes its potential for innovation, job creation, and environmental sustainability (Germond-duret,2022). Yet, academic literature on the blue economy's entrepreneurial opportunities, especially sea-related jobs, is predominantly generalized, with a notable absence of focused studies on specific nations or demographic groups (Wenhai et.,2019). This is particularly true for Bahrain, where despite the country's inherent maritime advantages, little is known about the youth's entrepreneurial intentions towards the blue economy (Omar, 2021 & Lagaras,2017). This lack of targeted research presents a substantial barrier to formulating effective policies and educational programs that could foster a vibrant blue economy sector driven by young entrepreneurs.

Incorporating the focus on entrepreneurship intentions among Bahraini youth graduates, particularly in relation to blue economy-related jobs, it is evident that this area has received scant academic attention despite its growing importance. The blue economy, which encompasses a diverse range of economic activities related to the seas and oceans, including fisheries, maritime transport, and renewable energy, represents a significant opportunity for sustainable development in Bahrain. Given Bahrain's strategic geographical location and long-standing maritime history, the potential for innovative entrepreneurship in the blue economy sector is substantial. However, academic research specifically addressing the entrepreneurship intentions of Bahraini youth graduates in this sector remains limited.

This gap in the literature is notable because understanding the factors that motivate or deter young graduates from pursuing entrepreneurial ventures in the blue economy could provide critical insights for policymakers, educators, and industry stakeholders. Such insights are essential for developing targeted interventions that encourage youth entrepreneurship in sustainable industries, which is crucial for Bahrain's economic diversification efforts and environmental sustainability goals. The absence of academic work in this area suggests a need for comprehensive studies that explore the interplay between educational backgrounds, environmental awareness, perceived

opportunities in the blue economy, and entrepreneurial intentions among Bahraini youth. Investigating these dimensions could shed light on how to effectively nurture entrepreneurial talent that contributes to the growth of sustainable blue economy ventures in Bahrain.

Addressing this research gap would not only enrich the academic discourse on entrepreneurship intentions in Bahrain, but also align with global trends emphasizing the importance of sustainable development and the potential of the blue economy to drive innovation, job creation, and environmental stewardship. This study, therefore, seeks to fill the aforementioned gap by meticulously investigating the entrepreneurial intentions of Bahraini youth towards the blue economy, using the TPB as a guiding framework. Through examining personal attitudes, subjective norms, and perceived behavioural control, this research aims to provide a detailed understanding of the factors influencing young Bahrainis' intentions to embark on marine-focused entrepreneurial ventures. Hence, the Theory of Planned Behaviour (TPB) is the most suitable framework for this study on youth entrepreneurial intentions in Bahrain's blue economy. While theories like the Theory of Reasoned Action, Self-Efficacy, and Social Cognitive Theory offer valuable insights, TPB's comprehensive approach is particularly advantageous. It integrates critical elements from these theories - attitudes and social norms from the Theory of Reasoned Action, self-efficacy (similar to perceived behavioural control) from Self-Efficacy Theory, and the interplay between personal and environmental factors from Social Cognitive Theory. This integration allows for a nuanced examination of how Bahraini youth's attitudes towards the blue economy, societal perceptions, and self-assessed capabilities influence their entrepreneurial intentions. TPB's structure is especially relevant in Bahrain, where shifting from traditional hydrocarbon industries to the blue economy involves complex personal, social, and environmental considerations. The theory's flexibility also permits the incorporation of specific factors pertinent to Bahrain's situation, such as the impact of government initiatives promoting economic diversification or the influence of environmental challenges on entrepreneurial motivation. A more in-depth examination of these theories and their application to blue economy entrepreneurship will be provided in Chapter 2. Such an investigation is paramount for developing a

comprehensive strategy that supports blue economy entrepreneurship as a viable path for economic diversification, environmental sustainability, and job creation in Bahrain.

The significance of this study cannot be overstated. By bridging the gap in literature, it not only contributes to the academic field of entrepreneurship and blue economy but also serves as a resource for policymakers, educators, and industry practitioners in Bahrain and similar contexts. The findings of this research have the potential to inform the development of targeted educational programs, mentorship schemes, and policies that support blue economy entrepreneurship among the youth, thereby catalyzing sustainable development and economic diversification efforts.

In summary, this study addresses a critical gap in the existing literature by focusing on the entrepreneurial intentions of Bahraini youth within the blue economy context. It seeks to explore how personal attitudes, subjective norms, and perceived behavioural control influence these intentions, aiming to uncover insights that can guide policy formulation, education, and support mechanisms. By doing so, this research not only enriches the academic discourse on entrepreneurship and the blue economy but also lays a groundwork for actionable strategies to further assist Bahraini young entrepreneurs, leveraging their potential to drive sustainable economic and environmental progress.

1.3 Research Objectives

This study explores the factors influencing blue economy entrepreneurial intentions among Bahraini youth through the theory of planned behaviour (TPB) lens. The objectives are twofold:

First, this study investigates the key TPB predictors of Bahraini youth's blue economy entrepreneurial intentions. In line with TPB, attitudes, subjective norms, and perceived behavioural control are employed to explain antecedents of intentions. As TPB explains, these critical determinants of intentions influence an individual's inclination

towards behaviours. This research will apply them in the blue economy entrepreneurship domain to understand the youth entrepreneurial intentions in Bahrain.

Second, this study examines how knowledge and contextual factors shape Bahraini youth's perceived feasibility and desirability of blue economy entrepreneurship. Specifically, to achieve the goals of the current research, the following research objectives were established:

1. Assess the impact of entrepreneurial intention on youth's interest in blue economy entrepreneurship in Bahrain.
2. Examine the role of perceived behavioural control in influencing youth entrepreneurial intention towards the blue economy in Bahrain.
3. Evaluate how subjective norms and social expectations shape youth entrepreneurial intentions towards the blue economy in Bahrain.
4. Determine the influence of personal attitudes and characteristics on youth entrepreneurial intention towards the blue economy in Bahrain.
5. Analyze how policymakers and business environmental factors enable or impede youth entrepreneurial intention in the blue economy sector in Bahrain.
6. Investigate the extent to which prior knowledge and experience related to the blue economy impacts youth entrepreneurship in that sector in Bahrain.
7. Study the effects of Bahrain's climate conditions and weather patterns on youth entrepreneurial intention in blue economy ventures.

Achieving these objectives will provide insights into key drivers of blue entrepreneurial intentions based on TPB. It will also reveal the significance of knowledge and supportive conditions for strengthening youth engagement in the blue economy.

1.4 Research Questions

Despite the pressing need for research and the significant role of blue economy entrepreneurship in Bahrain's ongoing efforts to diversify its economy and lessen its

dependency on oil, current literature lacks a comprehensive theoretical foundation and empirical evidence on the potential of Bahraini youth entrepreneurship in the blue economy. Furthermore, there has been little exploration into the specific factors that could steer youth toward this emerging economic sector. While numerous empirical studies have examined general entrepreneurial behaviors through the lens of planned behavior theory, investigations into the intentions of Bahraini youth towards blue economy and maritime-related careers remain absent. Considering these identified gaps, this research will address the following refined research questions:

1. How does the business environment, including the support mechanisms provided by both policymakers and non-governmental institutions, influence Bahraini youths' intentions to engage in entrepreneurship within the blue economy?
2. What roles do educational initiatives, and the self-efficacy of Bahraini youth play in shaping their entrepreneurial intentions in the blue economy?
3. To what extent do environmental concerns, such as weather patterns and climate change impacts in Bahrain, affect the entrepreneurial intentions of youth towards the blue economy?
4. How do social support and the perceived social value of the blue economy sector influence Bahraini youths' motivation and intentions to pursue entrepreneurship within this field?
5. Are Bahraini youth aware of the entrepreneurial opportunities within the diverse sectors of the blue economy, and how do they perceive these opportunities for starting entrepreneurial activities?
6. What are Bahraini youths' perceptions of the personal qualities necessary for successful entrepreneurship in the blue economy sector?
7. How important is prior knowledge and experience in the blue economy for Bahraini youth considering entrepreneurship in this sector?

1.5 Research Hypotheses

Given the declining oil and gas sector and the shift towards renewables globally, entrepreneurship is crucial for Bahrain's economic growth. Understanding factors influencing university students' entrepreneurial intentions in Bahrain is thus vital for encouraging business creation in the blue economy.

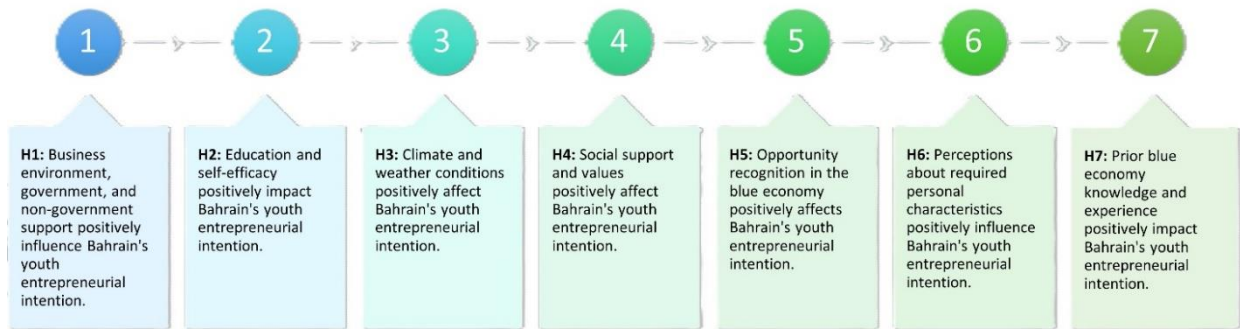
Although Bahrain's Economic Vision 2030 (Bahrain's National Portal, 2024) focuses on diversifying into sectors like tourism, logistics and business services, the blue economy remains an untapped resource that can drive growth in tourism, aquaculture and other segments. Moreover, entrepreneurship is increasingly relevant for boosting Bahrain's economy in the digital age.

Therefore, this study aims to develop a holistic model to test the following hypotheses about the determinants of youth entrepreneurial intentions in the context of Bahrain's blue economy. The study will examine how personal, social, and environmental factors influence young Bahrainis' entrepreneurial intention to pursue entrepreneurial opportunities in the blue economy sector.

- H1: Entrepreneurial intention among Bahrain's youth positively affects entrepreneurial intention towards the blue economy.
- H2: Perceived behavioural control among Bahrain's youth positively affects entrepreneurial intention towards the blue economy.
- H3: Subjective norms among Bahrain's youth positively affect entrepreneurial intention towards the blue economy.
- H4: Personal attitudes and characteristics among Bahrain's youth positively affect entrepreneurial intention towards the blue economy.
- H5: The business environment and support provided by government and non-governmental institutions positively influence the youth's entrepreneurial intention in Bahrain.
- H6: Prior knowledge and experience related to the blue economy positively impact youth's entrepreneurial intention to initiate ventures in the blue economy sector in Bahrain.

- H7: Bahrain's weather and climate change conditions positively affect the youth's entrepreneurial intention.

Figure 1.1: Research Hypothesis



1.6 Definition of Terms

The following abbreviations are employed throughout the study to represent the corresponding terms. Refer to this list for clarification when encountering an abbreviation.

Term	Abbreviation	Definition
The Theory of Planned Behaviour	TPB	It is a theoretical framework that posits that intention to perform a behaviour is shaped by attitudes, subjective norms, and perceived behavioural control (Ajzen, 1991).
Attitudes		It refers to the degree to which an individual evaluates a particular behaviour as favourable or unfavourable based on their

		beliefs about the potential consequences of the behaviour (Ajzen, 1991; Fishbein & Ajzen, 1977).
Subjective Norms		It refers to an individual's perception of whether significant others approve or disapprove of performing a particular behaviour (Ajzen, 1991; Fishbein & Ajzen, 1977).
Perceived Behavioural Control		It refers to an individual's perception of the ease or difficulty in performing a behaviour, determined by their confidence in having the necessary skills, resources, and opportunities to perform the behaviour (Ajzen, 1991).
Sea-related		It refers to anything connected to marine environments, marine biodiversity, marine industries, and the sustainable use of ocean resources (Kontakos, 2019).
Blue Economy	BE	It refers to the sustainable use of ocean and marine resources for inclusive economic growth and improved livelihoods and jobs while preserving the health of marine ecosystems (World Bank, 2017).
Ocean		refers to the interconnected system of all the earth's marine and coastal environments, biodiversity, and ecosystems (NOAA, 2022).

Sustainable Development Goals	SDGs	The United Nations Sustainable Development Goals (SDGs) are 17 interconnected global goals adopted in 2015 to achieve a sustainable future for all by 2030 (United Nations, 2022).
Entrepreneurship		It refers to designing, launching and operating a new business venture, often characterized by risk-taking, creativity and innovation (Ahmed et al., 2020).
Cronbach's alpha		It is a statistical measure of the internal consistency and reliability of a psychometric scale or test (Cronbach, 1951).
Analysis Of Variance	ANOVA	It is a survey instrument developed to measure entrepreneurial intentions and their antecedents based on the theory of planned behaviour (Liñán et al., 2011).

Table 1.1: List of Abbreviations

1.7 Nature of the Study

This study explored Bahraini youth entrepreneurship intentions in the blue economy sector, employing one of three primary research methodologies: qualitative, quantitative, and mixed methods (Hesse-Biber, 2016). Given the study's aim to examine the correlations between intrinsic personal attitudes, subjective norms, perceived behaviour control, and entrepreneurial intentions, a quantitative approach was deemed most suitable. This method, known for testing hypotheses and

investigating variable correlations (Hesse-Biber, 2016), aligns with the study's nonexperimental, cross-sectional, and correlational design.

Quantitative research, as chosen for this study, allows for precise measurement and statistical analysis of data, adhering to established standards and prevalidated instruments for reliability (Williams, 2007). This approach not only facilitates the reproduction, analysis, and comparison of results with other entrepreneurial studies but also ensures objective outcomes through statistical assessments, crucial in social commerce research (Henseler & Sarstedt, 2013).

In contrast, the qualitative method, which focuses on gaining insights or understanding individual viewpoints (Vass et al., 2017), was not suitable for this study, as it does not require an exploration of Bahraini youths' personal feelings, thoughts, or views. Similarly, the mixed-methods approach, which combines both quantitative and qualitative techniques (McKim, 2017), was unnecessary, given the absence of a qualitative component in this investigation.

The study's design, involving a cross-sectional survey (Creswell & Creswell, 2017), builds on existing quantitative research and theories (Armitage & Conner, 2001). This choice aligns with many past studies in entrepreneurial intention research, which predominantly employed quantitative methods (Armitage & Conner, 2001). As Groves et al. (2011) noted, while no single research method is universally ideal, certain methods are more suited to specific research scenarios and objectives.

1.8 Scope of the Study

1.8.1 Why Choose Bahrain?

Bahrain is an island nation with a rich and diverse marine environment that provides food, income, and cultural heritage for its people (UNEP, 2020). However, the marine resources of Bahrain, such as coral reefs, sea-grass beds, algae beds, oyster beds, fish, shrimp, and pearls, face many threats from overfishing, pollution, coastal urbanization, climate change, and invasive species according to “The Supreme Council for

Environment” in Bahrain. However, and as per the “Agriculture & Marine Resources Affairs at the Ministry of Municipalities Affairs and Agriculture”, young generation of Bahrain is not giving sufficient attention to the marine resources when venturing into new entrepreneurial projects (Agriculture & Marine Resources Affairs, 2022). Bahrain’s marine resources have multiple dimensions of analysis, ranging from environmental to economic and social.

From an environmental and ecological aspects, previous research has found that Bahrain is not fully utilizing its marine resources and that there is a need for more scientific data and public awareness to support sustainable management (Al-Madany et al., 2012; Al-Sayed et al., 2016; Naser, 2014; UNEP, 2017). Some of the research topics that have been explored include the assessment of coral reef health and biodiversity (Al-Madany et al., 1991), the evaluation of fish stocks and fisheries management (Naser, 2014), and the identification of marine protected areas and conservation strategies (UNEP, 2017). However, and despite some research, there are still some gaps in knowledge and opportunities for further research on Bahrain's marine resources, such as the economic valuation of ecosystem services, ecological dynamics, the impact of climate change on marine habitats and species, the development of aquaculture and mariculture, and the promotion of ecotourism and environmental education (Al-Mansoori et al., 2020).

Bahrain's marine resources have various dimensions that can be explored from different perspectives, such as environmental, economic, or social. As the only Arab and GCC island country with a unique maritime culture and heritage, Bahrain is a worthy case study (Al-Madani, 2018; Naser, 2014). According to Al-Madani (2018), Bahrain has a rich history of maritime activities, such as pearl diving, fishing, boat building, and trade, that have shaped its identity and culture. However, Bahrain also faces several environmental difficulties that threaten its marine resources, such as pollution, overfishing, and climate change (Naser, 2014; Al-Zubari et al., 2020). Therefore, it is so important to find ways to protect and sustain the marine environment while creating opportunities for innovation and entrepreneurship in the marine sector in Bahrain.

1.8.2 Why choose entrepreneurship related to blue economy in Bahrain?

Choosing entrepreneurship related to the blue economy is very important to an island state like Bahrain. According to the World Bank (2017), Bahrain has a large potential to develop its blue economy by utilizing its marine resources in various sectors such as fisheries, tourism, energy, and transport. However, these resources are not fully exploited and there is still a room for entrepreneurial initiatives that can create new opportunities for income generation endeavours, and environmental sustainability in Bahraini (Abdulla & Naser, 2021).

As discussed by Abdulla and Naser (2021) in their recent analysis of marine environmental policies in Bahrain, there is great need and opportunity for youth involvement in developing the blue economy sustainably. The authors argue that engaging young Bahrainis in marine sectors like fisheries, tourism, and renewable energy will be essential for meeting the UN Sustainable Development Goals and ensuring the long-term health of ocean ecosystems. Thus, the young generation can contribute to the innovation and development of new technologies and methods to monitor and manage marine resources. Furthermore, they have the potential to spearhead or participate in entrepreneurial endeavors that utilize marine resources, which can augment social and cultural oceanic values, thereby reinforcing a sense of identity among Bahraini entrepreneurs (World Bank, 2017).

As Al-Madani et al. (2019) stated, "the blue economy can be a source of inspiration and empowerment for the young entrepreneurs, as they can connect with their heritage and traditions while creating a positive impact on their society" (p. 11). Hence, Bahrain's economic diversification depends, at least partially, on the effective exploitation of its marine resources and the innovative potential of its new generations.

A study conducted by Alshubiri (2018), which was featured in the Maritime Business Review, argued that the key factors driving the venturing into entrepreneurship within the blue economy domain is the investment prospects coupled with robust support from policymakers and various stakeholders. The research underscores the potential for GCC nations, particularly Bahrain, to gain substantial returns through investments

in aquaculture and maritime construction. Such insights underscore Bahrain's receptiveness to innovation and entrepreneurial enterprises in the blue economy realm.

According to Al-Zubari et al, (2020), the ocean provides valuable ecosystem services and biodiversity that support human well-being and climate action. Therefore, entrepreneurs who engage in blue-economy-related ventures in Bahrain can create value for themselves, society, and the environment. This field of entrepreneurship is an opportunity to protect and improve the ocean's health and wealth.

1.9 Significance of the Study

This study makes several notable contributions to research on blue economy entrepreneurial intentions and the Theory of Planned Behaviour (TPB). First, it expands the application of TPB into the understudied context of marine entrepreneurship among youth. Despite the prevalent use of TPB in entrepreneurship research, only few studies have examined drivers of intentions towards blue economy ventures, none of which were in the Arab countries. This addresses a clear literature gap. Understanding factors shaping engagement in sustainable marine industries has important implications as the blue economy gains traction globally. This research offers fundamental insights upon which other scholars can build.

Second, it provides empirical insight into TPB factors influencing youth populations. As the next generation of entrepreneurs, understanding the drivers of youth intentions allows tailored interventions to stimulate engagement. However, research on youth entrepreneurial motivations remains limited. This study responds to calls for greater focus on this critical demographic. Examining intentions rather than actual behaviours also controls for external constraints youth may face. While studies have examined various drivers, few have considered which factors are essential or function as moderators. This study fills this gap by analyzing attitudes, norms, and control as drivers of blue economy entrepreneurial intentions among Bahraini youth. It illuminates the most decisive influences to target through education and policy.

Furthermore, the research explores the role of knowledge and contextual factors in shaping TPB antecedents. Limited studies have examined how knowledge and environments influence entrepreneurial attitudes, norms and control beliefs. Testing these relationships advances scholarly understanding of TPB contingencies and boundary conditions. The study provides empirical evidence on how contextual elements interact with cognitive drivers.

Finally, integrating TPB factors and external variables into a conceptual model is the first study to empirically examine drivers and moderators of blue economy entrepreneurial intentions simultaneously. It provides a novel holistic perspective, capturing both personal and contextual dynamics. This comprehensive approach will inspire future research exploring sustainable entrepreneurial motivations.

The findings will also guide policymakers and educators on factors stimulating youth engagement in the blue economy. Tailored strategies and programs can be designed to cultivate supportive attitudes, norms, knowledge, and capacities. This research provides practical insights for enabling the next generation of marine entrepreneurs in Bahrain and beyond. With clear policy implications, it bridges a divide between theory and practice.

1.10 Organization of the Study

This study consists of seven chapters. The first chapter sets the stage for the research by providing a comprehensive background on the topic of youth entrepreneurial intentions in the context of the blue economy in the Kingdom of Bahrain. It also clarifies the scope and focus of the study and the rationale for choosing Bahrain as the case study, focusing on the factors that influence youth entrepreneurship in this emerging field. It also emphasizes the importance and the promising potential of the blue economy as a source of economic development in Bahrain. It also explains the need to encourage and support youth participation in the rising sectors of the blue economy, especially for an island nation like Bahrain. The chapter then outlines the conceptual framework main research objectives, questions, and hypotheses that guide

the study. The chapter also discusses the expected theoretical, practical, and policy implications of the research. The chapter concludes by defining the key terms and concepts used throughout the study.

The second chapter reviews the relevant literature on the blue economy, youth entrepreneurship, and the Theory of Planned Behaviour (TPB) as the main theoretical framework to understand the behavioural intentions of young people towards marine-related entrepreneurship. It also discusses other theories and studies that are related to this topic and identifies the key factors that influence the entrepreneurial intentions of youth in the marine sector. Foundational concepts are defined, and an adapted theoretical model is judiciously proposed based on the TPB. Moderating variables highly relevant to the context are incorporated, and their hypothesized effects are logically developed. Furthermore, the chapter highlights the gaps in the existing literature and the need for this study to contribute to the knowledge on youth and marine entrepreneurship.

The third chapter provides a detailed analysis of the Blue Economy in Bahrain, a small island state with a long maritime history and a rich marine environment. It explains the reasons for choosing Bahrain as a case study and the opportunities and challenges it faces in developing its blue economy sectors. It also highlights the potential areas for innovation and entrepreneurship in the marine domain, especially for the youth. The chapter concludes with an overview of the factors that motivate young entrepreneurs in Bahrain to pursue their blue economy ventures.

The fourth chapter comprehensively details the quantitative, cross-sectional survey methodology carefully employed to test the proposed theoretical model. The target population, thoughtful sampling technique, justified sample size determination, and systematic survey administration procedures are thoroughly described. Existing validated scales adapted to measure the study constructs rigorously are lucidly presented, and the illuminating pilot study is succinctly summarized. Finally, the sophisticated statistical techniques of regression analysis and structural equation modelling used to analyze the data are precisely delineated.

The results are crisply presented and insightfully discussed in chapter five. The analysis and results include descriptive statistics, hypothesis testing, and subgroup analyses for the main variables. The chapter also evaluates the validity and reliability of the measures used in the study, such as content, construct, and criterion-related validity, and internal consistency. The chapter discusses how the validity and reliability analyses influence the interpretation of the findings and acknowledges their limitations.

Chapter six analyses and discusses the main findings of the statistical analysis conducted in chapter five and links them to the theoretical framework and literature review. The purpose is to explore how different factors affect the entrepreneurial intentions of Bahraini youth in the blue economy sector, which is crucial for sustainable development in Bahrain. Based on TPB, this chapter shows how personal attitudes, social norms, and perceived control influence the behavioural intentions of young people towards blue economy ventures. The results are examined in-depth and discussed explicitly in relation to the research questions, literature, and theory. Significant implications for theory, practice, and policy are clearly identified.

Chapter seven provides a recap of the main findings of this study and discusses their theoretical, practical, and methodological implications. It also offers some suggestions for improving the research design and addressing the limitations of this study. Finally, it identifies some potential directions for further research that can build on the insights gained from this study.

Chapter Two: Literature Review

Chapter Two

Literature Review

2.1 Introduction

Chapter one concludes the research questions and objectives that guided this study. This literature review chapter provides background and context for the current study on youth entrepreneurial intention in the blue economy sector. It lays the theoretical foundation by reviewing the Theory of Planned Behaviour, the conceptual framework guiding this research. The chapter then discusses relevant studies on entrepreneurial intention, focusing on youth research and the applicability of the Theory of Planned Behaviour. Current knowledge on blue economy entrepreneurship is also reviewed, synthesizing definitions, sectors, motivations, challenges, and perspectives that have been examined. Finally, hypotheses are developed based on the literature. This review aims to ground the study in seminal theories and contemporary research on entrepreneurial intentions, youth, and the blue economy. It strives to synthesize existing knowledge in these areas to provide direction for the research methodology and highlight remaining gaps to be addressed.

2.2 Theoretical Foundation

To lay the foundation for understanding youth entrepreneurial intentions in the blue economy sector, the theoretical underpinnings that guide this research was examined. Thus, this study employs the theory of planned behaviour (TPB) to understand youth entrepreneurial intent within the blue economy. The TPB model asserts intentions are shaped by attitudes, subjective norms, and perceived control (Ajzen, 1991). This research utilizes TPB to (a) explain key factors influencing youths' blue entrepreneurial intentions and (b) analyze how these intentions impact actual entrepreneurial actions.

2.2.1 The Theory of Planned Behaviour

The theory of planned behaviour (TPB) is a psychosocial theory that explains how an intention to behave in a certain way influences human behaviour (Ajzen, 1985) based on attitudes, social norms and perceptions of control (Ajzen, 1991). According to this theory, attitudes refer to individuals' overall behaviour evaluations. They can be positive or negative and are determined by individuals' beliefs about the consequences of the behaviour (Ajzen & Fishbein, 1980). For example, if people believe that entrepreneurship benefits their career, they will have a positive attitude toward being an entrepreneur. Social norms refer to individuals' beliefs about what others think about their behaviour. These norms can be subjective norms (perceived social pressure) or objective norms (social rules) (Cialdini & Trost, 1998). For example, if an individual believes their friends think entrepreneurship is prestigious, they will be more likely to try it. The perceptions of behavioural control refer to individuals' beliefs about their ability to perform a behaviour. Those beliefs include skills, resources, and barriers (Ajzen, 2002). For example, if individuals believe they have the skills to become entrepreneurs, they will be more likely to do so.

Several studies have examined the effectiveness of the theory of planned behaviour in predicting and changing human behaviour. A study by Armitage and Conner (2001) examined the theory's predictions for intentions to be screened for breast cancer in women. The results showed that attitudes, social norms, and perceptions of behavioural control were significant predictors of intention to be screened. Another study by Godin and Kok (1996) examined the effectiveness of using the TPB to promote physical activity in adults and uncovered that using this theory to develop physical activity promotion interventions effectively increased physical activity. Besides, a meta-analysis conducted by McEachan and colleagues (2011) demonstrated that the theory was effective in predicting health-related behaviours, such as smoking, drinking, and physical activity, as well as promoting behavioural changes by examining the effectiveness of this theory in promoting health behaviours. Other studies revealed that adding an action plan increased participants' physical activity intentions and behaviours among university students (Sheeran & Orbell, 1999).

Likewise, using this theory effectively promoted contraceptive use among adolescents (Webb et al., 2010). Therefore, the planned behaviour theory is a well-established and valuable theory for understanding and changing human behaviour. The studies reviewed have shown that this theory can successfully predict and change behaviour in various settings.

Nevertheless, the theory has some limitations that researchers need to address. First, some studies have shown that TPB has difficulty explaining certain complex and multivariate behaviours, such as eating or sexual behaviours (Ajzen, 2011; McEachan et al., 2011; Sniehotta et al., 2014). In addition, TPB does not adequately account for emotional and cognitive factors that can influence human behaviours (Conner & Armitage, 1998). For example, the theory does not account for the influence of emotions on behaviour (Albarracín et al., 2005; Sniehotta et al., 2014). In addition, some critics have pointed out that TPB cannot explain impulsive behaviours or behaviours resulting from automatic processes rather than conscious thought (Gardner & Abraham, 2007; Sniehotta et al., 2014). Finally, TPB assumes that individuals have complete control over their behaviour, which may only be realistic in some contexts. For example, environmental constraints or limited resources may prevent individuals from acting according to their intentions (McEachan et al., 2011; Sniehotta et al., 2014).

2.2.2 Perceived Contextual Factors

Contextual factors encompass the external elements that surround an individual, including cultural, economic, technological, social, and political aspects (Amos et al., 2015). Turker and Selcuk (2009) emphasize the importance of considering these factors in entrepreneurial research. How students perceive their immediate context is crucial for understanding their entrepreneurial intentions. Therefore, this study adopts a process-based approach, modifying the Theory of Planned Behaviour to better capture the factors influencing students' entrepreneurial aspirations.

The first variable in the model is the perception of university support. Existing literature suggests that the university environment and its support mechanisms can

either directly or indirectly influence students' entrepreneurial intentions through motivational elements like personal attitudes and perceived behavioural control (Dyer 2017; Shirokova et al., 2016; Kuttim et al., 2014; Bae et al., 2014; Fishbein and Ajzen, 2010; Souitaris, 2010; Turker and Selcuk, 2009; Wilson, 2007; Souitaris et al., 2007; Zhao et al., 2005; Gorman and Hanlon, 1997).

Studies like Franke and Luthje (2004) have shown that students who negatively evaluate their university's support and resources for entrepreneurship tend to have lower entrepreneurial intentions. Conversely, Setiawan (2012) found that entrepreneurship education positively impacts students' entrepreneurial traits. Kolvereid and Moen (1997) further argue that entrepreneurship education significantly influences graduates to act more entrepreneurially than those who haven't specialized in entrepreneurship. Entrepreneurial education is a key driver in fostering entrepreneurial attitudes and behaviours (Potter, 2008), and government policies also play a significant role in its promotion (Pittaway and Cope, 2007).

Numerous studies have been conducted to assess the impact of entrepreneurship education on students. For it to be effective, it should nurture creativity and the ability to see change as an opportunity (Timmons and Spinelli, 2007). Business incubators also play a vital role in steering students toward entrepreneurial careers (Markuerkiaga et al., 2016; Hughes et al., 2007). However, Gurel et al. (2010) found no significant impact of education on entrepreneurial intentions.

Individuals operate within a context influenced by various factors such as the economy, society, politics, and culture (Yurtkoru et al., 2014; Turker and Selcuk, 2009; Kristiansen 2001). Both public and private sectors shape this context and can either facilitate or hinder entrepreneurial activities (Ismail et al., 2009).

Governmental support shapes entrepreneurial intentions (Stephen et al., 2005). It can offer training, financial aid, and incentives to encourage entrepreneurship (Bridge et al., 2009). Financial capital is often cited as a direct correlate of entrepreneurship and

frequently serves as a barrier for startups (Kim et al., 2013; Steier and Greenwood, 2000; Meier and Pilgrim, 1994).

A positive relationship has been observed between support from official and non-governmental institutions and students' entrepreneurial intentions (Denanyoh et al., 2015). Perceived obstacles and supportive factors influence students' intentions to pursue entrepreneurial careers (Luthje and Franke, 2003). Therefore, examining entrepreneurial intentions within a broader social, political, economic and environmental framework is essential. Despite global efforts to promote entrepreneurship, many governments need to improve creating a conducive environment for entrepreneurs (Davis 2002).

2.2.3 Supporting Theories of TPB

2.2.3.1 Reasoned Action Theory

The Theory of Reasoned Action was formulated by Martin Fishbein and Icek Ajzen (TRA) in the late 1960s and early 1970s (Ajzen & Fishbein, 1980). According to TRA, a person's behavioural intention is determined by their attitude toward performing the behaviour and their subjective norms related to the behaviour (Fishbein & Ajzen, 1975). Attitude pertains to an individual's favourable or unfavourable sentiments regarding engaging in a behaviour, shaped by their prominent beliefs about the potential outcomes. Subjective norm involves the perceived societal influence exerted by essential individuals, either encouraging or dissuading the individual from engaging in the behaviour (Ajzen & Fishbein, 1980).

The Theory of Reasoned Action (TRA) posits that attitudes and subjective norms are the key factors that shape an individual's intention to perform a given behaviour. The intention is conceptualized as the most proximal determinant of actual behaviour. Therefore, the TRA provides a framework for understanding the cognitive and social factors that drive behavioural decision-making and performance (Ajzen & Fishbein, 1980).

Extensive empirical research has supported the ability of the TRA model to predict behavioural intentions and actual behaviours across many contexts (Albarracín et al., 2001). The TRA established the importance of attitudes and social norms in guiding human social behaviour (Montano & Kasprzyk, 2015).

The Theory of Planned Behaviour (TPB) expanded upon the TRA model by including perceived behavioural control (Ajzen, 1985). According to the TPB, an individual's behavioural intentions and actions are influenced by attitude, subjective norms, and perceived control. In this way, the TRA laid the conceptual foundation for the TPB, identifying attitudes and subjective norms as fundamental determinants of intentions. By expanding upon the TRA, the TPB advances our understanding of human social behaviour (Ajzen, 1991).

2.2.3.2 Self-Efficacy Theory

Psychologist Albert Bandura developed Self-Efficacy Theory in the late 1970s (Bandura, 1977). According to this theory, an individual's self-efficacy, or belief in their capability to exercise control over their motivation and behaviour, plays a significant role in their behaviour. Self-efficacy reflects confidence in one's ability to perform a behaviour. Factors like experience, modelling, and social persuasion influence it.

The Self-Efficacy Theory suggests that the higher an individual's self-efficacy concerning a task, the more effort and persistence they will apply to that task, increasing the likelihood of successful performance (Bandura, 1982). Extensive research evidence supports the role of self-efficacy beliefs in human agency, motivation, and action (Bandura, 1997).

Icek Ajzen incorporated the concept of self-efficacy as a constituent of perceived behavioural control in the Theory of Planned Behaviour, which was introduced in 1985. Behaviour was proposed by Icek Ajzen in 1985. Perceived behavioural control encompasses an individual's perceptions of their ability to perform a behaviour. By

including self-efficacy, the TPB expands the understanding of internal factors shaping behavioural intentions and performance (Ajzen, 2002).

2.2.3.3 Social-Cognitive Theory

Social Cognitive Theory (SCT) was developed by renowned Stanford psychologist Albert Bandura in the 1960s to extend his social learning theory research (Bandura, 1986). SCT provides a framework for understanding human motivation, thought, and action, emphasizing the reciprocal interactions between behavioural, cognitive, and environmental influences (Bandura, 1999).

Several key concepts in SCT include observational learning, reinforcement, self-regulation, and self-efficacy beliefs. According to SCT, individuals learn by observing others. Their knowledge and skills, what they believe themselves capable of, and their expectations about outcomes inform and determine their behaviour alongside environmental factors (Bandura, 2004). SCT posits that through observational learning and social experiences, individuals form rules to guide their behaviour. They set goals, monitor progress, and regulate actions based on internal standards and perceptions of their environment (Bandura, 1991). This ability for self-direction underpins human agency.

Extensive research over decades provides empirical evidence for SCT's principles and ability to predict human behaviour across domains (Young et al., 2014). By highlighting modelling and social influence, SCT supplements a fundamental element of the Theory of Planned Behaviour- subjective norms (Ajzen, 2011). Subjective norms encompass perceived social pressures regarding a behaviour. SCT helps explain how social experiences shape norms that guide behavioural intentions.

2.2.3.4 Goal-Setting Theory

Emerging from over 400 studies beginning in the 1960s, the Goal Setting Theory formulated by psychologists Edwin Locke and Gary Latham establishes that specific, challenging goals lead to higher task performance than vague or absent goals (Locke

& Latham, 2002). This motivational impact manifests across various contexts, including workplace tasks, athletics, and education (Lunenborg, 2011).

Goal Setting Theory posits that challenging, quantifiable, and temporal goals provide direction and boost persistence, effort, and development of task strategies versus simply urging people to "do their best" (Locke & Latham, 2006). Goals focus attention and action on goal-relevant activities. Feedback showing goal progress further enhances performance (Latham & Locke, 2007).

Through decades of robust empirical research, Goal Setting Theory elucidates goal setting as a critical mechanism for motivating behaviour (Locke & Latham, 2019). By emphasizing the motivational significance of goals, Goal Setting Theory provides strong supporting evidence for the Theory of Planned Behaviour. In TPB, setting specific challenging goals would strengthen perceived control over behaviour and intention formation by directing attention and effort toward goal-driven actions (Ajzen, 2020).

2.2.3.5 Theory of Cognitive Dissonance

Originating with the seminal work of social psychologist Leon Festinger in the 1950s, the Theory of Cognitive Dissonance proposes that individuals experience psychological tension or discomfort when holding contradictory or inconsistent attitudes, beliefs, or behaviours (Festinger, 1962). This discomfort motivates actions to reduce the inconsistency by modifying thoughts, attitudes, or behaviours to regain consonance (Harmon-Jones & Harmon-Jones, 2007).

Studies provide empirical evidence that cognitive dissonance impacts attitudes, drives people to resolve contradictions, and influences how people process information and make decisions to align their cognitions (Gawronski & Strack, 2012). Dissonance reduction allows individuals to maintain a sense of consistency vital for mental functioning (Simon et al., 1995).

Though not explicitly included in the Theory of Planned Behaviour, Cognitive Dissonance Theory complements it. TPB emphasizes the role of consistency between

attitudes, social norms, and perceived control in shaping behavioural intentions (Ajzen, 2020). Reducing dissonance would enable this consistency to be integral to guiding behaviour in the TPB framework.

2.2.4 Contrasting Theories of TPB

2.2.4.1 The Social Cognitive Theory

The Social Cognitive Theory (SCT), developed by psychologist Albert Bandura starting in the 1960s, provides an essential alternative model to the Theory of Planned Behaviour (TPB) for understanding human motivation and action (Bandura, 1977; Bandura, 1986). In contrast to TPB's core factors of attitudes, subjective norms, and perceived behavioural control, SCT emphasizes the concept of self-efficacy as a critical determinant of behaviour (Bandura, 1977). Self-efficacy refers to belief in one's ability to perform a behaviour or achieve a goal.

According to SCT, higher self-efficacy leads to more significant effort, persistence, and perseverance in facing obstacles (Bandura, 1989). People will be more inclined to take action if they have confidence in their capabilities, over and above whether they have positive attitudes or perceive social pressure. For example, in a meta-analysis, Holden (1991) found self-efficacy was a stronger predictor of health behaviours than attitude, norms, or perceived control across many studies, supporting Bandura's emphasis on self-beliefs of capability as a primary driver.

SCT also proposes reciprocal determinism between internal personal factors, behavioural patterns, and environmental influences (Bandura, 1978). This contrasts with TPB's one-directional model, where intention leads to behaviour. SCT suggests behaviour can also shape personal factors like self-efficacy. By enacting and mastering a behaviour, an individual gains confidence to continue the behaviour, highlighting the bi-directional influence.

Moreover, SCT emphasizes observational learning and modelling as critical processes in developing self-efficacy and skills (Bandura, 1977). People gather information to inform their own self-efficacy judgments by observing others' successes and failures. This social learning pathway is not accounted for in TPB.

Thus, SCT provides a complementary perspective to TPB with its in-depth focus on self-efficacy, bi-directional causation between person and environment, and social learning sources of motivation and behaviour. It offers a dynamic self-regulation model that expands our understanding beyond TPB's rational considerations. The contrast highlights the power of self-beliefs versus attitudes or norms in driving human agency.

2.2.4.2 The Transtheoretical Model

The Transtheoretical Model (TTM), developed by Carlo DiClemente and James Prochaska in the late 1970s and early 1980s (Prochaska & DiClemente, 1983), conceptualizes behaviour change as a process that unfolds over time through a series of distinct stages, rather than a single decision event as proposed by the TPB.

In the first stage, called pre-contemplation, individuals are not considering change and may be resistant or avoidant of changing their behaviour. The next stage is contemplation, characterized by uncertainty and evaluating the advantages and disadvantages of changing versus staying the same. Following contemplation is the preparation stage, where people intend to take action in the immediate future and plan the details of the change. The fourth stage is action, where individuals have begun modifying their behaviour to align with their goals. Finally, the maintenance stage involves sustaining the new behaviour over time and preventing relapse to old habits.

Importantly, TTM views relapse as standard, with individuals often recycling back through earlier stages before achieving maintenance (Prochaska & DiClemente, 1992). This differs from TPB's static model without relapse. Different change processes are emphasized at each stage. TTM provides then a more nuanced framework than TPB for mapping real-world behaviour change. By incorporating stage-based tailoring of

interventions, greater effectiveness can be achieved compared to a one-size-fits-all approach based solely on intentions.

2.2.4.3 Self-Determination Theory

The theory of Planned Behaviour (TPB) focuses on people's deliberative considerations of attitudes, subjective norms, and perceived control as predictors of intentions and behaviour. In contrast, Self-Determination Theory (SDT), a theory developed by psychologists Edward Deci and Richard Ryan starting in the mid-1980s (Deci & Ryan, 1985), highlights the roles of intrinsic motivation and basic psychological needs.

According to SDT, intrinsically motivated behaviours are performed out of interest, enjoyment, or inherent satisfaction rather than external pressures or rewards. This contrasts with TPB's view of behaviour as guided primarily by the deliberative evaluation of costs and benefits.

SDT also emphasizes the fundamental human needs for autonomy, competence, and relatedness (Ryan & Deci, 2000). When these needs are supported, people are more likely to initiate and maintain behaviours autonomously rather than due to external coercion. This differs from TPB's focus on social pressures and other externally imposed factors. For example, a study by Silva et al. (2011) on exercise adherence found satisfaction with the SDT needs for autonomy and competence predicted long-term exercise commitment, while TPB factors like attitudes did not. This highlights the motivational power of internalized regulation.

Overall, SDT provides a complementary lens to TPB by focusing on intrinsic goals and psychological needs as key energizers of behaviour. It helps explain cases where intrinsic enjoyment or values drive behaviours more than reasoned considerations - a limitation of TPB's focus on extrinsic costs and benefits. Incorporating elements of SDT can lead to a more comprehensive motivational model.

2.2.4.4 Implementation Intentions

The Theory of Planned Behaviour (TPB) suggests that intentions are the critical determinant of behaviour. However, numerous studies reveal an "intention-behaviour gap" whereby strong goal intentions often fail to produce corresponding actions. This highlights a significant limitation in TPB's explanatory powers. Implementation Intentions theory, developed by psychologist Peter Gollwitzer in the 1990s (Gollwitzer, 1993; Gollwitzer, 1999), provides an essential evidence-based model that effectively complements TPB by addressing this intention-behaviour gap.

Implementation intentions are explicit if-then plans that specify the precise conditions under which a goal will be accomplished, detailing when, where, and how the desired outcome will be achieved. In contrast to vague goal intentions, implementation intentions provide concrete details. For instance: 'If I arrive home from work on Wednesday at 6 pm (specified situation), then I will promptly engage in a 30-minute run (specified behaviour).' By predetermining both the situational cue and the planned behaviour, a robust mental association is established in memory between the anticipated situation and the goal-directed response. This automatic link serves to enhance follow-through.

Numerous studies consistently demonstrate the effectiveness of implementation intentions over goal intentions alone across various domains such as health, consumer behaviour, and social psychology. For example, in a meta-analysis that included 94 studies, Gollwitzer and Sheeran (2006) reported that the benefits of implementation intentions over goals were of a notable magnitude. Particularly noteworthy were the findings indicating even stronger effects when implementation intentions were used alongside goal intentions rather than as a replacement. This underscores the significance of integrating the motivational aspects of the TPB with the situational cuing process facilitated by implementation intentions (Gollwitzer & Sheeran, 2006). Implementation intentions are also thought to operate outside conscious control by activating the intended behaviour automatically when the selected cue is encountered. This contrasts with TPB's view of intentions guiding reasoned, deliberate behaviour. Thus, implementation intentions provide vital specificity in planning and automaticity

in responses that enable people to act on their intentions effectively. By complementing TPB with this concrete cuing technique, a more complete model of the intention-behaviour process emerges.

Having established the theoretical framework of the Theory of Planned Behaviour, its application on entrepreneurial intention research was explored, with a particular focus on youth and the emerging blue economy sector.

2.3 Research on Entrepreneurial Intention

2.3.1 Definition of Entrepreneurial Intention

Entrepreneurial intention is a crucial concept in entrepreneurship research, and Krueger et al. define it as "the willingness to take concrete actions to establish a new venture" (2000, p. 101). Several studies have shown that entrepreneurial intention is an essential predictor of business creation (Davidsson & Honig, 2003; Liñán et al., 2011).

2.3.2 Factors Influencing Intention

The choice to pursue entrepreneurship is often considered a matter of individual will (Liñán & Chen, 2009; Krueger, Reilly, M.D., & Carsrud, 2000). But what leads individuals to make such choices? Various scholars and theorists have extensively studied and reevaluated intent, a component of psychological mechanisms. Bird (1988) defines intentionality as a mental state that directs an individual's attention toward a specific objective. Contemporary scholars view intention as one element within broader psychological frameworks. Fishbein and Ajzen (1975) highlighted the importance of intentional components like belief, focus, and expectation, examining their influence on an individual's behaviour.

Entrepreneurial intent is a prerequisite for launching a new business (Liñán & Chen, 2009; Fayolle et al., 2006; Kolvereid, 1996; Koe & Abdul Majid, 2014). As Bird

(1988) noted, entrepreneurial intentions aim to either establish a new business or enhance existing ones. However, such intentions can be shaped by various factors, including needs, desires, values, beliefs, and habits (Liñán & Chen, 2009; Bird, 1988; Lee & Wong, 2004). Two primary models of entrepreneurial intention are discussed in academic literature: Shapero's (1985) 'Entrepreneurial Event Model' and Ajzen's (1991) 'Theory of Planned Behaviour' (TPB). The former describes entrepreneurial intention as a wish or aspiration to engage in entrepreneurship, while the latter identifies three key variables that influence entrepreneurial intentions.

The influence of PA, SN, and PBC on Entrepreneurial Intentions (EI) is anticipated to fluctuate due to the presence of other variables under varying circumstances. Such variables may manifest as situational factors (Liñán & Chen, 2009; Ajzen, 1987; Boyd & Vozikis, 1994; Tubbs & Ekeberg, 1991), which occasionally arise as time limitations or as the complexity or simplicity of task performance (Krueger, 1993; Liñán & Chen, 2009; Lee & Wong, 2004). Consequently, prior research and diverse applications of the model have revealed that, in certain instances, only attitudes significantly influenced intentions, while in others, both PA and PBC exerted substantial impact. Conversely, in numerous studies, all three antecedents contributed independently (Liñán & Chen, 2009). According to Baron (1998), measuring these cognitive variables poses a considerable challenge. The discrepancies in findings may be attributed to measurement complications (Chandler & Lyon, 2001). Kolvereid (1996) utilized a belief-based metric for attitudes, whereas Krueger, Reilly & Carsrud (2000) employed single-item variables for each construct. Some prior studies endeavoured to persuade participants to disclose their preferences, subsequently estimating the probability of opting for self-employment over traditional employment based on their responses (Liñán & Chen, 2009; Erikson, 1999; Fayolle et al., 2006; Kolvereid, 1996). Despite these discordances in the academic literature, the collective outcomes of multiple studies largely corroborate the applicability of TPB in the realm of entrepreneurship (Liñán & Chen, 2009).

2.3.2.1 Personal Attitude

Personal Attitude (PA) represents an individual's stance or cognitive orientation toward a specific subject matter. Within this particular framework, PA pertains to attitudes concerning the initiation of a venture. It indicates an individual's convictions regarding the feasibility and desirability of becoming an entrepreneur (Liñán & Chen, 2009; Ajzen, 2001; Autio et al., 2001; Kolvereid, 1996). Eagly and Chaiken (1993) posited that attitude embodies a predisposition to formulate either favourable or unfavourable assessments concerning specific issues or entities. This psychological attribute is universally present in humans, manifesting as critical scrutiny and evaluative judgment. Shook and Bratianu (2010) contend that an individual's attitude toward a particular issue is influenced by their beliefs regarding the anticipated outcome. A more favourable expected outcome engenders a more positive perception, which in turn strengthens the intention to engage in a specific behaviour.

2.3.2.2 Subjective Norm

Subjective Norm (SN) is a construct that captures the extent to which individuals perceive that key persons in their lives—such as family members, friends, or colleagues—either endorse or discourage the execution of a particular behaviour, such as entrepreneurial activities. In academic research settings, the measurement of SN is often operationalised through survey instruments or questionnaires. Participants are typically asked to gauge the level of support or opposition they expect to receive from their close social network should they decide to engage in entrepreneurial ventures (Liñán & Chen, 2009; Ajzen, 2001).

The concept of Subjective Norm is rooted in social psychology and is particularly emphasised in models like the Theory of Planned Behaviour. It serves as one of the key motivational factors that influence an individual's intentions and subsequent actions. The term "subjective" underscores the individualised nature of these perceptions, highlighting that they are not objective measures but rather are influenced

by personal experiences, social interactions, and cultural contexts (Fishbein & Ajzen, 1975).

Given its subjective nature, this construct can vary significantly among individuals, even when they are exposed to similar external conditions. It is also dynamic, subject to change as individuals' social networks evolve or as they gain more information and experience. Therefore, understanding the role of Subjective Norms is crucial for researchers and practitioners alike, especially those interested in predicting or influencing human behaviour in various domains, including entrepreneurship.

2.3.2.3 Perceived Behavioural Control

Perceived Behavioural Control (PBC) refers to an individual's assessment of the ease or complexity involved in initiating and managing a business venture. This construct holds significant weight within the framework of the Theory of Planned Behaviour (TPB). Elements of PBC can also be traced back to Atkinson's (1964) Theory of Achievement Motivation, where it is conceptualized as the perceived likelihood of successfully completing a specific task. Ajzen's (1991) TPB distinguishes itself from his earlier Theory of Reasoned Action by incorporating PBC as a key component. The TPB posits that PBC, in conjunction with behavioural intention, serves as a robust predictor of an individual's performance in a particular domain.

The majority of research on PBC has been conducted by Bandura and his collaborators (Bandura et al., 1977; Bandura et al., 1980). According to this body of work, beliefs about self-efficacy significantly influence the selection of tasks, the level of effort allocated to those tasks, and an individual's cognitive and emotional well-being (Bandura, 1981).

It is important to differentiate PBC from the concept of Locus of Control, as introduced by Rotter (1966). Unlike Locus of Control, which remains relatively stable over time and posits that an individual's success is contingent upon the effort expended, PBC is subject to temporal fluctuations.

2.3.3 Relevance of TPB to entrepreneurial intention

The choice to pursue entrepreneurship is often considered a matter of individual will (Liñán & Chen, 2009; Krueger, Reilly, M.D., & Carsrud, 2000). But what leads individuals to make such choices? Various scholars and theorists have extensively studied and reevaluated intent, a component of psychological mechanisms. Bird (1988) defines intentionality as a mental state that directs an individual's attention toward a specific objective. Contemporary scholars view intention as one element within broader psychological frameworks. Fishbein and Ajzen (1975) highlighted the importance of intentional components like belief, focus, and expectation, examining their influence on an individual's behaviour.

Entrepreneurial intent is a prerequisite for launching a new business (Liñán & Chen, 2009; Fayolle et al., 2006; Kolvereid, 1996; Koe & Abdul Majid, 2014). As Bird (1988) noted, entrepreneurial intentions aim to establish or enhance existing businesses. However, such intentions can be shaped by various factors, including needs, desires, values, beliefs, and habits (Liñán & Chen, 2009; Bird, 1988; Lee & Wong, 2004). Two primary models of entrepreneurial intention are discussed in academic literature: Shapero's (1985) 'Entrepreneurial Event Model' and Ajzen's (1991) 'Theory of Planned Behaviour' (TPB). The former describes entrepreneurial intention as a wish or aspiration to engage in entrepreneurship, while the latter identifies three key variables that influence entrepreneurial intentions.

According to Gelderen et al. (2006), the Theory of Planned Behaviour (TPB) is the most prevalently employed model in prior investigations concerning entrepreneurial intentions. This model elucidates the interplay between environmental and individual determinants and their subsequent influence on entrepreneurial intentions (Sivarajah & Achchuthan, 2013). In the context of the Gulf region, Hamdan (2019) applied the Theory of Planned Behavior to examine entrepreneurial intentions among youth in the United Arab Emirates. The study found that perceived behavioural control and attitudes towards entrepreneurship were significant predictors of entrepreneurial intention, while subjective norms had a weaker influence. This suggests that enhancing

skills and positive attitudes towards entrepreneurship could be crucial in fostering new ventures in similar cultural contexts like Bahrain.

Within the TPB framework, the pivotal motivational antecedents affecting an individual's behaviour encompass Personal Attitude (PA), Subjective Norm (SN), and Perceived Behavioural Control (PBC) (Ajzen, 1991; Liñán, 2004). This cognitive orientation in entrepreneurial research accentuates the significance of entrepreneurial perceptions over the innate traits of the entrepreneur (Sivarajah & Achchuthan, 2013; Shaver & Scott, 1991). These antecedents serve as prognosticators for the level of commitment an individual is willing to invest in task execution. A stronger inclination toward a specific activity correlates with a higher likelihood of actualizing that behaviour.

The influence of PA, SN, and PBC on Entrepreneurial Intentions (EI) is anticipated to fluctuate due to other variables under varying circumstances. Such variables may manifest as situational factors (Liñán & Chen, 2009; Ajzen, 1987; Boyd & Vozikis, 1994; Tubbs & Ekeberg, 1991), which occasionally arise as time limitations or as the complexity or simplicity of task performance (Krueger, 1993; Liñán & Chen, 2009; Lee & Wong, 2004). Consequently, prior research and diverse applications of the model have revealed that, in certain instances, only attitudes significantly influenced intentions, while in others, both PA and PBC exerted substantial impact. Conversely, in numerous studies, all three antecedents contributed independently (Liñán & Chen, 2009). According to (Baron, 1998) measuring these cognitive variables poses a considerable challenge. The discrepancies in findings may be attributed to measurement complications (Chandler & Lyon, 2001). Kolvereid (1996) utilized a belief-based attitude metric, whereas Krueger, Reilly & Carsrud (2000) employed single-item variables for each construct. Some prior studies endeavored to persuade participants to disclose their preferences, subsequently estimating the probability of opting for self-employment over traditional employment based on their responses (Liñán & Chen, 2009; Erikson, 1999; Fayolle et al., 2006; Kolvereid, 1996). Despite these discordances in the academic literature, the collective outcomes of multiple

studies largely corroborate TPB's applicability in entrepreneurship (Liñán & Chen, 2009).

2.3.4 Studies on Youth Entrepreneurial Intention

Entrepreneurial behaviour among youth is intentional and driven by various motivations (Bird et al., 2009; Krueger et al., 2000). Young entrepreneurs often desire independence, work-life balance, and the opportunity to pursue meaningful projects (Gielnik et al., 2015; Murray-West, 2019). Studies in Egypt and Malaysia have shown that youth are drawn to entrepreneurship for the freedom to work in areas aligned with their interests and skills (El-Sheikh et al., 2018; Sulaiman et al., 2018).

Passion is a significant driver, with research indicating that passionate entrepreneurs often outperform their less passionate counterparts financially (Chen et al., 2018). Many young entrepreneurs are also motivated by social responsibility and the desire to address societal and environmental issues (Kourilsky & Walstad, 2021; Ardichvili et al., 2015).

However, young entrepreneurs face numerous challenges. Lack of access to capital is a significant barrier (Fatoki, 2014), as is the need for operational skills to transform ideas into viable businesses (Chigunta, 2017). Complex regulatory systems and cultural attitudes discouraging risk-taking can impede youth entrepreneurship (Schoof, 2006; He et al., 2019).

Solutions such as microfinance programs, tailored business education, mentorship, and simplified regulatory processes have been proposed (Oseifuah, 2010; Bae et al., 2014; St-Jean & Audet, 2012). An integrated approach involving public, private, and non-profit entities is necessary to create comprehensive support ecosystems for young entrepreneurs (Shkabatur et al., 2022).

While the previous section explored general entrepreneurial intentions among youth, we now turn our attention to the specific context of the blue economy - a sector of growing importance in Bahrain and globally. Understanding this sector is crucial for contextualizing youth entrepreneurial intentions within Bahrain's marine-based industries

2.4 The Blue Economy

The oceans and seas have long served as critical sustenance, transportation, and commerce conduits throughout human history (Smith, 2011). The "blue economy" concept has recently emerged to describe the sustainable use of ocean resources and spaces to foster economic development and growth (World Bank & United Nations Department of Economic and Social Affairs, 2017). More specifically, the term "Blue Economy" (B.E.) encapsulates a framework intricately linked to utilising marine resources within advanced oceanic economies (Martínez-Vázquez, 2021). Thus, it encompasses ocean-based industries, including fisheries, aquaculture, tourism, maritime transport, renewable energy, and bioprospecting (Voyer et al., 2018). It promotes economic growth through sustainable aquatic resource management. As defined by the World Bank, the Blue Economy, a subset of the Green Economy, "is [the] sustainable use of ocean resources for economic growth, improved livelihoods and jobs, and ocean ecosystem health" (World Bank, 2017).

The blue economy framework recognises the interconnectedness of the ocean, climate, and human activities (Visbeck et al., 2014). It balances multiple socioeconomic objectives related to food security, poverty alleviation, employment creation, ecosystem conservation, and climate change mitigation and adaptation (Silver et al., 2015). Realizing the full potential of the blue economy requires good governance, integrated planning, technological innovation, investment, capacity building, and multi-stakeholder partnerships (Wenhai et al., 2019). Appropriate policies and

regulations must address pollution, habitat destruction, overfishing, and climate change (Claudet et al., 2020).

The blue economy presents significant opportunities for entrepreneurship, particularly in coastal nations. Al-Belushi et al. (2015) studied the potential of marine biotechnology in Oman, highlighting opportunities for entrepreneurship in this emerging sector. Their findings suggest that while there is potential for innovation and business development, significant infrastructure and human capital development challenges exist. These insights are also likely applicable to Bahrain's blue economy context.

In line with the goals and opportunities of the blue economy, entrepreneurs also have a pivotal role in advancing this sector (Raheem, 2022). Entrepreneurs play a crucial role by creating innovative solutions that address the challenges and opportunities of ocean-based sectors (Zhu et al., 2023), such as fisheries, tourism, renewable energy, biotechnology, and maritime transport. According to the United Nations Development Programme (2023), entrepreneurs can contribute to the blue economy by developing new products and services that enhance resource efficiency, reduce environmental impacts, increase social inclusion, and generate economic value. However, realizing the potential of entrepreneurship requires supportive policies, financing, capacity building, and partnerships to overcome barriers (Zhang et al., 2021).

Thus, the blue economy offers significant opportunities for sustainable development and job creation if ocean resources are managed responsibly (OECD, 2016). Nevertheless, achieving an equitable and inclusive blue economy remains an ongoing process. Sustained research, policy, education, investment, and collaboration will be vital for the blue economy to fully deliver its promise (Visbeck et al., 2019).

2.4.1 The Blue Economy and its Contribution to the SDGs

Lee et al. (2020a) argued that the blue economy is closely aligned with several of the Sustainable Development Goals (SDGs), such as SDG 14 (Life Below Water), SDG 8 (Decent Work and Economic Growth), and SDG 12 (Responsible Consumption and

Production). The concept of the Blue Economy to aid with the achievement of the SDGs has gained significant “momentum including at the highest levels of decision making. In September 2019, 12 heads of state from around the world and the UN Secretary-General’s Special Envoy for the Ocean, Peter Thomson, launched the High-level Panel for a Sustainable Ocean Economy to catalyze bold solutions for ocean health and wealth” (UNDESA, 2019). As per the 2016 findings of the OECD, the ocean industry's global gross value-added will double from 1.5 trillion USD in 2010 to 3 trillion USD in 2030 which independently would rival the value of some of the top ten global economies.

Thus, this economy offers potential global solutions to address the Sustainable Development Goals (SDGs) (Lee et al., 2020b; Choudhary et al., 2021) by increasing economic and social opportunities while preserving and improving maritime environments (Niner et al., 2022). Sarangi (2023) emphasized that the link between the blue economy and SDGs shares potential initiatives to provide employment opportunities and support economic growth, which can help reduce poverty, responding to the first goal of the SDGs (Choudhary et al., 2021).

Furthermore, the ocean can provide a sustainable food source through fishing, aquaculture, and other forms of marine agriculture, which addresses the second goal of the SDGs. Oceans also play a crucial role in the water cycle, and the sustainable use and management of ocean resources can help maintain clean water and sanitation, meeting the sixth goal of the SDGs. The ocean has the potential to generate renewable energy through offshore wind and wave power, which targets the seventh goal of the SDGs.

The blue economy can help reduce greenhouse gas emissions by promoting sustainable marine transport and reducing carbon emissions from maritime industries, which can tackle the thirteenth SDGs goal. The preservation and appropriate use of marine and coastal resource ecosystems, including coral reefs and mangroves, help respond to the fourteenth SDG's goal. The blue economy requires collaboration between governments, the private sector, and civil society to promote sustainable development, a response to the seventeenth SDGs goal. However, there may be

tensions between industrial goals and socio-environmental sustainability when associating the blue economy with the SDGs (Choudhary et al., 2021).

The United Nations (2022) has highlighted that the current global polycrisis comprising climate change, biodiversity loss, rising inequality and food insecurity poses grave threats to achieving the Sustainable Development Goals (SDGs) by the 2030 target. Nevertheless, increased investment into strengthening national and regional data and information infrastructure is urgently warranted to enable evidence-based decision-making and track progress towards these global goals (Naser, 2022).

Adherence to SDG 14, which focuses on conserving and sustainably using the oceans, seas and marine resources, provides an environmentally sound pathway for countries like Bahrain to transition towards a blue economy model (Ki-Hoon Lee, 2020). Centred on principles of ecological sustainability (U.N. Environment Programme, 2019) and equitable resource distribution, the blue economy provides a method for creating locally rooted yet globally adaptable development directions. If underpinned by monitoring of marine ecosystem health and oceanic changes (Naser, 2022), the blue economy can offer nations a more responsible maritime pathway aligned to the 2030 SDG agenda while enabling them to harness promising opportunities from emerging industries (Choudhary et al., 2021) in a sustainable manner through appropriate regulations (Mansfeld & Winckler, 2008).

2.5 Research on Blue Economy Entrepreneurship

Blue economy entrepreneurship is an emerging field promoting sustainable ocean-based economic activities. According to Silver et al. (2015), the blue economy encompasses "all ocean-related economic activities, including extraction of ocean resources, commerce and trade, and innovations in marine science and technology" (p. 16). As such, blue economy entrepreneurship involves starting and operating businesses in traditional ocean industries and new, innovative industries that use marine resources responsibly.

Several conceptualizations of blue economy entrepreneurship exist in academic literature. Ebarvia (2016) outlined five key components: "sustainable management of ocean resources, stewardship and preservation of the oceans, social inclusion and community participation, use of clean technologies, and integrated policy and governance" (p. 148). This highlights blue economy entrepreneurship's environmental, social, technological, and policy dimensions. Soma et al. (2018) emphasized the role of innovations, defining blue economy entrepreneurship as "the creation of new ventures with a dependence on products and services from marine environments as well as novel combinations of resources that contribute to the stewardship of ocean health" (p. 3). Here, the focus is on developing new, sustainable products and business models that add value while protecting ocean ecosystems.

Pauli (2010) provided a conceptualisation centred on leveraging new technologies: "a sustainable ocean economy emerging from changes in technology, changes in the marketplace, and changes in public policy". This definition highlights how scientific advances and supportive policies can enable the development of profitable and socially responsible marine enterprises. These conceptualisations portray blue economy entrepreneurship as balancing economic objectives with maintaining ecological sustainability and social equity through innovation.

Fundamental principles of blue economy entrepreneurship include stewardship of ocean resources, life cycle sustainability, circular material flows, renewable energy, social responsibility, community engagement, and integrated governance (Ebarvia, 2016; Silver et al., 2015). By adhering to such principles, blue economy enterprises can generate profits while enhancing marine ecosystem health, creating jobs, and supporting sustainable development.

Having defined the blue economy and its relationship to sustainable development, we now focus on the entrepreneurial opportunities and challenges within this sector, particularly as they relate to youth in Bahrain.

2.5.1 Sectors and Industries

2.5.1.1 Fisheries and Aquaculture

Capture fisheries involve the wild harvesting of fish, shellfish, and other marine species for human consumption and industrial uses. Major commercial species include tuna, cod, salmon, and shrimp. Sustainable fishing practices are needed to prevent stock overexploitation and enable fisheries' long-term viability (Food and Agriculture Organization [FAO], 2020). Aquaculture refers to farming aquatic organisms, including finfish, mollusks, crustaceans, and aquatic plants. Global aquaculture production has proliferated to meet rising seafood demand. However, some aquaculture operations have raised environmental concerns related to habitat damage, pollution, and the introduction of non-native species. Best practice aquaculture uses integrated multi-trophic systems, recirculating water technologies, and low-impact farm siting (FAO, 2020).

2.5.1.2 Tourism

Coastal and marine tourism relies on healthy oceans and charismatic marine species to support recreational activities like cruising, boating, diving, snorkeling, recreational fishing, and wildlife viewing. Globally, tourism linked to coral reefs alone generates over \$36 billion annually and employs millions of people (OECD, 2016). Sustainable tourism minimizes environmental degradation while generating socioeconomic benefits for local communities. Strategies include regulating carrying capacities, charging user fees, enforcing protected area boundaries, marketing eco-certification programs, and educating tourists.

2.5.1.3 Marine Transportation

Maritime shipping is the backbone of international trade and global supply chains by enabling cost-efficient transportation of large volumes of cargo via ocean routes and ports. The sector faces emissions, safety, congestion, and infrastructure challenges. Solutions include transitioning to lower carbon fuels, optimizing shipping networks,

implementing traffic control systems, and building resilient port infrastructure (International Maritime Organization [IMO], 2020). Port operations and intermodal connections to inland transport systems are also essential for seamless freight movement.

2.5.1.4 Offshore Oil and Gas Production

Offshore platforms and seabed installations extract fossil fuel resources like oil and natural gas from beneath the ocean floor. While vital for meeting global energy demand, offshore oil and gas can threaten marine ecosystems and species if not properly regulated. Rigorous safety protocols, emission standards, waste handling, and decommissioning procedures are employed to minimize risks (World Ocean Council, 2019). Some regions have adopted marine spatial planning to designate zones for offshore energy development with appropriate environmental safeguards.

2.5.1.5 Marine Renewable Energy

Harnessing the immense energy potential of oceans through offshore wind, wave, tidal, current, thermal, and biomass sources is crucial for transitioning to renewable energy systems (Lewis et al., 2011). Supportive policies, technology innovation, and private investment can enable large-scale offshore wind, tidal, and wave energy development. Siting must balance productivity, grid connections, and environmental impacts. Multi-use platforms integrating offshore renewables with aquaculture or oil and gas hold promising synergies.

2.5.1.6 Blue Biotechnology

This emerging field applies marine organisms, ecosystems, and resources to develop healthcare, cosmetic, nutritional, industrial, agricultural and environmental products and processes (Rizvi et al., 2022). Examples include pharmaceuticals derived from marine sponges, fish oils for human consumption, and enzymes from cold-adapted

bacteria to enhance industrial efficiency. Equitable benefit-sharing and conservation of biodiversity are vital considerations.

2.5.2 Motivations and Opportunities for the BE Entrepreneurship

The emerging blue economy paradigm promotes sustainable development and responsible stewardship of ocean resources. As this new sector evolves, unique motivations and possibilities drive entrepreneurial actors to establish innovative marine-based enterprises.

2.5.2.1 Environmental Motivations

A key driver of blue economy entrepreneurship is the desire to address mounting sustainability challenges facing the oceans, such as climate change, pollution, habitat destruction and overfishing (Ebarvia, 2016; OECD, 2019). Many blue economy entrepreneurs are motivated by a personal commitment to ocean conservation and view business ventures as a means to provide stewardship of marine ecosystems (Choi & Sirakaya, 2006). They aim to develop solutions that restore biodiversity, optimize resource efficiency, reduce waste, and mitigate human impacts financially and sustainably.

2.5.2.2 Scientific and Technological Advances

Accelerating innovation opens up new possibilities for products and services derived from marine resources and ecosystems (OECD, 2019). Advanced aquaculture technologies allow for offshore fish, shellfish and seaweed farming in exposed locations (FAO, 2020). Bioprospecting of marine genetic material enables the creation of pharmaceutical, cosmetic and nutraceutical products (Arrieta et al., 2010). Renewable ocean energy systems such as floating offshore wind farms, wave energy converters, and tidal turbines provide clean electricity generation alternatives (IRENA, 2014). Novel applications of marine biomaterials, nanotechnology, biotechnology, and information technology contribute to a growing blue economy (Voelker et al., 2022).

2.5.2.3 Favourable Market Forces

Consumer demand for ethically and environmentally sustainable goods and services allows blue economy ventures using responsible practices to flourish (Golden et al., 2017). Market premiums for certified sustainable seafood, ecotourism, green shipping, and traceable supply chains enable such businesses to thrive (WWF, 2015). Governments also support blue economy entrepreneurship through incentives, public-private partnerships and dedicated innovation funding (OECD, 2019). Clustering of related ocean industries facilitates collective efficiency by sharing ideas, resources, infrastructure and talent (Kildow et al., 2014).

2.5.2.4 Community Development

For coastal populations, the blue economy presents opportunities for economic diversification, job creation and poverty reduction while sustainably managing local resources (Ebarvia, 2016). Small-scale ecotourism, mariculture, and fishing enterprises can incorporate traditional knowledge, ensure equitable benefit sharing, and improve community welfare (UNCTAD, 2014). Participatory approaches strengthen governance and build capacity to harness ocean resources responsibly (Winther et al., 2020).

2.5.3 Challenges and Barriers for the BE Entrepreneurship

While the emerging blue economy presents tremendous opportunities, it also poses unique challenges for entrepreneurs and enterprises aiming to utilize ocean resources sustainably. Regarding challenges faced by entrepreneurs in the blue economy, Pauli et al. (2020) conducted a global study that included insights from the Middle East. They identified key barriers such as lack of access to finance, regulatory complexity, and limited awareness of blue economy opportunities among potential entrepreneurs. These findings are likely relevant to the Bahraini context and highlight areas where targeted support may be necessary. By understanding key barriers, targeted solutions can be developed to support blue economy actors. Thus, significant technological,

regulatory, financial, market, infrastructure, and skills-related challenges are confronted by blue economy entrepreneurs and businesses.

Blue innovations require advanced technologies like renewable energy, autonomous underwater vehicles, biotechnology, and aquaculture systems with high research, development, and deployment costs (OECD, 2019). This can deter new ventures lacking substantial capital and technical expertise. Unclear regulations, lengthy permitting processes, and licensing requirements related to marine sectors can hinder new blue economy businesses (WWF, 2015).

Entrepreneurs may face complex legal frameworks across areas like offshore aquaculture, ocean energy, and bioprospecting. Blue economy startups often struggle to attract investors and financing due to perceptions of unproven technologies, high risk, and long payback periods (Bjørnåvold & Van Dijk, 2021). Many are unable to scale without access to capital. Public funds and impact investors can help bridge these investment gaps.

While growing, consumer demand for sustainably sourced marine products remains limited (OECD, 2019). Certification programs attempt to expand markets but can also impose burdens on small producers. Distribution barriers exist for accessing global supply chains and customers. Inadequate coastal infrastructure like ports, electricity, cold storage, and transport facilities constrain many ocean-related enterprises (Winther et al., 2020). Underdeveloped public infrastructure raises operating costs.

Technical, engineering, and maritime skill sets needed for blue economy industries lag in supply, especially in developing nations (Commonwealth Secretariat, 2017). Targeted education, training, and talent retention strategies are required. To realise the potential of sustainable ocean economic development, policymakers, investors, and entrepreneurs must collaborate to overcome existing barriers by creatively enabling solutions.

2.5.4 Perspectives of the BE Entrepreneurship

Blue economy entrepreneurship is an emerging interdisciplinary field focused on building ventures that sustainably utilize ocean resources for economic, social, and environmental benefit. Critical perspectives shape the current understanding and expectations of the blue economy entrepreneurship paradigm.

An environmental sustainability perspective emphasizes adherence to principles of responsible resource management, life cycle analysis, ecosystem protection, and biodiversity conservation (Bennett et al., 2021). Blue economy entrepreneurs should develop business models that regenerate marine environments, such as restoring mangroves and coral reefs (Gephart et al., 2020). Technologies that increase efficiency, reduce waste, and enable circular material flows will be critical (NHS England, 2021).

A social equity perspective requires that blue economy enterprises engage coastal populations, draw upon indigenous and local knowledge, provide fair labour conditions with safeguards against exploitation, and ensure equitable distribution of benefits (Allison et al., 2020). Capacity building and access to markets and finance can empower marginalized groups (Wang et al., 2021). Distributive justice, intergenerational fairness and poverty reduction should be prioritized (Viridin et al., 2021).

A policy and governance perspective necessitates integrated decision-making, evidence-based regulations, multi-sector partnerships, and ocean planning to create a supportive environment for blue entrepreneurship (Jouffray et al., 2020). Laws and guidelines must balance economic growth with ecological limits while addressing issues like user conflict (Blasiak et al., 2020). Institutional coordination across agencies and jurisdictions is needed (Morrison, 2017).

A technology and innovation perspective envisions blue entrepreneurship powered by advances in renewable energy, digitalization, biotechnology, nanotechnology,

aquaculture, and information systems that enable sustainable products, services, and business models (Bennett et al., 2021). Research, technology transfer, and environmentally sound deployment should be encouraged (Visbeck, 2018).

A global development perspective frames blue entrepreneurship as a path to poverty reduction, food security, decent jobs, and improved socioeconomic opportunities for marginalized coastal communities (Wang et al., 2021). Building entrepreneurial capabilities through education, training and access to financing is crucial (Virdin et al., 2021).

Comprehensively, blue economy entrepreneurship must fuse economic profitability, ocean sustainability, social justice, scientific progress, and integrated systems thinking. These diverse disciplinary perspectives will strengthen this emerging field's knowledge foundations and impact potential.

2.6 Justification of Choosing the Theory of Planned Behaviour

While entrepreneurship research employs various theoretical frameworks to understand entrepreneurial intentions (Morales-Alonso et al., 2023), this study adopts the Theory of Planned Behavior (TPB) as its primary theoretical foundation. The decision to utilize TPB is grounded in several compelling factors that make it particularly well-suited to examine youth entrepreneurial intentions in the blue economy sector.

TPB has garnered widespread acceptance and extensive empirical support in entrepreneurship research. Recent meta-analyses and comprehensive reviews have consistently demonstrated its robust predictive power in explaining entrepreneurial intentions and behaviours (Tomy & Pardede, 2020; Lortie & Castogiovanni, 2015). For instance, Tomy and Pardede (2020) found that TPB explains up to 41% of the variance in entrepreneurial intentions, providing a solid foundation for our investigation and allowing for comparisons with existing literature.

TPB's framework incorporates both individual and social factors, making it uniquely suited to examine the complex determinants of youth entrepreneurial intentions in the blue economy. The theory's constructs of personal attitudes and perceived behavioural control capture individual-level factors, while subjective norms account for social influences (Nowiński et al., 2019). This holistic approach aligns well with the multifaceted nature of blue economy entrepreneurship, which involves personal motivations, perceived capabilities, and societal perceptions of sustainable ocean-based ventures (Voyer et al., 2018).

Furthermore, TPB demonstrates remarkable flexibility in adapting to specific contexts. Sher et al. (2021) highlighted this adaptability in their study of agricultural students. It is precious for our study as it allows incorporating blue economy-specific factors into the model. For instance, we can examine how attitudes towards ocean conservation, perceived capabilities in marine technologies, or social norms regarding sustainable business practices influence entrepreneurial intentions in this unique sector (Ebarvia, 2016).

The clear operationalization of TPB constructs facilitates empirical testing and enables meaningful comparisons with other studies in the field (Shirokova et al., 2017). This operational clarity enhances the reliability and validity of our research, contributing to the broader body of knowledge on entrepreneurial intentions in emerging sectors like the blue economy.

Moreover, TPB's focus on intentions as a proximal predictor of behaviour is especially relevant when studying youth entrepreneurs. Nguyen et al. (2019) found that intentions explain a significant portion of the variance in subsequent entrepreneurial action among youth. Many young individuals may still need to start businesses but are in the process of forming entrepreneurial intentions. TPB provides a framework to understand and predict these intentions, offering insights into potential future entrepreneurial activities in the blue economy sector (Gelderen et al., 2018).

Lastly, while other theories like Shapero's Entrepreneurial Event Model or the Model of the Entrepreneurial Process offer valuable perspectives, TPB provides a more comprehensive and well-established framework for our specific research context. It allows us to examine the desirability and feasibility of entrepreneurship and the social influences and perceived control that are crucial in shaping youth intentions (Karimi et al., 2016; Mei et al., 2017).

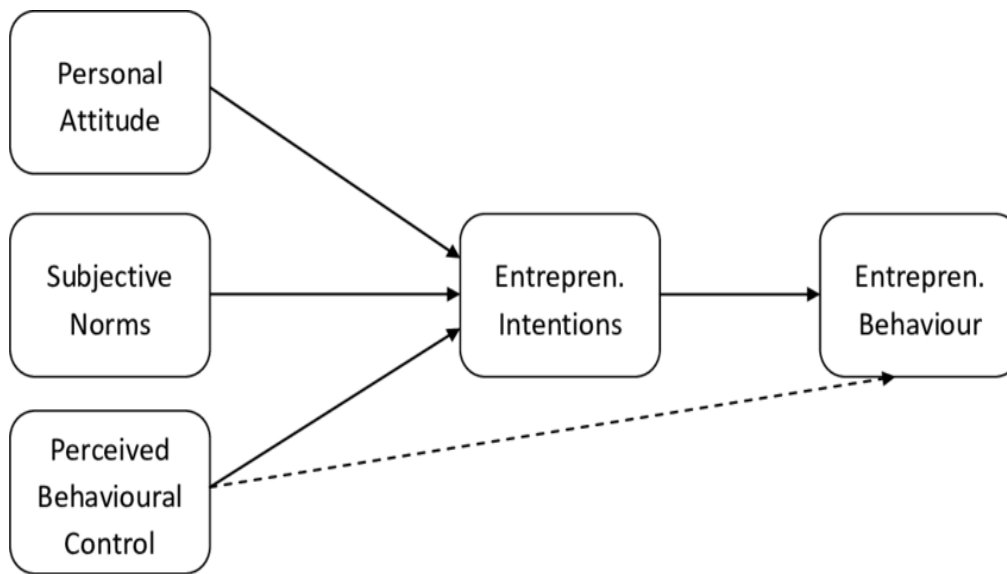
Thus, while we acknowledge the contributions of alternative theoretical perspectives, the Theory of Planned Behavior offers the most comprehensive, flexible, and empirically supported framework for our investigation of youth entrepreneurial intentions in the blue economy. Its ability to integrate individual, social, and contextual factors and its proven track record in entrepreneurship research make it an ideal theoretical foundation for this study.

2.7 Conceptual Framework

The Theory of Planned Behaviour (TPB) posits that various contextual elements can either bolster or hinder an individual's drive towards entrepreneurship, as demonstrated by Luthje and Franke in 2003. Nonetheless, the influence of personality traits on fostering entrepreneurial ambitions remains ambiguous. Despite this, there's a growing consensus among scholars that these traits shouldn't be overlooked, particularly when considering the blue economy.

This study aims to advance this theoretical endeavor by examining various factors and their impact on the entrepreneurial aspirations of Bahraini youth in the blue economy sector. Specifically, it explores the intentions of these young individuals towards entrepreneurship within the blue economy, grounded in the framework of the Theory of Planned Behaviour (TPB).

Figure 2.1: Theory of Planned Behaviour, Ajzen (1991, 1995, 1999)



2.8 Research gap

While extensive research has been conducted on youth entrepreneurship in general, more focused studies need to examine youth entrepreneurial intentions within the specific context of the blue economy. In Bahrain specifically, Alrabeei and Kasi (2014) studied the challenges faced by small and medium enterprises (SMEs). While not focused exclusively on the blue economy, their work provides valuable insights into the broader entrepreneurial ecosystem in Bahrain. They found that access to finance and human resource challenges were significant barriers for SMEs, issues that are likely to affect blue economy entrepreneurs as well. The unique characteristics of ocean-based industries and their potential appeal to young entrepreneurs have yet to be sufficiently explored in the current literature.

Applying the Theory of Planned Behavior (TPB) to blue economy entrepreneurship among youth represents another area requiring further investigation. Although TPB has been widely utilized to study entrepreneurial intentions across various sectors (Krueger et al., 2000; Liñán & Chen, 2009), its efficacy in explaining youth intentions towards blue economy ventures remains to be thoroughly examined.

This knowledge gap is particularly evident in Bahrain and similar coastal economies, where the blue economy offers significant potential for sustainable development and youth employment. The complex interplay between cultural factors, environmental awareness, and entrepreneurial intentions in these settings warrants deeper exploration.

Moreover, while various support mechanisms such as microfinance and mentorship programs have been proposed for youth entrepreneurship (Oseifuah, 2010; St-Jean & Audet, 2012), their relevance and effectiveness within the blue economy sector have yet to be comprehensively studied. Research is needed to investigate how these support systems can be adapted to meet the specific needs of young entrepreneurs in marine-based industries.

This study addresses these research gaps by applying the Theory of Planned Behavior to examine youth entrepreneurial intentions in Bahrain's blue economy sector. In doing so, it seeks to contribute to the theoretical understanding of entrepreneurial intentions in specialized economic sectors and the practical knowledge required to nurture youth entrepreneurship in the expanding blue economy.

2.9 Chapter Summary

This chapter provided a literature review on the blue economy, youth entrepreneurship, and the Theory of Planned Behaviour (TPB) as the main conceptual framework for this research. The aim was to explore the factors that influence the entrepreneurial intentions of young people in the marine sector. The chapter also discussed other relevant theories that complement the TPB, such as the “Reasoned Action Theory”, the “Self-Efficacy Theory”, “Social-Cognitive Theory”, the “Transtheoretical Model”, and “Self-Determination Theory”. The chapter examined how the moderating variables of Personal Attitude, Subjective Norm, and Perceived Behavioural Control affect the TPB model in the context of marine entrepreneurship. The chapter reviewed previous studies on Youth Entrepreneurial Intention and how they relate to the current research. The chapter also defined the blue economy and its

connection to the SDGs and entrepreneurship. The chapter identified various sectors within the blue economy and their potential for entrepreneurial opportunities. The chapter analysed the motivations and challenges for blue economy entrepreneurship and how they can be addressed. Finally, the chapter pointed out the gaps in the existing literature and the rationale for this study to contribute to the field of youth and marine entrepreneurship.

Chapter Three: The Overview of Blue Economy in Bahrain

Chapter Three

The Overview of Blue Economy in Bahrain

3.1 Introduction

This chapter provides essential context for understanding the blue economy landscape in Bahrain and its relevance to youth entrepreneurship. It explains why Bahrain is an ideal case study for examining blue economy entrepreneurship, highlighting its unique geographical and economic characteristics. The chapter then traces Bahrain's historical reliance on marine resources, from traditional pearling to modern maritime industries, to illustrate the deep-rooted connection between Bahraini culture and the sea.

A critical examination of Bahrain's current marine environment follows, focusing on environmental pressures and the need for economic diversification. This sets the stage for exploring Bahrain's blue economy potential, particularly concerning sectors like marine tourism, fisheries, port services, and renewable energy.

The chapter concludes by discussing youth entrepreneurial motivations in Bahrain, providing a bridge to the study's focus on youth intentions towards blue economy entrepreneurship. By offering this comprehensive overview, the chapter establishes the foundation for understanding the factors influencing Bahraini youth's entrepreneurial intentions in the blue economy sector.

3.2 Bahrain's Blue Economy

3.2.1 Rationale for Selecting Bahrain as the Research Context

Bahrain's marine environment represents 90.5% of the total land and sea area of the country, and more than 90% of its population lives on the coasts which are more than 510 km long (Supreme Council for Environment). A small island state in the Arabian

Gulf, Bahrain occupies a strategic position at the crossroads of the Middle East. With a latitude of around 26 degrees north and a longitude of around 50 degrees east, Bahrain lies east of Saudi Arabia and north of Qatar. This privileged geographical position has given Bahrain historical importance as a commercial and maritime centre (Peterson, 2016). The country also derives strategic advantages from its proximity to significant shipping straits, such as the Strait of Hormuz. Due to its location at the heart of the Arabian Gulf, Bahrain plays a substantial role in economic exchanges, trade, and regional diplomacy.



Figure 3.1: Map of Kingdom of Bahrain. Source: Wikipedia

Bahrain provides a compelling case study for blue economy development in the Middle East region. Its marine geography defines it and has a long history of reliance on ocean resources (Naser, 2022). However, its rapid modernization, especially the expansion on the needed urbanization has also impacted some environmental aspects that could eventually, if not studied carefully, affect the marine ecosystems (Alnaser, 2011). Given its natural assets and strategic location, including its rich marine biodiversity, extensive coastline, (Al-Abdulrazzak et al., 2018). Therefore, expanding

in the investment in the Blue Economy could add up to the future sustainable economic growth and solutions and job creation opportunities (Alshubiri, 2020). It possesses substantial fisheries, natural gas reserves, offshore oil, seaport infrastructure, a shipping industry, and a tourism sector poised for eco-friendly expansion (Khayati, 2018; Sarangi, 2023). Ocean renewable energy development also holds promise (Basha et al., 2021).

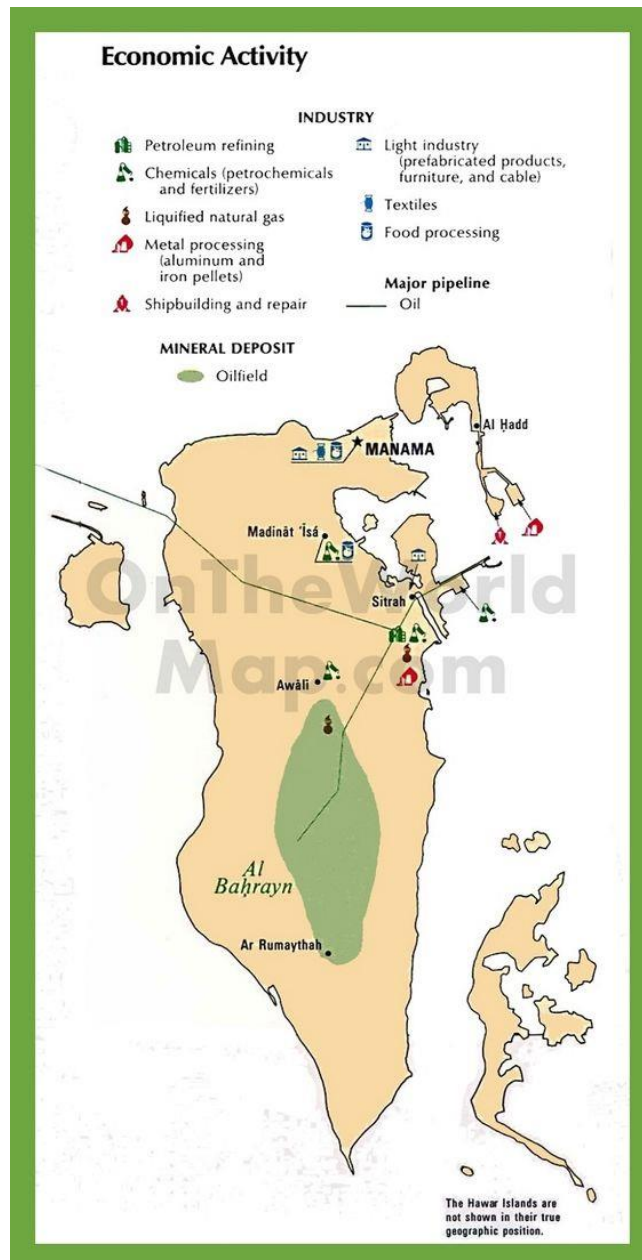


Figure 3.2: Economic Map of Bahrain

Source: (OnTheWorldMap, 2021)

Furthermore, as a high-income country, Bahrain has the financial and technological capacity to implement innovative and sustainable ocean industries (World Bank,

2017). By harnessing its human capital and growing knowledge economy, Bahrain can pioneer blue economy approaches that balance economic growth with environmental sustainability (Choudhary et al., 2021). Regional collaborations can amplify efforts. Bahrain's extensive marine resources, economic strengths, and geographic importance make it an ideal test case for blue economy policies in the Middle East (Khayati, 2018). Lessons from Bahrain can inform sustainable development trajectories for other coastal countries (Naser, 2022).

3.2.2 Bahrain's Blue Economy for Sustainable Development

The prevailing contextual circumstances within Bahrain's economic landscape necessitate a concerted and integrated effort to confront its distinct challenges by diversifying its economy (Olteanu, 2018). The geographical positioning of Bahrain mandates a unique approach to identifying unexplored opportunities and devising strategies for an optimal solution, requiring an investment in the blue economy to foster youth employability (Griggs, 2013).

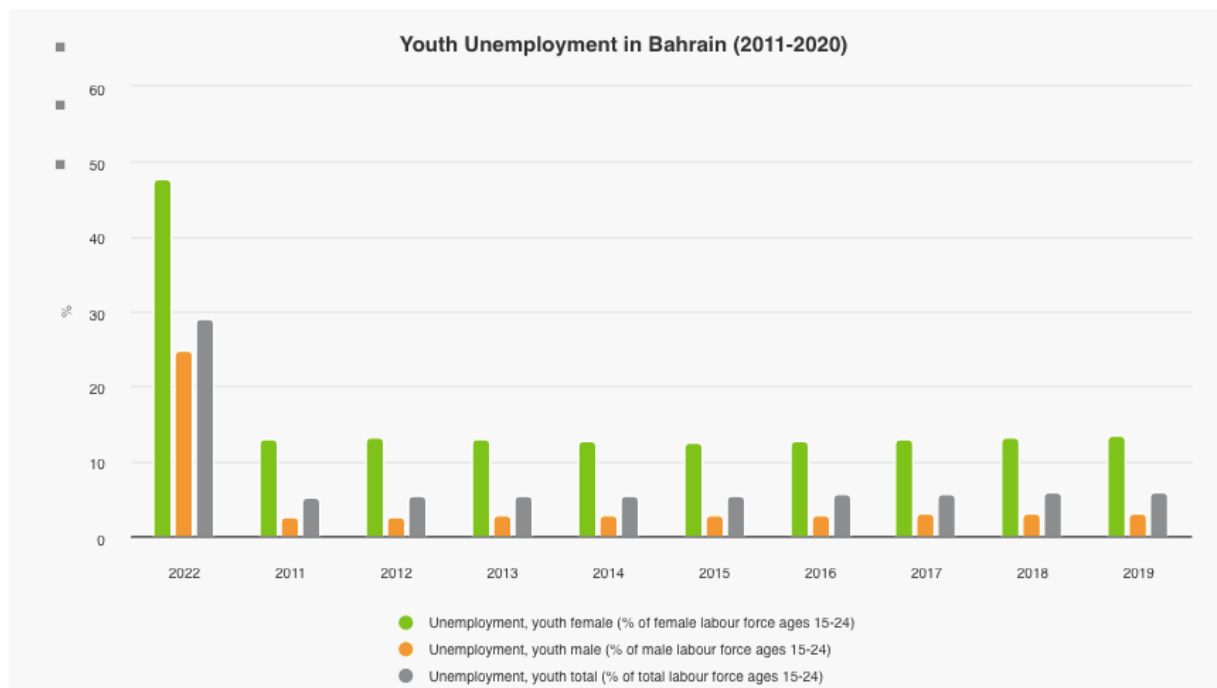


Figure 3.3: Youth Unemployment in Bahrain (2011-2020).
Source: The Third National Communication (Bahrain-NC3-2-SCE, 2020).

Naser (2021) posits that Bahrain has historically benefited from collaborations with local and international environmental organizations, presenting current opportunities

to enhance its marine management through similar alliances. Prioritizing establishing an ecosystem-based marine spatial plan is paramount, serving as the bedrock for marine environmental management and contributing to realizing the nation's sustainable development objectives. According to the United Nations Environment Programme (UNEP, 2015), SDG initiatives in Bahrain can be implemented and enforced without incurring additional operational costs associated with a comprehensive system reorganization or establishing new regulatory frameworks.

Existing structures and frameworks, coupled with innovative perspectives, can adopt blue economy approaches (Băran et al., 2022). UNEP (2015) underscores that the blue economy approach is an efficacious tool for advocating the SDGs, possessing the potential to actualize these goals (Choudhary, 2021). From an environmental standpoint, the blue economy represents an opportunity for human well-being in Bahrain's economic development, facilitating the region's transition to a blue economy. Despite evidence linking the blue economy and SDGs, stakeholder involvement reveals disparities and variations in the interaction between the two (Lee et al., 2020). Further exploration and engagement are essential to harmonize these perspectives for a cohesive and effective integration of Bahrain's blue economy and sustainable development goals.

Currently, there is an indication in Bahrain's Economic Vision is pushing forward local progression on the economy and environment (Hvidt, 2013). As a result, the sustainable use of marine resources could be employed in national programs as policymaking and as solutions to enhance youth employability. For example, Bahrain's labor fund "Tamkeen" supports entrepreneurial programs and provide subsidies that cater for sustainable entrepreneurial ventures for youth in different sectors including in the Blue Economy.

3.2.3 Bahrain's Historic Reliance on the Sea

Bahrain has a long and prosperous relationship with the sea (Elghonaimy & Channaa, 2021). As an archipelago of 33 islands in the Arabian Gulf, maritime trade and pearl

fishing have been integral to Bahrain's economy and cultural identity since ancient times (Naseeb et al., 2021; Pernetta, 1992). For centuries, the people of Bahrain relied profoundly on the sea and marine resources. As early as the 5th millennium B.C., Bahrainis fished for pearls sold locally and exported internationally, forming the backbone of the economy (Naseeb et al.,2021; Pernetta,1992). Pearling provided income and employment while shaping Bahrain's cultural practices. Historically, the sea was a vital source of Bahrainis' livelihoods and sustenance through fishing and pearl diving where Muharraq Island, located on the northeast coast, constituted as the capital of the Gulf's pearling economy as most locals and residents relying directly upon it as an income source (Al Khalifa, 2019). According to Al Khalifa (2019), pearl diving contributed to about 75% of Bahrain's total exports in 1877. Today, the remnants of this industry are found in photos and history books, and some small-scale related professions.



Figure 3.4: Manama port in 1924.

Source : The Old Bahrain, Facebook

The traditional arts of building pearl fishing boats and singing sea shanties endured for generations (Dayaratne, 2019). At the height of the Gulf pearl trade in the late 19th and early 20th centuries, a significant portion of pearls harvested in the region were

exported through Bahrain's markets to international buyers (Carter, 2005; Fuccaro, 2009). However, the discovery of oil transformed Bahrain's society and economy, decimating its pearling industry (AlShehabi, 2019; 2021; Al Mahari, 2018). Rapid urbanization and industrial growth have since affected Bahrain's marine ecosystems through large-scale industrial projects (Abdulla & Naser, 2021).

The sea has lost part of its vibrancy as marine ecosystems face some challenges due to the search for on-land projects and some other unsustainable fishing practices. For example, Bahrain's total land mass increased by approximately 143 square kilometres or 23% from 1963 to 2005, likely affecting coastal habitats, including mangrove and seagrass beds, which protect marine species (Zainal et al., 2012). Over 110 km² of new land for housing, factories and infrastructure has been urbanely expanded from shallow seas (Cooper et al., 2019).

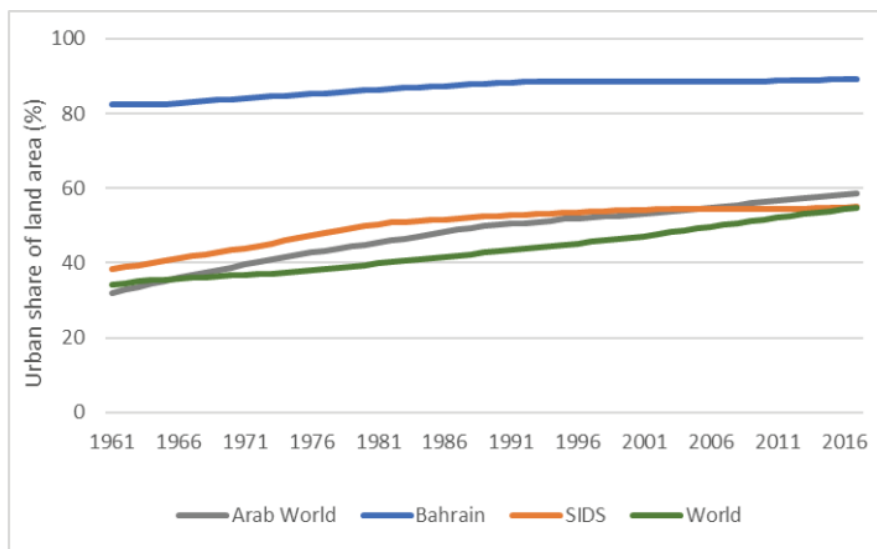


Figure 3.5: urbanization levels in Bahrain, compared with other regions, 2015.
Source: The Third National Communication (Bahrain-NC3-2-SCE, 2020).

Bahrain also faces severe threats from climate change, including rising temperatures, declining rainfall, rising sea levels, and extreme weather (Naser, 2022). Water scarcity is an ongoing concern, with the nation dependent on desalination for its supply (Al-Zubari et al., 2018).

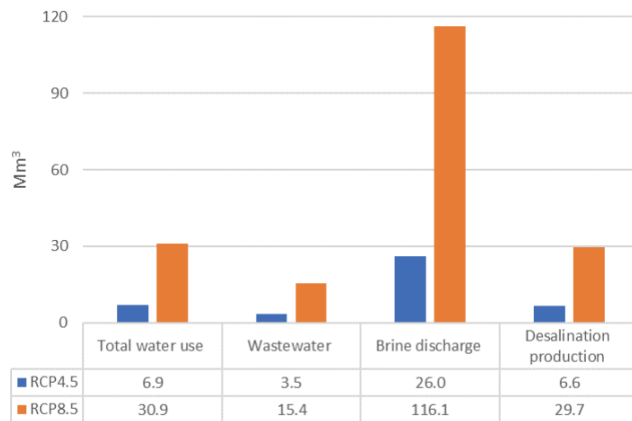


Figure 3.6: The cumulative impacts of climate change over 2015–2035 for total municipal water use, wastewater generation and treatment, brine discharge, and desalinated water production.

Source: The Third National Communication (Bahrain-NC3-2-SCE, 2020).

Native species are faced with some environmental challenges, as preserving biodiversity and ecosystems is becoming indispensable for sustaining vital sectors such as fisheries, tourism, food production, and water security (Alnaser, 2015). Recognizing the significance of this, the government has initiated positive measures, including establishing protected areas and efforts to safeguard pearling heritage, and launching initiatives that led to a notable increase in mangrove plantations (Naseeb et al., 2021).

3.2.4 Preserving the Island Ecosystem of Bahrain

The ecological challenges, compounded by climate change consequences such as rising seas, elevated temperatures, ocean acidification, extreme weather events, and the intrusion of saltwater into aquifers, exacerbates the threats to Bahrain as an islands (Humood, 2022). The U.N. Intergovernmental Panel on Climate Change projects regional seas to rise 1 meter by 2100 – swamping much of Bahrain's coastline, given that over three-quarters of its population and infrastructure lie within 10 kilometres from shore (Abdulla & Naser, 2021). Exacerbate water stress in Bahrain necessitates meeting 60% of the supply via energy-intensive desalination (Al-Zubari et al., 2018). Declining fish catches resulting from these pressures directly affect food convenience in the country, where seafood constitutes over 60% of animal protein intake (Al-Zubari et al., 2018). Furthermore, global warming could cost Bahrain 6-14% of GDP by 2050

through lowered productivity, heat-related illnesses, infrastructure damage from extreme storms, and reductions in foreign investment and tourism (Isaa & Vempatti, 2019). Hence, environmental considerations impinge directly upon national economic and other well-being aspects.

Tackling these challenges requires holistic frameworks that enable ecologically sustainable development (Al-Shubiri, 2018). The Government of Bahrain has pursued several initiatives, such as expanding marine protected areas to 2.6% of territorial waters (Naseeb et al., 2021) and initiating programs to monitor and research biodiversity. Passing Decree-Law No. 21 in 1996 to assess the environmental impacts of projects was a significant milestone, as was establishing the Supreme Council for Environment and National Oil and Hazardous Waste Committee to strengthen interagency coordination (Information & eGovernment Authority, 2023).

3.2.5 Bahrain's Recent Environmental Initiatives and Conservation Efforts

Bahrain has recently intensified its efforts to address environmental challenges and support the sustainable development of its blue economy (Supreme Council for Environment [SCE], 2022). These initiatives demonstrate the Kingdom's commitment to marine conservation, climate change mitigation, and environmental protection (Supreme Council for Environment [SCE], 2022).

The Supreme Council for Environment has initiated a national project for mangrove cultivation, recognizing its significant ecological importance (SCE, 2022). This project includes collecting and distributing 177,459 mangrove seeds to various national partners and providing 4,696 mangrove seedlings. Additionally, mangrove nurseries have been established in Al-Areen Reserve, and the Ras Sanad nursery has been expanded (SCE, 2022). The objective is to restore mangrove habitats, crucial for coastal protection and carbon sequestration, and as nurseries for numerous marine species.

Bahrain has also engaged in several critical studies to understand better and protect its marine resources by contributing to the knowledge base for effective marine resource management and conservation. The Kingdom has participated in a study of pearl bed sites in collaboration with DANAT - the Bahrain Institute for Pearls and Gemstones (SCE, 2022) and is preparing the Sixth National Report for the Convention on Biological Diversity is underway (SCE, 2022).

Furthermore, in response to climate change challenges, the Supreme Council for Environment is developing a national plan to reduce emissions across various sectors (SCE, 2022). This plan aims to achieve the climate goals announced by His Royal Highness Prince Salman bin Hamad Al Khalifa, Crown Prince and Prime Minister, which include a 30% reduction in greenhouse gas emissions by 2035 and targeting carbon neutrality by 2060 (SCE, 2022). This ambitious plan demonstrates Bahrain's commitment to aligning its economic development, including its blue economy sectors, with global climate objectives.

To provide crucial information for future coastal development and adaptation strategies, directly impacting blue economy sectors such as coastal tourism and port operations, a comprehensive national-level study was also conducted, given the potential impacts of sea level rise on Bahrain's coastal areas and marine resources (SCE, 2022). Key outcomes include the adoption of a baseline scenario of 0.5 meters sea level rise by 2050, mapping of areas and facilities threatened by sea level rise, and forming a sea level rise committee led by the Supreme Council for Environment (SCE, 2022).

Bahrain is also preparing a National Investment Plan for Adaptation with the Global Green Growth Institute (GGGI) to enhance adaptive capacity to face climate change risks, ensuring the resilience of Bahrain's blue economy in the face of environmental changes (SCE, 2022). To support these initiatives for informing policy decisions and management strategies, Bahrain has intensified its environmental monitoring efforts.

The Kingdom has conducted 65 field trips, collected 362 samples from various locations, and performed 1,000 analyses (SCE, 2022).

In terms of international engagement, Bahrain has actively participated in global environmental efforts. The Kingdom won the position of Vice President of the Executive Office of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal for the next term. Bahrain also represented the nation in the "Plastic Waste Partnership" meeting of the Basel Convention in Uruguay. It participated in the first meeting of the Intergovernmental Negotiating Committee on establishing a convention to reduce plastic pollution under the United Nations Environment Programme (SCE, 2022).

These recent initiatives demonstrate Bahrain's holistic environmental protection and sustainable development approach. By addressing challenges ranging from mangrove restoration to climate change adaptation and pollution control to international cooperation, Bahrain is laying the groundwork for a sustainable blue economy. These efforts protect the Kingdom's valuable marine resources and ensure the long-term viability of its blue economy sectors, balancing economic development with environmental stewardship.

3.2.6 Practical Applications and Implications of Bahrain's Blue Economy Initiatives

Bahrain's blue economy initiatives demonstrate practical applications across various sectors, with significant implications for sustainable development. In the fisheries sector, the Supreme Council for Environment (SCE) has implemented sustainable fishing practices and conducted marine biodiversity studies, including research on pearl bed sites in collaboration with the Bahrain Institute for Pearls and Gemstones (DANAT) (Supreme Council for Environment [SCE], 2022) for a better understanding and management of marine resources. The preparation of the Sixth National Report

for the Convention on Biological Diversity further underscores Bahrain's commitment to preserving its marine ecosystems (SCE, 2022). In marine tourism, Bahrain has developed initiatives balancing economic benefits with environmental protection. The SCE's mangrove restoration efforts have potential implications for eco-tourism, creating opportunities for nature-based tourism activities (SCE, 2022). Regarding renewable energy, Bahrain's efforts are part of broader climate change and sustainable development initiatives. While specific marine renewable energy projects are not detailed, this plan sets the stage for potential developments.

Despite the blue economy's potential, implementation challenges persist. The SCE's extensive environmental monitoring efforts, highlight the complexity of managing marine resources and the need for continued scientific assessment (SCE, 2022). The mangrove restoration initiative has significant practical implications. This could benefit coastal communities and infrastructure by mitigating sea-level rise impacts, a key concern in Bahrain's comprehensive national-level study (SCE, 2022). The National Zero Carbon Plan presents both challenges and opportunities across sectors, requiring significant industry adjustments to meet its ambitious goals. The formation of a sea level rise committee led by the SCE indicates the cross-cutting nature of these challenges, necessitating coordination across governmental and private sector entities (SCE, 2022). These initiatives collectively demonstrate Bahrain's commitment to sustainable blue economy development, balancing economic growth with environmental protection and climate change mitigation.

3.2.7 Unleashing Bahrain's Blue Economy Potential

As part of its vision to become a competitive and sustainable marine economy, Bahrain has been investing in developing its "blue economy" - comprised of oceanic resources, assets, and activities with immense potential to drive national development through avenues like tourism, transportation, fisheries and trade if properly safeguarded and regulated (Khayati, 2018; Sarwar, 2022).

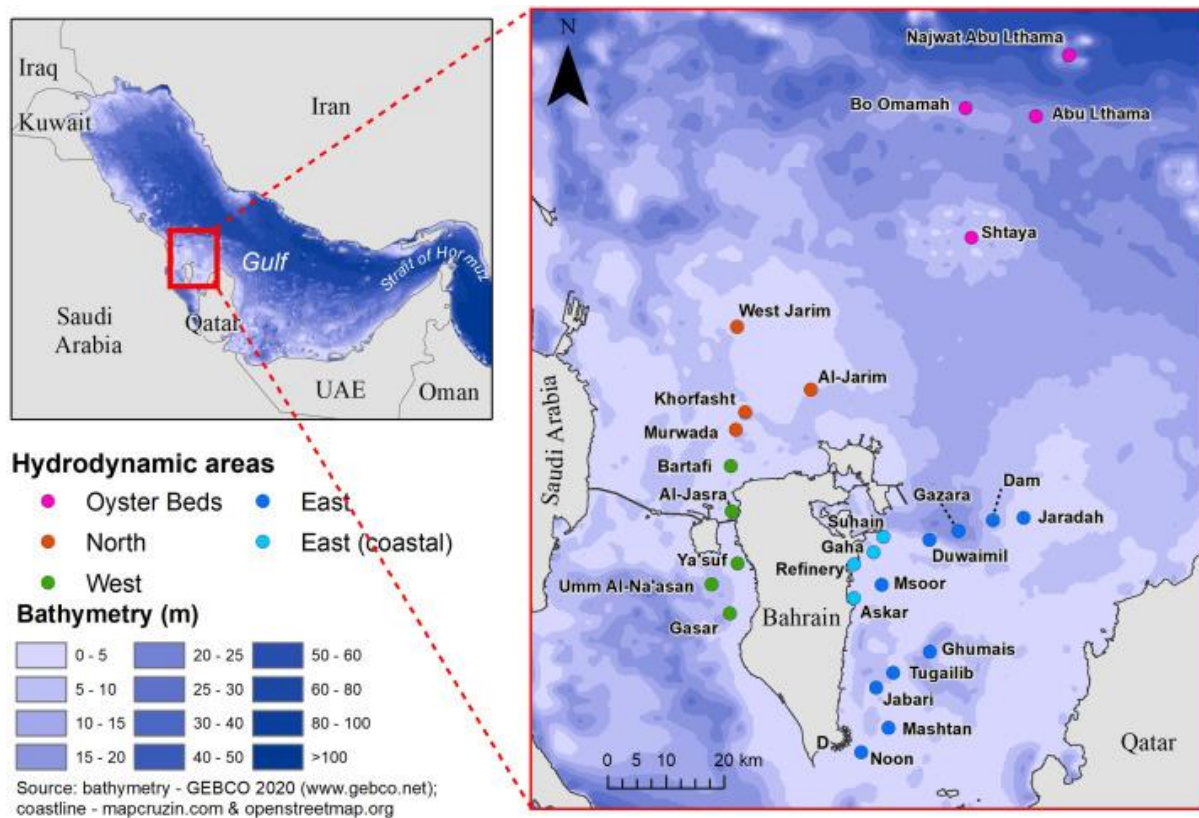


Figure 3.7: Fisheries around Bahrain
Source: World Atlas (worldatlas.com)

Bahrain possesses profound blue economy assets across tourism, fisheries, seaborne trade, and ocean harvesting, which can catalyze sustainable development if strategic priorities like environmental conservation, climate proofing, and responsible consumption are integrated within governance frameworks. Regional collaboration and local community cooperation will also amplify national policies oriented towards unlocking the full potential of Bahrain's marine resources. By balancing ecological limits with human ingenuity, the blue economy offers a pathway towards a thriving ocean-based economy that substantially contributes to shared prosperity across current and future generations of Bahrainis (Silver et al, 2015).

In Bahrain's blue economy, services support the diverse sectors constituting this paradigm (Bahrain Economic Development Board, 2021). These encompass marine tourism, fisheries, port services, and renewable energy.

3.2.7.1 Marine Tourism Services

The strategic development of marine tourism services has fueled Bahrain's economic expansion. Government investments in infrastructure, luxury hotels, recreational facilities, and marine transport services have enhanced the country's allure to tourists, generating employment opportunities and fostering local economic development (Bahrain Ministry of Industry, Commerce, and Tourism, 2021).

Alongside regional neighbours like the UAE, Bahrain has focused recent efforts on expanding tourism, attracting 5.57 million visitors in 2011, contributing 8% of the national GDP and creating 15,000 jobs based on the natural beauty, cultural richness and hospitality for which Bahrain is renowned (Samawi & Al-Sayyed, 2014). Initiatives are underway to shift perceptions from a moderate Gulf weekend getaway to a family-oriented vacation spot with distinctive attractions and improved branding relative to other GCC states (Karolak, 2014). Part of the expansion involves the development of the marine tourism sector through protected coastal areas showcasing coral reefs, the establishment of eco-resorts, water recreation zones and cruise ship facilities, which provide income opportunities for local communities through conservation and sustainable utilization of Bahrain's ecological assets.

3.2.7.2 Fisheries Services

In contemporary contexts, the fisheries sector is vital in driving the blue economy (Choudhary et al., 2021). The imperative of sustainable fisheries is underscored by its direct contribution to food security (U.N., 2022), aligning with the broader ethos of the blue economy, emphasizing the responsible utilization and stewardship of oceanic resources for economic advancement, job creation, and environmental sustainability (OECD, 2016; Christophe Béné, 2015). Nonetheless, the looming threat of ocean acidification poses a formidable challenge, imperiling species, ecosystem services, fisheries, aquaculture, and the resilience of coral reefs—a critical element in coastal protection (U.N., 2022).

In Bahrain, the fisheries sector beautifully blends traditional and modern fishing practices, showcasing a rich cultural heritage. This sector, while facing challenges, holds great potential for sustainability and growth (Alshubiri et al., 2020). Efforts are underway to restore natural habitats affected by coastal development, with initiatives aimed at enhancing coral reefs, seagrass beds, and mangroves that are vital for thriving fish populations. Additionally, fish resources face overexploitation due to growing demand and insufficient management, leading to reduced fish stocks and catch rates (Alshubiri et al., 2020). A third challenge manifests in inadequate infrastructure and facilities for fish marketing and processing, adversely affecting the quality and value of fish products (FAO, 2021). Urgent and concerted efforts from stakeholders are imperative to address these challenges and ensure Bahrain's fisheries sector's conservation and sustainable development (OECD, 2022).

Traditional fishing practices in Bahrain predominantly involve using small wooden boats, known as "dhows," deployed in nearshore waters (Shams, 2002). In contrast, the modern fishing industry employs larger, technologically advanced vessels equipped with tools such as sonar and GPS. The fisheries sector in Bahrain significantly contributes to the national economy, generating employment and income for thousands of individuals (Shams, 2002). According to the Bahrain Economic Development Board, the sector sustains over 10,000 jobs, with more than 2,000 registered fishing vessels in the country (Alshubiri et al., 2020).

Bahrain's fisheries services sector assumes a critical role in the sustainable utilization of marine resources, bolstering food security and export capabilities (U.N., 2022). In addition to its economic importance, fishing forms a vital conduit for preserving intangible cultural heritage associated with the sea while providing nutrition, with over 60% of dietary protein in Bahrain coming from fish (Dayaratne, 2019; Musaiger 2016). However, climate shifts, and overfishing have threatened capture fisheries output, leading to high import rates. Reversing this trend through integrated policies, mariculture development, and community support offers bright prospects. In particular, cage cultivation of seafood like shellfish, sea bass or sea bream can augment wild stock regeneration while enhancing food self-reliance in Bahrain (Bani, 2020).

Regional cooperation and temporary bans during critical life stages have also ensured future resource viability (UNEP, 2015). Considering projections of 9 billion global citizens by 2050, increasing ocean-derived nutrition will be vital but must balance ecological limits and social equity (Farmery et al., 2021).

3.2.7.3 Port Services

Bahrain's ports offer a spectrum of services, encompassing cargo handling, ship repair, and bunkering, facilitating regional trade and employment opportunities (Bahrain Economic Development Board, 2021; Talley, 2014).

The ocean facilitates trade, enabling Bahrain to link with global markets, as maritime commerce accounts for 80% of all goods transported internationally (Sarwar, 2022; Mitra et al., 2021). With few land routes, Bahrain's ports serve as its primary conduit for imports and exports, handling 100 million cargo tons in 2020 (MTT, 2021) while shipyards, shipping companies and support services generate further economic activity and employment (Olteanu & Stinga, 2019). However, consequences of climate change, such as rising sea levels and extreme weather, threaten critical transportation infrastructure and trade connectivity (World Bank, 2017). Adaptation through resilient port upgrades and reduced emissions across Bahrain's merchant fleets via renewable technologies can ensure smoother maritime operations. Meanwhile, curbing issues like oil discharges or invasive species from ballast water requires regulation aligned with global environmental standards (Naser, 2022).

3.2.7.4 Renewable Energy Services

Bahrain is actively exploring the potential of ocean-derived renewable energy, including tidal and wave power (Sadhik Basha, 2021). Notably, Bahrain's renewable energy landscape revolves around wind and solar power. As highlighted by W.E. Alnaser & N.W. Alnaser, (2015), the current electricity demand peaks at 2234 MW per day and is projected to escalate to 5700 MW per day by 2030, doubling the country's current power consumption. The advancement of these services is poised to

contribute significantly to Bahrain's sustainable development goals while diversifying its energy portfolio (Alnaser, 2015).

3.3 Youth Entrepreneurial Motivations in Bahrain

Youth entrepreneurship is when young individuals, typically aged between 18 and 35, initiate, develop, and manage a business venture to create economic value and innovation (Lez'er et al., 2019). It can empower young people to take control of their career lives, develop essential skills, and contribute to their communities (Shefiu, 2016). Besides, it often involves creative ideas, innovative business models, and small-scale enterprises that address local needs (Gomez et al., 2015). Thus, it is a way to create economic, social, and environmental value through local initiatives (Tingey et al., 2020).

Dikaiakos et al. (2017) reported that youth entrepreneurship rates vary widely across different countries and regions, with some countries having more supportive environments than others. Gaining significant attention from governments, organizations, and society due to their potential to address social and economic issues, efforts to engaged and support youth entrepreneurs are exacerbating on yearly basis (Tiberius & Weyland, 2023).

In Bahrain, youth entrepreneurship has gained significant attention from the government and policymakers to boost economic diversification and job creation, especially following the fluctuate oil price (Miniaoui & Schilirò, 2016). Specific initiatives to foster youth entrepreneurship in Bahrain are in the increase, for example the “Rowad Entrepreneurship” program and the “Bahrain Development Bank's Microfinance” program targeting young entrepreneurs (Forouharfar, 2018).

Motivations for youth entrepreneurship are multiple and complex. While analyzing the factors influencing the youth's willingness to become entrepreneurs, we must consider the influence of personal aspirations and socioeconomic conditions (Dioneo-Adetayo, 2006). For example, in developing countries, youth may be motivated to create

economic opportunities in disadvantaged areas (Rödén & Ståhle, 2017). On the other hand, in developed countries, youth may be motivated by a desire to work in innovative and dynamic sectors such as technology (Rödén & Ståhle, 2017).

Stuetzer et al. (2016) conducted a broad study analyzing the varied drivers of youth entrepreneurship across different contexts. They found that the desire for independence and freedom, passion for entrepreneurship, the opportunity to create value and impact society and the need to address economic challenges were common motivations cited by youth entrepreneurs worldwide.

Looking specifically at the context of Bahrain, Ahmed (2019) examined factors influencing youth entrepreneurial involvement in the Kingdom. The study highlighted the central role of family background, noting that young people from business and entrepreneurial families had greater interest and propensity for entrepreneurial activities. Another critical enabler identified was access to financing, whether from family sources, government schemes, or banks (Ahmed, 2019). On the policy front, Ahmed (2019) pointed to favourable regulatory policies, simple business registration procedures, supportive infrastructure, and business assistance programs as government efforts that helped motivate youth entrepreneurs.

At the societal level, positive attitudes towards entrepreneurship shaped a culture that encouraged youth to take risks and pursue opportunities. Educational and training initiatives also equipped youth with the skills and knowledge to start ventures. Economic factors were also relevant, as limited job options led some young people to create self-employment through entrepreneurship. An open, growing economy provides an incentive for innovative ideas (Ahmed, 2019). The analysis indicates that combining personal, financial, government, economic, and socio-cultural elements help drive Bahraini youth entrepreneurship.

Bahraini youth include the desire for independence, passion, addressing economic challenges, and creating value for society (Ahmed, 2019). By further strengthening the supportive ecosystem for young entrepreneurs through family encouragement, peer

networks, educational development, and societal endorsement, Bahrain can enhance opportunities for youth innovation and business leadership.

3.4 Chapter Summary

This chapter presented an in-depth examination of the Blue Economy concept and its application in Bahrain, a small island nation with a rich and diverse marine heritage. The chapter begins by outlining the rationale for selecting Bahrain as a case study and the research methods used to collect and analyze data. It then discusses the current status and future prospects of various blue economy sectors in Bahrain, such as fisheries, tourism, renewable energy, and maritime transport. It identifies the opportunities and challenges that Bahrain faces in enhancing its blue economy potential and achieving sustainable development goals. The chapter also explores the role of innovation and entrepreneurship in creating new values from marine resources and fostering a culture of social and environmental responsibility among the youth.

Chapter Four: Research Methodology

Chapter Four

Research Methodology

4.1 Introduction

This chapter outlines the methodological approach to investigate Bahraini youth's entrepreneurial intentions towards the blue economy. It begins by discussing the research philosophy underpinning this study, justifying the choice of a quantitative approach within a post-positivist paradigm. The chapter then details the research design, explaining why a cross-sectional survey method was selected to address the research questions and to test the hypotheses presented in Chapter One.

A comprehensive description of the sampling strategy follows, detailing how participants were selected from the University of Bahrain student population. The data collection instrument is then discussed, including its development based on the Theory of Planned Behavior and its adaptation to the context of blue economy entrepreneurship in Bahrain. The chapter explains the data analysis procedures, using structural equation modelling to test the proposed relationships between variables. Ethical considerations and limitations of the study are also addressed.

By providing this detailed methodological overview, the chapter ensures transparency in the research process and allows for critical evaluation of the findings presented in subsequent chapters.

4.2 Research Philosophy

Saunders et al. (2015) describe research philosophy as the set of beliefs and principles that underpin knowledge generation. Researchers, during their studies, encounter various assumptions about reality's essence (ontological assumptions), knowledge's nature (epistemological assumptions), the influence of the researcher's values and

beliefs in the research (axiological assumptions), and assumptions related to methodology (Saunders et al., 2019). These assumptions all together inform the development of research questions, the choice of methods, and the interpretation of results.

Crotty (1998) emphasized that ontology, epistemology, axiology, methodology, and methods are not only interconnected but also mutually reinforcing throughout the research journey. Stanley (2012) also argued that it is impossible to consider ontological assumptions in isolation from epistemological and methodological ones. Al-Ababneh's (2020) findings further suggest that the choice of methods and methodologies should stem from the researcher's epistemological and ontological perspectives, while the overall research design reflects the researcher's worldview and approach to knowledge. Consequently, a deep understanding of one's research philosophy, including one's stance on ontology, epistemology, and axiology, is crucial for selecting appropriate methodologies and methods for investigating any area, including the fields of environment and sustainable development.

4.2.1 Ontology

Ontology explores the foundational beliefs about the essence of reality, with researchers aiming to comprehend the nature of reality and its learnable aspects, as described by (Mayer et al., 2015). Hollway (2019) highlighted ontology's focus on the conditions of existence concerning various societal, cultural, and political aspects. Therefore, ontology can be perceived as an individual's worldview and comprehension of different realities (Killam, 2013). Essentially, ontology investigates the constitution of reality and human approaches to grasping existence. Viewing ontological perspectives as a continuum, one finds positivist, objectivist, or realist ontologies at one end, contrasted by subjectivist, relativist, or idealist ontologies at the other, according to (Moon & Blackman, 2014).

Haslanger (1995) observed that objective ontology assumes the independent existence of social phenomena and their meanings from social actors, aligning with positivism.

This approach connects theoretical assertions to empirical verification and was notably applied in natural sciences before becoming prevalent in social sciences in the nineteenth century, propelled by the adoption of statistical methods.

Positivist researchers argue that knowledge stems exclusively from observing the empirical world, often employing quantitative methods to discern causal links and contend that scientific endeavors should foresee and manipulate social or natural occurrences (Tacq, 2011). Positivist ontology is recognized for its streamlined theoretical framework, ease of data collection, even with extensive datasets, and its direct method for data organization and comparison.

This study thus embraces an objective ontological stance to investigate the dynamics between examine youth entrepreneurial intentions towards blue economy sea related jobs within the context of Bahrain. Conversely, the subjectivist or idealist ontological view, as the antithesis on the ontological spectrum, posits that the essence of social phenomena is fundamentally shaped by cultural interactions and the interpretation of people and concepts (Grotty, 1998). Subjectivists argue that social reality is constructed through the meanings ascribed by researchers, enabling a deeper comprehension of complex scenarios, particularly in social studies involving human subjects. Despite its advantages, subjectivist ontology faces criticism for the potentially cumbersome and intricate processes of data gathering, interpretation, and categorization, which may introduce uncertainties and perceived less reliability compared to realist studies (Esterby-smith et al, 2012).

4.2.2 Epistemology

Doolin (1996) described epistemology as the study of the principles and assumptions underlying what is considered valid knowledge, contrasting it with ontology, which examines assumptions about the essence of both physical and social realities. Robson (2002) further clarified that while epistemology deals with the acquisition of knowledge, ontology is concerned with what constitutes reality. These foundational beliefs play a crucial role in guiding researchers towards the selection of methodologies that are deemed most suitable for acquiring the knowledge they seek.

Epistemology can be divided into two main categories: positivist (or objectivist) and subjectivist. Positivist epistemology is grounded in the belief that knowledge should be based on sensory information—what can be observed and measured directly. Researchers adhering to this perspective maintain that social constructs, like organizations, have an existence that is not dependent on human perception, as noted by Holtz & Odağ (2020). They rely on quantitative metrics to evaluate concepts such as performance or quality, positing that studies lacking this empirical foundation could be subjective and not scientifically rigorous (Cohen et al., 2007).

Building on the preceding discussion, this study follows a positivist epistemological perspective. It assumes that concepts such as intrinsic motivation, perceived self-efficacy, and tie strength, along with their impact on the intentions of Bahraini youth towards blue economy-related maritime occupations, can be objectively analyzed. This implies that their assessment remains unaffected by personal biases.

On the flip side, subjectivist epistemology, also referred to as idealist epistemology, stands in contrast to positivist epistemology. It emphasizes the significance of individual perceptions and experiences, which are thought to stem from a person's conceptual interpretation of the world around them (McAuley et al., 2014). Subjectivist proponents believe that objects are devoid of inherent meaning, asserting that meaning is instead ascribed by individuals (Al-Ababneh, 2020). They critique positivism for its inability to comprehensively study human actions and to account for the inherently subjective nature of human decision-making and reasoning (Moon & Blackman 2014).

4.2.3 Axiology

Within the realm of research methodology, axiology is concerned with the values and beliefs that influence a researcher's choices throughout the course of their investigation, focusing on the importance of values in the research process (Killam, 2013; Harris et al., 2018). Derived from the Greek "axiom," meaning "value," the concept of axiology invites scrutiny into how researchers manage both their personal values and those of the participants involved in their studies, as discussed by

Biedenbach and Jacobsson (2016). Heron (1996) suggests that researchers may rely on their values to inform their judgments during the research process, reflecting various axiological perspectives. Furthermore, Biddle and Schafft (2015) point out the significant impact of axiology on the development and selection of research questions, indicating a preference for particular subjects, methodologies, or theoretical frameworks.

Thus, the axiological stance of researchers shapes their methodological choices, underscoring the necessity of recognizing and addressing values within research endeavors. Approaching from an axiological perspective, this study maintains a stance of neutrality and independence from the personal values of both the researcher conducting the study and the participants involved. The primary aim is to analyse the intentions of Bahraini youth towards employment opportunities in the blue economy. This analysis is structured around seven specific variables: (1) Personal attitude and characteristics, (2) Subjective norms, (3) Perceived behavioral control, (4) Business environment and support, (5) Knowledge about the sector, (6) Weather conditions and their impact on sea-related occupations, and (7) Entrepreneurial intentions. The focus is on understanding these variables within the framework of entrepreneurship in Bahrain.

4.3 Research Approach

The research approach serves as the methodological framework through which theories in social sciences are formulated, evaluated, and justified (Saunders et al., 2009). In exploring the entrepreneurial intentions of university students, a flexible research approach is employed, eschewing the limitations of purely deductive or inductive methodologies (Harwell, 2011).

In a deductive approach, research commences with an established theoretical model from which hypotheses are generated. Subsequent observations of the phenomenon, often utilizing quantitative methods, serve to either confirm, refute, or modify the initial theory. This approach is characterized by its progression from general premises

to specific conclusions. While the deductive approach offers the advantage of validating conclusions, it may lack the depth required to fully capture social phenomena.

Conversely, the inductive approach begins with data collection through observation, rather than relying on pre-existing theories. It adopts a "bottom-up" methodology, wherein tentative hypotheses are formulated based on observed data, potentially leading to the development of new theories (Saunders et al., 2009; Burns and Burns, 2008). It should be noted that deductive and inductive approaches are not mutually exclusive and can be complementary (Blundel, 2007; Patokorpi, 2006; Saunders et al., 2009).

Beyond these traditional approaches, an "abductive" methodology offers greater flexibility (Harwell, 2011). In this approach, researchers are not confined to a fixed sequence and may oscillate between deductive and inductive methods as required (Morgan, 2007). This is particularly useful within the context of pragmatism and phenomenology.

In this study, an abductive approach is employed due to its exploratory nature. Initially, a deductive methodology will be utilized to test a model informed by existing literature. Given that the context of the research is Bahrain, an in-depth, inductive examination of Bahraini-specific issues will also be incorporated. This allows for a more nuanced understanding of the entrepreneurial intentions among university students in Bahrain.

4.4 Research Method

This study used theoretical support from theory of planned behaviour (TPB) proposed by Ajzen (1991) as an attempt to predict human behaviour. The TPB denotes that attitude toward the behaviour, subjective norm, and perceived behavioural control influence behavioural intention. The first construct of the theory is behavioural intention, which is the motivational factors that influence behaviour (Ajzen, 1991,

2005 and 2007). The stronger the intention to engage in a given behaviour, the more likely it is to perform that behaviour. The second construct is attitude towards the behaviour, which is the extent to which a person has a favourable or unfavourable appraisal of a given behaviour. Attitude consists of behavioural beliefs and outcome evaluations. Subjective norm is the third construct, which is a social pressure to perform or not to perform a given behaviour. The combination of normative beliefs and motivation to comply constitute subjective norm. Perceived behavioural control also plays a key role in the TPB and it refers to people's perception of the ease or difficulty of performing the behaviour of interest.

Primarily, the TPB affirms that human behaviour is a cause of intention. Therefore, and for the sake of specificity of Bahrain, certain determinants to verify the extent to which they are linked to students' intentions to engage in blue economy entrepreneurship, will be tested. While the TPB will be adopted, a couple of moderating effects will be added, given the distinctive nature of Bahrain into consideration. The "Personality Trait" was examined as a determinant to see whether it has a positive/negative affect on the intention of students in becoming blue economy-based entrepreneurs. In addition, the moderating effect of the "Weather in Bahrain" is also added to the TPB model from the sample students that will be surveyed, based on a hypothesis that hot/humid weather in Bahrain affects the intention given the notion that most of the work associated with the blue economy is outdoor.

The inclusion of "Personality Trait" as a moderating variable in this study is grounded in the recognition that individual differences play a critical role in shaping how people respond to various situations and stimuli. Personality traits, as defined by the Five-Factor Model (FFM), encompass stable patterns of thoughts, emotions, and behaviors that differ among individuals (McCrae & Costa, 1997). These traits—such as extroversion, conscientiousness, and neuroticism—are known to influence how people interact with their environment and cope with stressors. For instance, extroverted individuals are typically more socially engaged and may derive greater benefits from supportive interactions, whereas those high in neuroticism might experience increased stress in similar situations. By incorporating personality traits as a moderating

variable, this study aims to capture these individual differences, allowing for a more nuanced understanding of the relationship between the primary variables under investigation.

Empirical evidence supports the role of personality traits as moderators in various contexts, including work performance, stress management, and life satisfaction (Judge, Bono, Ilies, & Gerhardt, 2002; DeNeve & Cooper, 1998). Previous research has shown that personality traits can significantly influence how individuals perceive and react to their environments, leading to varied outcomes even in similar situations. For example, a conscientious person is likely to perform better in a structured work environment with clear expectations, while someone high in openness might excel in a more flexible and creative setting. By accounting for these interactions, this study seeks to provide a more individualized perspective on the effects of the independent variables, enhancing the overall explanatory power of the research.

Similarly, the "Weather in Bahrain" is introduced as a moderating variable to address the unique environmental conditions that characterize the region. Bahrain's climate, dominated by extreme heat and high humidity, presents specific challenges that can significantly impact both physical and psychological well-being. Environmental psychology suggests that such climatic conditions can affect cognitive performance, mood, and social interactions, often leading to heightened stress, fatigue, and irritability (Watson, 2000; Parsons, 2003). Given the extreme temperatures in Bahrain, particularly during the summer months, weather conditions are likely to moderate the relationship between environmental factors and various outcomes, such as productivity, physical activity, and overall well-being.

The decision to include weather as a moderating variable is further supported by empirical studies demonstrating the adverse effects of high temperatures on cognitive function, health, and work efficiency (Hancock, Ross, & Szalma, 2007). In the context of Bahrain, these climatic conditions could either exacerbate or mitigate the impact of other variables, depending on the time of year. For instance, while outdoor activities may be beneficial during cooler months, the extreme heat of summer could reduce participation, thereby altering the expected outcomes. By incorporating weather as a

moderating variable, this study aims to provide a more contextually relevant analysis, ensuring that the findings are not only theoretically robust but also practically applicable to the specific environmental conditions of Bahrain.

The findings and elements were integrated and adopted to the case of Bahrain and further illustrated how the adoption of a Blue Economy could aid Bahrain in achieving its socioeconomic, SDGs and environmental challenges.

4.5 Sampling and Data Collection

This study used a cross-sectional design to collect data from a sample of participants who completed questionnaires based on their demographic characteristics. The questionnaires included various items that measured different constructs, which were the basis for developing the instrument for the target population. The participants responded to each item by indicating their level of agreement on a 7-point Likert scale, where (1) represented strong disagreement and (7) represented strong agreement.

4.5.1 Convenience sampling

The study used convenience sampling method, as it is grounded in several practical and methodological considerations that align with the research objectives and the characteristics of the target population. While convenience sampling is often criticized for its potential biases, in this context, it offers several advantages that make it an appropriate choice. It was chosen because it allows for efficient data collection from a population that is both accessible and relevant to the research questions. According to Etikan, Musa, and Alkassim (2016), convenience sampling is particularly useful in cases where the population is easily reachable, which is the case here, as the researcher has direct access to university students within the campus environment. This accessibility facilitates a more straightforward data collection process, enabling the researcher to gather information quickly and with fewer logistical complications.

Given the constraints of time and resources, convenience sampling presents a practical solution. Probability sampling methods, such as stratified or random sampling, typically require more extensive planning, time, and financial resources (Creswell & Creswell, 2017). In contrast, convenience sampling allows the researcher to collect a substantial amount of data within a limited timeframe, which is crucial in academic research where deadlines are often tight. As Marshall (1996) points out, convenience sampling is often the most feasible option when there are significant constraints on time and resources, making it a practical choice for this study.

This research adopts an exploratory approach to investigate the entrepreneurial intentions of students within the context of the blue economy in Bahrain. Exploratory research often seeks to generate initial insights and hypotheses rather than to produce results that are immediately generalizable (Stebbins, 2001). In such studies, convenience sampling is considered appropriate because it allows for the collection of preliminary data that can highlight trends and relationships, which can be further explored in future studies with more rigorous sampling methods.

The population of interest- university students with a potential interest in entrepreneurship- is relatively homogeneous in terms of demographic characteristics such as age, educational level, and potentially their interest in entrepreneurship. In cases where the population is homogeneous, the risk of bias associated with convenience sampling is reduced, as the sample is likely to be representative of the broader group (Bornstein, Jager, & Putnick, 2013). This homogeneity supports the use of convenience sampling in this study, as the variations in entrepreneurial intentions can still be captured effectively without the need for more complex and resource-intensive sampling strategies.

Ethically, convenience sampling aligns well with the voluntary participation model that underpins this research. The ease of access to participants who are willing and able to take part in the study ensures that participation is entirely voluntary and informed, which is a critical consideration in social research (Robinson, 2014). By selecting students who are readily available, the study respects the autonomy of participants and minimizes any undue pressure or coercion to participate.

While convenience sampling does have limitations, such as the potential for sampling bias and limited generalizability, its use in this study is justified by its practical advantages, including accessibility, efficiency in time and resource use, and suitability for the exploratory nature of the research. Furthermore, the homogeneity of the target population and the ethical approach to participant recruitment reinforce the appropriateness of this sampling method in the context of this study.

The sample size was calculated beforehand to be 250 participants, based on the criteria of achieving an effect size of .20, a power of .80, and a significance level of .05 (Kachoyeanos, 1998). The population of interest comprises undergraduate students in their third or fourth year of university, among whom a subset has already started their initial steps into entrepreneurship, while other subset have family members engaged in the various sectors related to blue economy.

4.5.2 Sample Population

The student population for this study was carefully selected to ensure that the participants would provide relevant and insightful data regarding entrepreneurial intentions towards the blue economy in Bahrain. Specifically, the study focused on third and fourth-year students at the University of Bahrain. This choice was made based on several key considerations that align with the research objectives and the need to obtain a sample that is representative of the broader student population.

Third and fourth-year students were chosen because they are generally more advanced in their academic and personal development compared to their first and second-year counterparts. By the time students reach their third and fourth years, they are more likely to have gained significant exposure to their field of study, including courses, experiences, or extracurricular activities that might influence their entrepreneurial intentions (Byrne & Fayolle, 2010). These students are closer to graduation and, therefore, more likely to be actively considering their future career paths, including the possibility of entrepreneurship. This focus on upper-year students increases the likelihood that the data collected will reflect informed and considered perspectives on

entrepreneurship, rather than the potentially more tentative or exploratory attitudes of younger students (Pruett et al., 2009).

Furthermore, third and fourth-year students are typically more engaged with their university's resources, such as career services, internships, and entrepreneurial programs, which could directly impact their attitudes towards starting a business in the blue economy (Fayolle & Gailly, 2015). Their imminent transition from university to the workforce means that their responses are more likely to reflect serious contemplation of their career choices, including the practicalities and challenges associated with entrepreneurship. This makes them an ideal population for studying entrepreneurial intentions, as their perspectives are likely to be more mature and aligned with real-world considerations.

In terms of representing the broader student population, third and fourth-year students at the University of Bahrain are still part of the larger university community and share many of the same characteristics as their peers in earlier years. However, they differ in that they have had more time to form their career goals and are more likely to have crystallized their intentions regarding entrepreneurship (Souitaris, Zerbinati, & Al-Laham, 2007). By focusing on these students, the study captures the viewpoints of individuals who are most relevant to the research question, while still maintaining a connection to the broader student experience.

The decision to focus on this specific subset of the student population ensures that the study gathers data from individuals who are at a critical juncture in their educational and professional development. Their insights are likely to be more reflective of actual entrepreneurial intentions and better informed by their experiences at university, making the findings more applicable to understanding the factors that influence the decision to pursue entrepreneurship in the blue economy (Kolvereid & Moen, 1997).

This approach also helps in ensuring that the findings of the study are generalizable to other students who are approaching the end of their university education, both within Bahrain and potentially in similar educational contexts elsewhere. By concentrating on third and fourth-year students, the research captures a snapshot of entrepreneurial intentions at a stage where these intentions are most likely to translate into action,

thereby providing valuable insights for educators, policymakers, and practitioners interested in fostering entrepreneurship among university students.

The initial sample selection for this study was specifically focused on students who have expressed a clear interest in entrepreneurship, particularly those who have chosen to pursue entrepreneurial activities or have demonstrated a strong inclination towards becoming entrepreneurs. This targeted approach was based on the understanding that students who have already decided to explore entrepreneurship are more likely to provide relevant and insightful data regarding entrepreneurial intentions, especially within the context of the blue economy in Bahrain.

Focusing on students who have actively chosen to be entrepreneurs ensures that the study gathers data from individuals who are not only theoretically interested in entrepreneurship but are also practically engaged in or considering entrepreneurial ventures. This group of students is particularly relevant for the research because they are likely to have already encountered some of the challenges, opportunities, and decision-making processes associated with entrepreneurship. Consequently, their responses are expected to be more reflective of the realities of starting and running a business, making the findings more applicable to understanding the factors that influence entrepreneurial intentions (Krueger, Reilly, & Carsrud, 2000).

By selecting students who have demonstrated a commitment to entrepreneurship, the study also captures the perspectives of those who are most likely to take concrete steps towards launching entrepreneurial ventures in the blue economy. These students are often more informed about the practicalities of entrepreneurship, such as business planning, risk management, and resource acquisition, which provides a richer and more detailed understanding of the entrepreneurial process. This focus on committed entrepreneurs ensures that the study's findings are directly relevant to fostering entrepreneurship within the target demographic (Shinnar, Pruett, & Toney, 2009).

Additionally, this approach helps to filter out students who may have only a passing interest in entrepreneurship or who are exploring it as one of many career options. By concentrating on those who have actively chosen entrepreneurship, the research minimizes the risk of including participants whose intentions may be less well-formed

or who may not seriously consider entrepreneurship as a viable career path. This leads to a more robust and focused analysis of the factors that genuinely drive entrepreneurial intentions among students who are likely to pursue these intentions in the future (Ajzen, 1991).

Moreover, focusing on students who have already chosen to be entrepreneurs provides valuable insights into the educational and institutional factors that have influenced their decision. This can inform strategies for enhancing entrepreneurial education and support services, making them more effective in nurturing future entrepreneurs. The study's findings can thus contribute to the development of targeted interventions that encourage more students to consider and pursue entrepreneurship, particularly in the emerging blue economy sector (Fayolle & Gailly, 2015).

In conclusion, the decision to focus the initial sample selection on students who have chosen to be entrepreneurs ensures that the study is grounded in the experiences and intentions of those who are most likely to engage in entrepreneurial activities. This targeted approach enhances the relevance and applicability of the research findings, providing deeper insights into the factors that influence entrepreneurial intentions and offering practical guidance for fostering entrepreneurship among university students in Bahrain.

4.5.3 Sample size

The sample size calculation process in this study was carefully designed to ensure that the data collected would be sufficient to achieve statistically significant results while also being practical given the constraints of time and resources. The primary goal of determining an appropriate sample size is to balance the need for accuracy and reliability in the findings with the logistical feasibility of collecting data from a sufficiently large group of participants.

The sample size was calculated using the formula for determining the necessary sample size for a survey, which considers the desired effect size, statistical power, and significance level. Specifically, the calculation was based on achieving an effect size of 0.20, a statistical power of 0.80, and a significance level of 0.05. These parameters

were selected based on standard practices in social science research, where an effect size of 0.20 is considered small but meaningful, and a power of 0.80 is typically deemed adequate to detect statistically significant differences or relationships (Cohen, 1988).

Effect size refers to the magnitude of the relationship or difference being measured and is a critical factor in determining sample size. A smaller effect size requires a larger sample size to detect, as it indicates that the expected differences or relationships are subtle. In this study, the choice of a small effect size (0.20) reflects the expectation that the differences in entrepreneurial intentions among Bahraini youth may not be large, particularly given the relatively homogeneous nature of the population (Cohen, 1988).

Statistical power is the probability that the study will detect an effect if there is one to be detected. A power of 0.80 was chosen, which means there is an 80% chance of correctly rejecting the null hypothesis if it is false. This level of power is commonly accepted in social science research as a balance between Type I errors (false positives) and Type II errors (false negatives). A higher power would reduce the likelihood of Type II errors but would require a larger sample size, potentially making the study less feasible (Faul, Erdfelder, Buchner, & Lang, 2007).

The significance level (α) of 0.05 indicates the threshold for statistical significance, meaning there is a 5% risk of concluding that a difference exists when there is no actual difference. This standard level is widely used in research as it offers a reasonable trade-off between the risk of Type I errors and the ability to detect true effects (Kachigan, 1991).

Given these parameters, the sample size was calculated to be 250 participants. This number was derived using standard sample size calculation formulas or software, which consider the desired effect size, power, and significance level. The sample size of 250 is sufficient to detect the expected effect size with the specified power and significance level, while also being manageable within the constraints of the study.

It is important to note that the sample size calculation also assumes that the sample will be representative of the broader population of university students in Bahrain. While convenience sampling was used, which may introduce some bias, the relatively homogeneous nature of the population mitigates this concern to some extent. Additionally, the sample size calculation assumes that the data will be normally distributed and that the survey instrument will yield reliable and valid measurements of the constructs being studied.

In conclusion, the sample size of 250 participants was determined based on careful consideration of the expected effect size, desired statistical power, and acceptable significance level. These parameters were chosen to ensure that the study would be able to detect meaningful differences in entrepreneurial intentions among Bahraini youth while remaining feasible within the constraints of the research context.

4.6 Measures

The questionnaire was designed to assess the entrepreneurial intention towards blue economy, encompassing seven distinct variables: (1) Personal attitude and characteristics (2) Subjective norm (3) Perceived behavioural control (4) Business environment and support (5) Knowledge (6) Weather (7) Entrepreneurial intention as illustrated in figure 4.1 together with the demographics that serve as control variables.

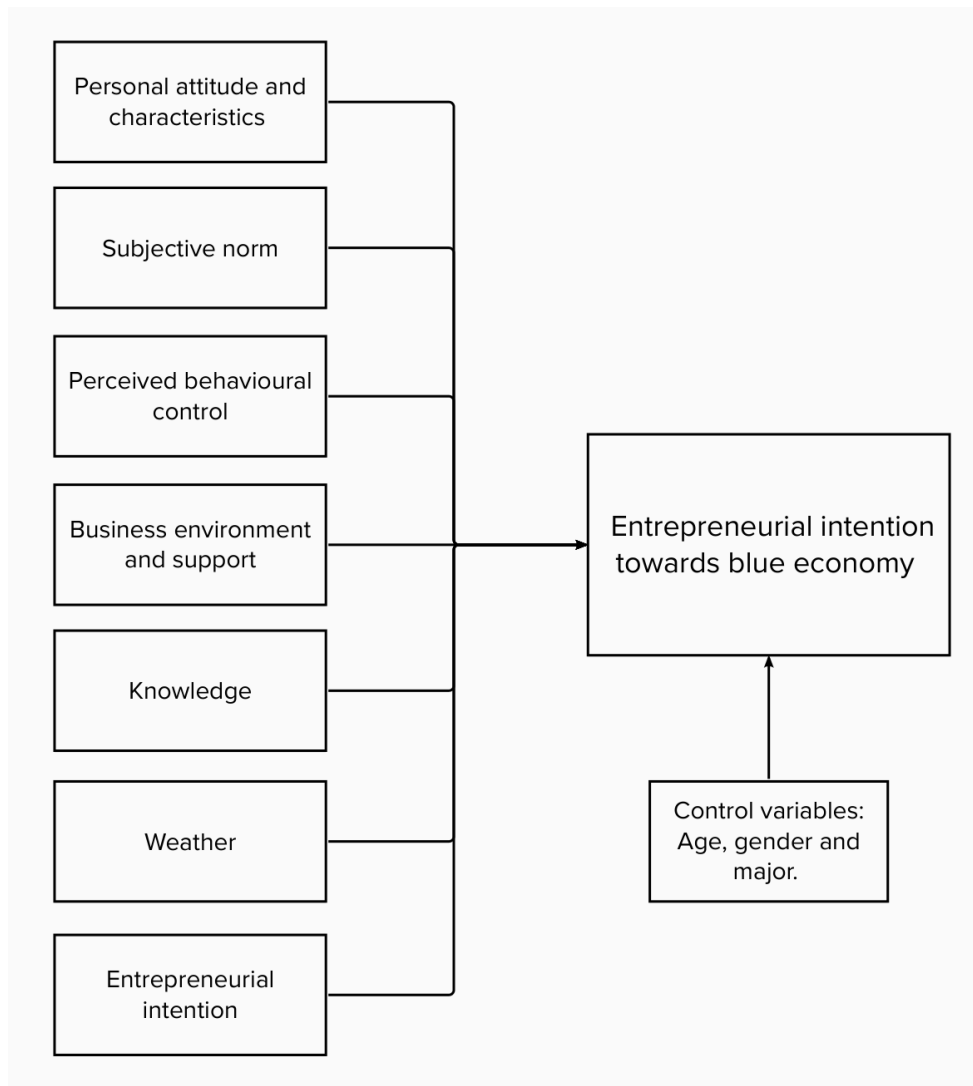


Figure 4.1: The study model illustrating the relation of the tested 7 variables and control variables to entrepreneurial intention towards blue economy.

The decision to focus on only seven variables in the proposed model, as depicted in Figure 4.1, was made to maintain a balance between comprehensiveness and manageability, ensuring that the model remains focused, interpretable, and theoretically grounded. The selection of these variables was driven by their relevance to the research questions and their strong theoretical and empirical support within the context of entrepreneurial intentions, particularly in the blue economy in Bahrain.

Each of the seven variables included in the model—personal attitude and characteristics, subjective norms, perceived behavioral control, business environment and support, knowledge about the sector, weather conditions, and entrepreneurial intentions—was chosen because it directly relates to the key constructs of the Theory of Planned Behavior (TPB) or extends the TPB framework in ways that are particularly relevant to the study's context. These variables are well-established in the literature as

significant predictors of entrepreneurial intentions, providing a robust foundation for the analysis.

By focusing on these core variables, the model maintains clarity and avoids the complexity that could arise from including too many factors or subfactors. Including a large number of variables might dilute the analysis, making it difficult to identify the most critical factors influencing entrepreneurial intentions. Moreover, an overly complex model could lead to issues such as multicollinearity, where the independent variables are highly correlated with each other, thus complicating the interpretation of the results (Hair, Black, Babin, & Anderson, 2010).

Another reason for limiting the model to seven variables is the practical consideration of data collection and analysis. Each additional variable requires more data points to maintain statistical power and reliability in the results. In a study with limited resources and a specific sample size, adding more variables could compromise the quality of the data collected, leading to potential issues with the validity and reliability of the findings (Field, 2013).

While it is acknowledged that other factors or subfactors could potentially influence entrepreneurial intentions, these were not included in the model to maintain focus on the most critical determinants identified through the literature and to ensure that the model remains parsimonious. Parsimony in modeling refers to the practice of including only those variables that are essential to explaining the phenomena of interest, thereby simplifying the model without sacrificing explanatory power (Box & Jenkins, 1976).

For example, psychological traits like risk tolerance or innovativeness, while relevant, were subsumed under broader constructs such as personal attitude and characteristics. Similarly, environmental factors like regulatory policies or access to finance, while important, were considered under the broader category of the business environment and support. This approach ensures that the model remains focused on key drivers while acknowledging that these broader categories inherently capture a range of related subfactors.

In conclusion, the decision to include only seven variables in the proposed model was made to create a focused, manageable, and theoretically sound framework for analyzing entrepreneurial intentions in the context of Bahrain's blue economy. By concentrating on the most significant and well-supported variables, the study aims to provide clear and actionable insights while maintaining the robustness and validity of the research findings.

4.7 Proposed model

The connection between the questionnaire and the proposed model is fundamental to ensuring that the data collected directly informs the analysis of the research hypotheses and the overall understanding of the variables under study. The questionnaire was meticulously designed to align with the seven variables identified in the proposed model, as depicted in Figure 4.1, ensuring that each variable is adequately measured and can be effectively analyzed using the data obtained.

Each section of the questionnaire corresponds to one of the seven variables in the model: personal attitude and characteristics, subjective norms, perceived behavioral control, business environment and support, knowledge about the sector, weather conditions, and entrepreneurial intentions. These variables are derived from the Theory of Planned Behavior (TPB) and are extended to include factors particularly relevant to the context of entrepreneurship in the blue economy in Bahrain (Ajzen, 1991).

For example, the questionnaire includes items that measure **personal attitude and characteristics**, focusing on how respondents feel about entrepreneurship, their interest in the blue economy, and their perceived competencies related to entrepreneurial activities. This directly aligns with the first variable in the model, which examines the influence of individual attitudes on entrepreneurial intentions. Items in this section are designed to assess respondents' positive or negative evaluations of entrepreneurship and their personal traits that may affect their entrepreneurial intentions (Kolvereid, 1996).

Similarly, the **subjective norms** variable is represented in the questionnaire through items that ask respondents about the influence of their social circle, including family, friends, and mentors, on their decision to pursue entrepreneurship. This section of the questionnaire seeks to capture the social pressures or supports that could impact their entrepreneurial intentions, which is a critical component of the TPB (Fishbein & Ajzen, 1975).

Perceived behavioral control is measured by questions related to the respondents' perceptions of their ability to start and run a business successfully. These items assess the respondents' confidence in overcoming obstacles and accessing necessary resources, directly relating to the model's focus on how perceived control influences entrepreneurial intentions (Bandura, 1986).

The questionnaire also addresses the **business environment and support** by including items that explore the availability and quality of support systems, such as mentorship programs, financial resources, and governmental support. These questions are designed to gauge how the external business environment impacts the likelihood of pursuing entrepreneurship in the blue economy (Shapero & Sokol, 1982).

Knowledge about the sector is another variable measured by the questionnaire, with specific questions aimed at understanding respondents' awareness and understanding of the blue economy. This section evaluates the level of knowledge respondents have about the opportunities and challenges within the blue economy, which is critical for making informed entrepreneurial decisions (Krueger & Carsrud, 1993).

The impact of **weather conditions** on entrepreneurial intentions is measured by items that assess respondents' perceptions of how Bahrain's climate may affect their ability to engage in blue economy activities. This is particularly relevant in a context where much of the blue economy is likely to involve outdoor or marine-based activities that are sensitive to weather conditions (Pelling & Uitto, 2001).

Finally, the **entrepreneurial intentions** variable is directly measured by questions that ask respondents about their plans and aspirations to start a business, particularly within

the blue economy sector. This section of the questionnaire is crucial for understanding the outcome variable in the proposed model (Ajzen, 1991).

In summary, the questionnaire is intricately connected to the proposed model, with each section designed to measure one of the seven key variables. This alignment ensures that the data collected can be directly used to test the hypotheses and analyze the relationships proposed in the model. By carefully designing the questionnaire to reflect the constructs in the model, the research can accurately capture the factors that influence entrepreneurial intentions in the blue economy, providing robust and actionable insights.

4.8 Pre-test study (Pilot study)

A pilot study was conducted to enhance the reliability, validity, and overall quality of the data collection process. Conducting a pilot study serves multiple crucial purposes that directly contribute to the success of the main research project.

Firstly, a pilot study helps in assessing the clarity and comprehensibility of the survey instrument. In this study, a pre-test questionnaire was administered to a sample of 31 respondents, who were representative of the target population. This pre-test allowed the researcher to identify any ambiguities or misunderstandings in the wording of the questions, which could potentially lead to inaccurate or misleading responses in the main study. By addressing these issues early on, the pilot study helps ensure that the final questionnaire is clear and easily understood by all participants (Van Teijlingen & Hundley, 2001).

Secondly, the pilot study is crucial for evaluating the ordering of questions within the survey. The sequence in which questions are presented can influence how respondents interpret and answer them. For example, certain questions may unintentionally prime respondents, leading to biased responses. The pilot study allows the researcher to test different orderings of questions to determine the most logical and neutral sequence,

thereby reducing the risk of bias and improving the accuracy of the data collected (Presser et al., 2004).

Additionally, the pilot study provides an opportunity to test the reliability of the survey instrument. Reliability refers to the consistency of the responses across different instances of the survey. If the instrument produces consistent results across the pilot sample, it suggests that the survey is likely to be reliable when administered to the larger sample. Any inconsistencies identified during the pilot phase can be addressed before the main data collection begins, thus enhancing the overall reliability of the study (De Vaus, 2013).

Moreover, the pilot study plays a significant role in testing the feasibility of the data collection process. This includes evaluating the time it takes for respondents to complete the survey and determining whether the method of data collection (e.g., online survey, face-to-face interviews) is practical and effective. The feedback gathered during the pilot study can be used to make logistical adjustments, such as simplifying the survey or modifying the data collection method, to ensure a smooth and efficient process during the main study (Leon, Davis, & Kraemer, 2011).

Finally, the pilot study contributes to the validity of the research. By testing the survey on a smaller scale, the researcher can identify and correct any issues that might compromise the validity of the results, such as poorly phrased questions or a lack of alignment between the survey items and the research objectives. Ensuring that the survey accurately measures what it is intended to measure is critical for drawing valid conclusions from the data (Polit, Beck, & Hungler, 2001).

In conclusion, the pilot study serves as a vital preliminary step in the research process, enabling the researcher to refine the survey instrument, improve the data collection process, and ultimately enhance the validity and reliability of the research findings. Conducting a pilot study minimizes the risk of encountering significant issues during the main study, thereby increasing the likelihood of obtaining high-quality data that accurately reflects the research objectives.

4.9 Statistical Method

The statistical methods selected for hypothesis testing and data processing in this study are designed to rigorously analyze the relationships between variables, ensuring that the findings are both reliable and valid. These methods align with the research objectives and the nature of the data collected, enabling a thorough examination of the hypotheses.

To test the hypotheses, Structural Equation Modeling (SEM) will be employed. SEM is a powerful statistical technique that allows for the testing of complex relationships between observed and latent variables. This method is particularly suited for the study because it enables the researcher to examine the direct and indirect effects of multiple independent variables on the dependent variables, accounting for potential mediating variables. SEM also allows for the inclusion of measurement errors, providing a more accurate and comprehensive understanding of the underlying relationships (Kline, 2015).

Before conducting SEM, Confirmatory Factor Analysis (CFA) will be performed to validate the measurement model. CFA is used to test whether the data fit the hypothesized measurement model, which specifies the relationships between the observed variables and their underlying latent constructs. By conducting CFA, the researcher can ensure that the constructs being measured are valid and reliable, which is a critical step before testing the structural model (Byrne, 2010).

For initial data processing, Descriptive Statistics will be used to summarize the basic features of the data. This includes calculating means, standard deviations, frequencies, and percentages for various demographic variables and key constructs. Descriptive statistics provide an overview of the data distribution, helping to identify any potential outliers or anomalies that could affect subsequent analyses (Field, 2013).

T-tests or Analysis of Variance (ANOVA) will be used to compare means between groups when assessing the impact of categorical independent variables (such as gender

or academic year) on continuous dependent variables (such as entrepreneurial intention). These tests help determine whether there are statistically significant differences between groups, providing insights into the factors that may influence entrepreneurial intentions (Cohen, 1988).

Additionally, Correlation Analysis will be conducted to examine the relationships between continuous variables. Correlation coefficients will indicate the strength and direction of these relationships, helping to identify potential patterns and associations in the data. This analysis is crucial for understanding the degree to which variables are related before testing the more complex structural models (Cohen, Cohen, West, & Aiken, 2003).

In cases where the data do not meet the assumptions required for parametric tests, such as normality or homogeneity of variance, Non-parametric Tests (such as the Mann-Whitney U test or Kruskal-Wallis test) may be employed as alternatives. These tests are less sensitive to violations of assumptions and are suitable for ordinal data or non-normally distributed data (Siegel & Castellan, 1988).

Bootstrapping techniques may be used within SEM to assess the robustness of the model estimates. Bootstrapping is a resampling method that allows for the estimation of the sampling distribution of a statistic by repeatedly sampling with replacement from the data. This technique is particularly useful for testing the significance of indirect effects in mediation models and for providing more accurate confidence intervals (Preacher & Hayes, 2008).

4.10 Data Analysis

We can consider extending the traditional application of the Theory of Planned Behavior (TPB) by integrating modern data analytics techniques and frameworks. This approach not only leverages the strengths of TPB but also enhances its explanatory and predictive capabilities using contemporary tools and methodologies.

One significant advancement in data analytics is the application of machine learning (ML) techniques to behavioral prediction models. While TPB traditionally relies on structural equation modeling (SEM) or regression analysis to test the relationships between attitudes, subjective norms, perceived behavioral control, and behavioral intentions, integrating machine learning could offer several advantages. By employing ML algorithms such as decision trees, random forests, or neural networks, the model can uncover non-linear relationships and interactions between variables that traditional methods might overlook (James et al., 2013). For instance, a random forest model could be used to predict entrepreneurial intentions by considering a more extensive set of features, including demographic factors, psychological traits, and social network characteristics, in addition to the core TPB constructs. This approach allows for the identification of complex patterns and interactions that may not be evident through traditional linear models.

Another area where TPB can be enhanced is through the incorporation of big data and real-time analytics. Traditional TPB applications often rely on survey data, which is collected at a single point in time. However, with the advent of big data, it is now possible to analyze large-scale, real-time data streams from social media, online platforms, and digital footprints (Liu, 2012). For example, sentiment analysis on social media platforms could provide real-time insights into the collective attitudes and subjective norms around entrepreneurship in a particular community or demographic. By integrating this data into the TPB framework, researchers can monitor how shifts in public opinion or significant events influence entrepreneurial intentions over time. Additionally, real-time data can enhance the predictive accuracy of TPB by providing up-to-date contextual information that reflects the dynamic nature of attitudes and behaviors.

The role of subjective norms in TPB can be further explored using advanced network analysis techniques. Social network analysis (SNA) allows for the examination of how individuals' positions within a social network influence their perceptions and behaviors (Borgatti et al., 2018). By mapping out the social networks of study participants, researchers can identify key influencers and the flow of information within these networks, which can significantly impact subjective norms and, consequently,

behavioral intentions. Combining SNA with TPB could lead to a more nuanced understanding of how social structures affect entrepreneurial intentions. For example, individuals who are central in a network might have a disproportionate influence on the entrepreneurial intentions of others, or they might be more susceptible to prevailing subjective norms. This analysis could be further enriched by incorporating data from online networks, where digital interactions increasingly shape attitudes and behaviors.

Predictive analytics, which involves using statistical techniques and machine learning algorithms to forecast future behaviors, can complement TPB by simulating various scenarios and their potential impact on entrepreneurial intentions. For instance, scenario analysis could simulate the effects of changes in economic conditions, policy interventions, or educational programs on the likelihood of individuals pursuing entrepreneurship. Behavioral simulations using agent-based modeling (ABM) can also extend TPB by modeling how individual decisions aggregate to produce macro-level outcomes (Gilbert, 2008). ABM allows researchers to simulate how changes in individual attitudes, subjective norms, or perceived behavioral control might influence entrepreneurial behavior across a population over time, providing valuable insights for policy-making and educational initiatives.

4.11 Steps of Path Analysis

Path analysis is a powerful statistical technique that allows researchers to explore complex relationships among variables, particularly when dealing with both direct and indirect effects. This method, rooted in structural equation modeling (SEM), is crucial for testing theoretical models that involve multiple interacting variables, offering a nuanced understanding of the causal pathways within the data.

The process begins with the development of a theory-based model, which is foundational for conducting path analysis. This step involves identifying the causal relationships between exogenous variables (those that are not influenced by other variables in the model) and endogenous variables (those that are influenced by other variables). Developing a model based on existing theories ensures that the

hypothesized relationships are grounded in established research, thereby enhancing the study's theoretical robustness (Kline, 2015).

Once the theoretical model is established, it is essential to test the validity and reliability of the indicators used in the study. Validity refers to the extent to which an instrument measures what it is supposed to measure, while reliability concerns the consistency of the measurement over time (Bollen, 1989). Ensuring that the indicators are both valid and reliable is critical because it directly impacts the credibility of the path analysis results. Without reliable and valid measurements, the findings from the path analysis could be questioned, as they may not accurately reflect the true relationships between the variables.

After validating the indicators, the next step is to construct a flow path diagram. This diagram visually represents the hypothesized causal relationships between the variables, effectively illustrating the paths through which independent variables are expected to influence dependent variables, both directly and indirectly. The use of such diagrams is a standard practice in SEM because it helps clarify the complex relationships within the model, making it easier to understand and communicate the underlying structure of the data (Kaplan, 2009).

The process then involves converting the flow path diagram into a structural model. This step translates the conceptual model into a set of equations that can be tested statistically. By doing so, the researcher can examine the overall fit of the model, as well as the significance and strength of individual paths within the model (Kline, 2015). Structural models are essential for testing hypotheses about the relationships between variables, and they provide a framework for estimating the parameters that define these relationships.

Parameter estimation is a critical phase in path analysis, as it involves determining the coefficients that quantify the relationships between variables. These coefficients reveal the strength and direction of the effects, allowing the researcher to understand how one variable influences another one. Accurate parameter estimation is vital for drawing valid conclusions from the path analysis (Bollen, 1989).

The overall fit of the model is assessed using goodness-of-fit statistics. These statistics help determine how well the model describes the observed data. Additionally, the normality of the data is checked by evaluating the kurtosis value, which is a measure of the data's distribution. Ensuring normality is important because many of the statistical tests used in path analysis assume that the data are normally distributed (Byrne, 2010). A smaller kurtosis value indicates a distribution that is closer to normal, which supports the validity of the path analysis.

The path analysis process outlined in Section 4.8 involves a series of meticulous steps that are crucial for testing the theoretical model in your study. From developing a theory-based model to parameter estimation and model testing, each step is supported by rigorous statistical techniques that ensure the reliability and validity of the findings. By following these steps, the research provides a robust analysis of the factors influencing Bahraini youth's entrepreneurial intentions towards the blue economy.

4.12 Expected Outcomes

This study contributes to our understanding of how implementing and integrating the Blue Economy can significantly bolster Bahrain's socioeconomic development, particularly in terms of youth entrepreneurship, by providing substantial evidence that it is highly feasible and will result in increased creation of job opportunities. Therefore, the study aims to prove that the pursuit towards a Blue Economy will help in alleviating and resolving current youth job seeking, environmental and economic issues in Bahrain.

The findings from this research will not only provide youth perception towards entrepreneurial activities towards different sectors of blue economy, but will also guide development of adaptation and mitigation measures to enable people in sustaining their livelihoods under the increasing climate variability and change. The findings will also be used by governments and other development agencies to prioritise

development interventions among youth and related communities dependent on other vulnerable sectors.

The study will contribute to international, regional, and national policies concerned with food security and sustainable development by providing knowledge that can enhance adaptation and mitigation measures.

4.13 Chapter Summary

This chapter offered a comprehensive account of the quantitative, cross-sectional survey methodology that was applied to examine the theoretical model by specifying the target population of the study, and the rationale behind the sampling technique that was used to select the participants. Furthermore, it explained how the sample size was calculated. It also detailed the rigorous survey administration procedures that were followed to ensure the validity and reliability of the data collection. In addition, it presented the existing validated scales that were adapted to measure the study constructs, and how they were modified to suit the context of the study. The chapter summarized the insightful pilot study that was conducted to test the feasibility, validity and reliability of the survey instrument. Lastly, it outlined the statistical techniques of regression analysis and structural equation modelling that were employed to analyze the data and test the hypotheses of the study.

Chapter Five: Study Result

Chapter Five

Study Result

5.1 Introduction

This chapter presents the quantitative analysis of the data acquired to examine the entrepreneurial intentions towards the blue economy among Bahraini youth. The theory of planned behaviour (TPB) model was used to assess factors influencing intentions to pursue blue economy entrepreneurship. Data was collected through a questionnaire survey. The analysis and results are structured as follows. First, descriptive statistics are presented for the key variables. This is followed by hypothesis testing for H1-H7 proposed in the study. Subgroup analyses based on demographics like year and field of study are then discussed. The validity and reliability of the measures used in the study are also evaluated. Different forms of validity are assessed including content, construct, and criterion-related validity. Reliability is examined through internal consistency metrics. The results of the validity and reliability analyses are discussed in terms of their impact on interpreting the study's findings. Limitations related to validity and reliability are acknowledged.

5.2 Descriptive statistics

Descriptive statistics serves as a fundamental tool in quantitative research, providing a comprehensive summary of the characteristics of a dataset. In this study, measures of central tendency, such as the mean, were employed to gain insight into the typical value within the distribution. Furthermore, measures of variability, including the range, variance, and standard deviation, were utilized to elucidate the extent of dispersion among the data points relative to the central tendency, thereby capturing the dataset's variability. Additionally, frequency distribution measures were employed to depict the occurrence of data within the dataset, facilitating a visual understanding of the data's distributional characteristics.

5.2.1 The Study Sample

The study sample consisted of (250) Bahrain's Youth from University of Bahrain. The following tables show the distribution of the sample according to the variables of the study.

5.2.2 Distribution of the Sample according to gender

The primary aim of this study was to delve into the entrepreneurial intentions of Bahraini students. The investigation was centered on assessing the student's thoughts about starting a business in a broad context, as well as their considerations towards venturing into the sea-related sector in Bahrain.

Table 5.1: Distribution of the Sample According to Gender

gender	Frequency	Percent
Male	92	40.0
female	138	60.0
Total	230	100

The participants were classified according to 3 key categories: gender, year of study, and field of study. The results in table 5.1 show that the participants were predominantly females, comprising 60.0% of the total, while males constituted the remaining 40%. These percentages provide an insight into the gender distribution within the sample, ensuring that it is representative of the studied population. They also help in pinpointing any gender imbalances that might indicate potential bias, while additionally guiding the formulation of targeted decisions and future research directions.

There are key determinants that influence entrepreneurial intention and Altinay et al (2012) specifically emphasized on the importance of family entrepreneurial

background, innovation, tolerance of ambiguity, and locus of control. Gaining a better understanding of these elements offer valuable insights to policymakers, educators, and aspiring entrepreneurs, aiding them in cultivating an environment that fosters and nurtures entrepreneurial pursuits among Bahraini students. It is equally important to understand the complex dynamics driving entrepreneurial intentions and behaviour in Bahrain specifically, in order to promote and support the growth of a thriving entrepreneurial ecosystem in the country.

5.2.3 Distribution of the Sample According to Field of study

Table 5.2: Distribution of the Sample According to Field of study

Field of study	Frequency	Percent
Business and economic	81	35.2
Engineering	48	20.9
Management	30	13.0
Science	26	11.3
Literature	45	19.6
Total	230	100

Table 5.2 illustrates the sample distribution according to participants' field of study, providing valuable insights into participants' academic backgrounds. The data offers a comprehensive overview, with "Business and Economics" major emerging as the predominant field at 35.2%, followed by majors of "Engineering" at 20.9%, "Literature" at 19.6%, and "Management" at 13.0%.

The prominence of "Business and Economics," representing the largest share of the sample, aligns with the overarching theme of entrepreneurship. A significant 35.2%

of individuals in the sample have chosen this field, emphasizing the relevance of a robust business foundation for aspiring entrepreneurs.

"Engineering," constituting 20.9% of the sample, is another promising field for entrepreneurial pursuits. With its focus on innovation, problem-solving, and technical expertise, engineering offers fertile ground for individuals seeking to develop and market new products or technologies.

"Management" represents a smaller proportion at 13.0%, which should not be overlooked in the entrepreneurial context. Effective management skills are integral to the success of ventures, underscoring the importance of considering this field in the broader entrepreneurial landscape.

Despite having the lowest percentage (11.3%), "Science" plays a pivotal role in fueling entrepreneurial endeavors and economic growth. Scientific discoveries often serve as the foundation for innovative business ventures, driving technological advancements and fostering entrepreneurial opportunities.

"Literature," comprising 19.6% of the sample, may not immediately seem tied to entrepreneurship. However, it is crucial to recognize the role of creative thinking and effective communication in entrepreneurial ventures. Literature and the arts contribute to fostering these qualities, making them valuable assets for aspiring entrepreneurs.

In summary, while "business and economics" dominate the sample distribution, other fields such as "engineering," "management," "literature" and "science" offer unique perspectives and skills that can enrich the entrepreneurial journey. As highlighted by Martin et al. (2013), the multidisciplinary nature of entrepreneurship underscores the significance of drawing from diverse fields of study to cultivate a well-rounded and versatile entrepreneurial skill set.

5.2.4 Distribution of the Sample According to the year of study at the university

Table 5.3 : Distribution of the Sample According to The year of study at the university

year of study at the university	Frequency	Percent
3rd year	111	48.3
4th year	119	51.7
Total	230	100

Table 5.3 reveals a nearly balanced distribution between students in their third and fourth years within the sample. To be more specific, 48.3% of the students were enrolled in their third year of study, while the remaining 51.7% are advancing through their fourth year.

5.3 Hypothesis testing:

5.3.1 Testing of Hypothesis 1

To identify the level of Entrepreneurial intention towards blue economy among Bahraini youth, the study calculated means and standard deviations for the responses on the entrepreneurial intention scale and subscales. The results unequivocally support Hypothesis 1. Specifically, the Entrepreneurial Intention subscale achieved the highest mean rating of 5.416 out of 7 among the surveyed sample, indicating a robust entrepreneurial intention within Bahraini youth regarding ventures in the blue economy. This finding aligns with recent research on youth entrepreneurial intentions in emerging sectors (Jiang et al., 2020; Vuorio et al., 2018). It extends our understanding by demonstrating how general entrepreneurial intentions translate to the

specific context of the blue economy, suggesting that Bahraini youth view this sector as a viable and attractive avenue for sustainable entrepreneurship.

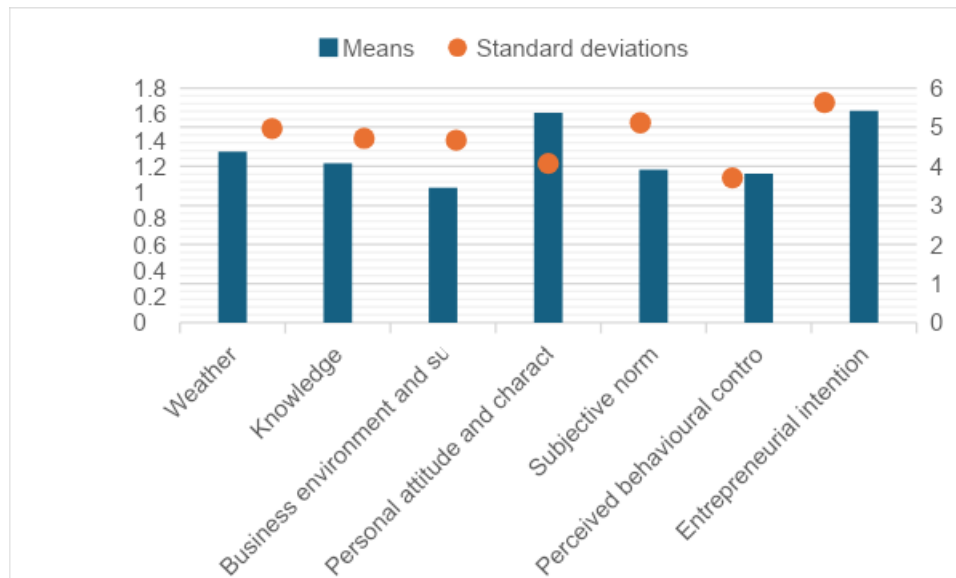


Figure 5.1: Means and standard deviations for the responses on the entrepreneurial intention

Moreover, the overall entrepreneurial intention scale obtained an above-average mean score of 4.344. This reinforces Bahraini youth's relatively high entrepreneurial intentions towards the blue economy. These results empirically confirm that entrepreneurial intention among Bahrain's youth positively influences their inclination towards entrepreneurship in the blue economy sector. The high scores on the Entrepreneurial Intention subscale and overall scale align with and support Hypothesis 1 (H1 accepted).

5.3.2 Testing of Hypothesis 2

The perceived behavioural control among Bahrain's youth subscale provides insight into their entrepreneurial intention towards the blue economy. The statement "Starting a business and operating it long-term is easy for me" received the highest mean rating of 4.396 with a standard deviation of 1.6119. This suggests that respondents have relatively high confidence in initiating and sustaining a blue economy business. The statement "If I start a business in the sea-related sector, it will be successful" obtained

a mean of 3.978 and a standard deviation of 1.8108, reflecting optimism about success in maritime ventures.

However, the statement "Practical skills to initiate a business in the maritime sector" scored lowest with a mean of 3.065 and standard deviation of 2.0239, indicating lower confidence in possessing the required skills.

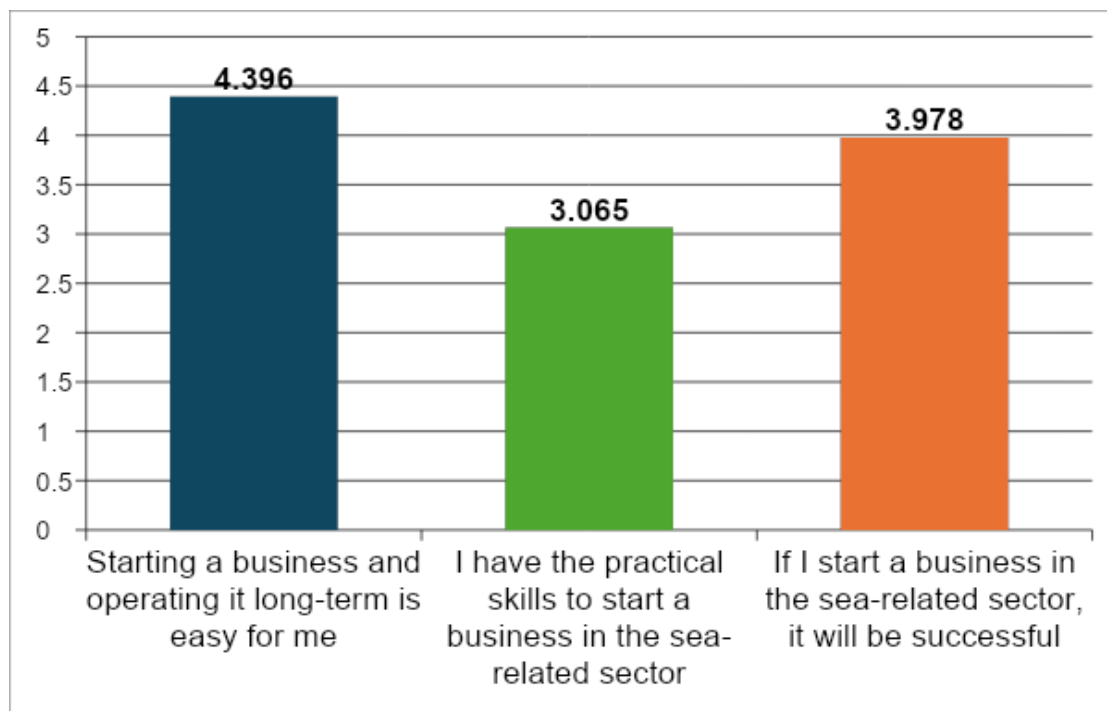


Figure 5.2: Means of Responses of the sample on the Perceived behavioural control subscale

These results corroborate recent studies on the role of perceived behavioural control in entrepreneurial intentions (Farrukh et al., 2018; Shi et al., 2020), while uniquely applying this concept to blue economy entrepreneurship. The identified gap between confidence and practical skills highlights a critical area for intervention in fostering blue economy ventures.

These results show that while Bahraini youth are confident in their entrepreneurial abilities, they may need more practical capabilities for blue economy businesses. Still, their belief in potential success provides support that perceived behavioural control positively influences their entrepreneurial intentions towards the blue economy sector (H2 accepted).

5.3.3 Testing of Hypothesis 3

To comprehensively explore the impact of subjective norms on the entrepreneurial aspirations of Bahraini youth, this study meticulously examined 12 items related to this variable, seeking respondents' ratings. These statements encompassed various dimensions of the maritime sector, including social value, family involvement, profit potential, personal finances, and support from family and friends.

The Subjective Norms subscale distinctly supports Hypothesis 3. Specifically, the statement "There is high social value for workers in the sea-related sector" garnered the highest mean rating of 4.522 (SD=1.7476), underscoring the perceived prestige associated with careers in the maritime sector.

Likewise, the statement "Having family members working in the sea-related sector for generations would make it easier for me to start or own a business in this sector" achieved a mean of 4.461 (SD=2.0251), emphasizing the significant influence of family ties on shaping entrepreneurial intentions.

Furthermore, the statement "It would be more encouraging to have a sea-related business if I have a friend working in this sector" received a mean rating of 4.422 (SD=1.9604), highlighting the pivotal role of social connections in molding entrepreneurial aspirations.

In contrast, the statement "Do you have any family members working in the maritime sector?" recorded the lowest mean of 2.435 (SD=1.9896), suggesting a potentially limited impact of this specific factor.

This finding extends recent research on the influence of social norms on entrepreneurial intentions (Lechuga Sancho et al., 2020) by demonstrating their specific relevance to blue economy entrepreneurship in Bahrain. It underscores the

importance of cultural context in shaping attitudes towards emerging sectors like the blue economy.

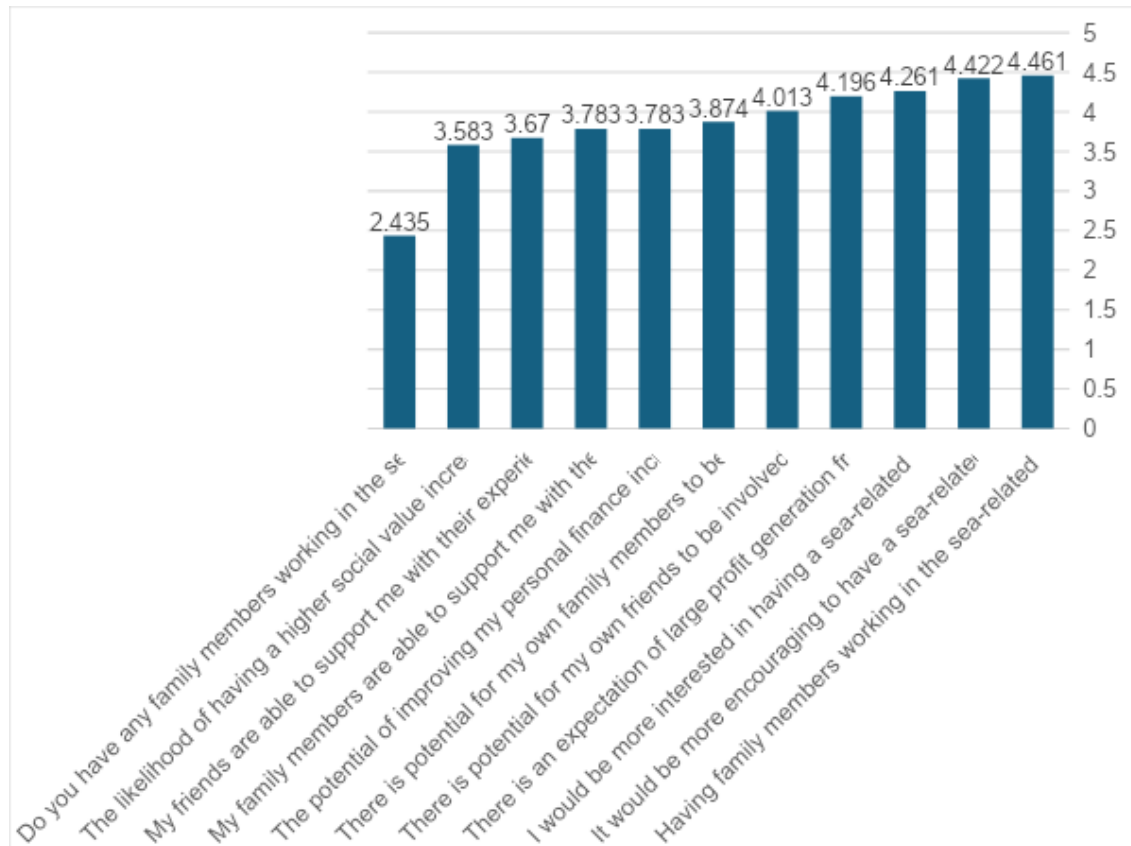


Figure 5.3: Means of Responses of the sample on the Subjective norm subscale

Consequently, the results on subjective norms compellingly showcase positive social and familial influences on the entrepreneurial intentions of Bahraini youth towards the blue economy. These findings robustly affirm the validity of Hypothesis 3 (H3 accepted).

5.3.4 Testing of Hypothesis 4

This study analyzed responses to 5 statements measuring different aspects of personal attributes to investigate Hypothesis 4, which explores the relationship between personal attitudes, characteristics, and entrepreneurial intention towards the blue economy.

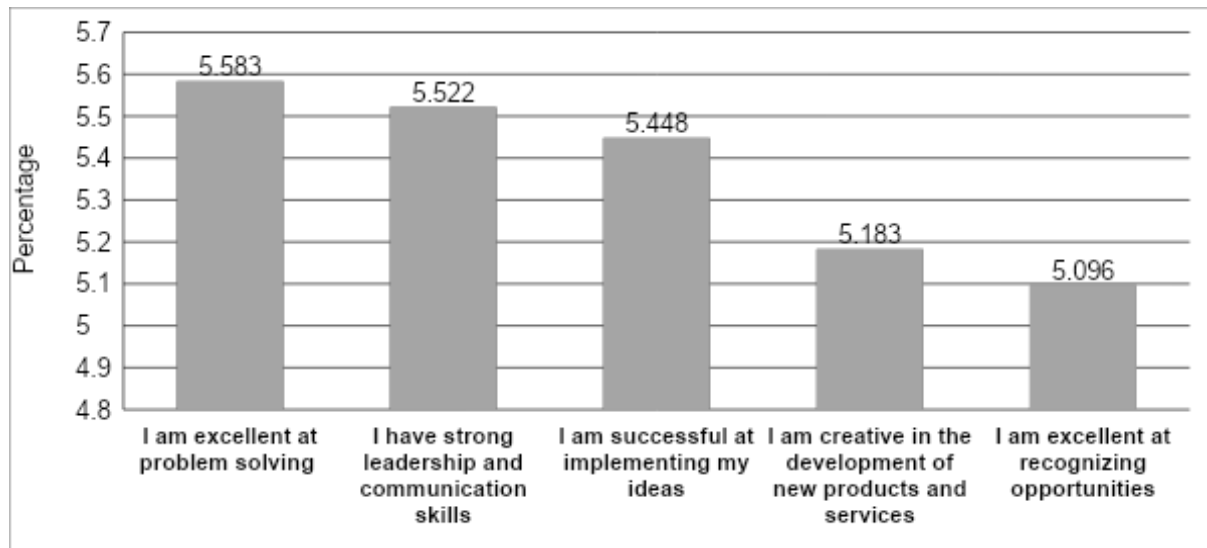


Figure 5.4: Means of Responses of the sample on the Personal attitude and characteristics subscale

The statement "I am excellent at problem-solving" received the highest mean rating of 5.583 (SD=1.3923), indicating confidence in problem-solving abilities. The statement "I possess strong leadership and communication skills" obtained a mean of 5.522 (SD=1.5204), reflecting perceived leadership and communication capabilities. The statement "I am proficient at implementing my ideas" scored a mean of 5.448 (SD=1.3907), suggesting efficacy in executing ideas. However, "I am excellent at recognising opportunities" received the lowest mean rating of 5.096 (SD=1.5298), showing opportunity recognition as a relative weakness.

These results align with recent studies on the role of personal characteristics in entrepreneurial intentions (Miao et al., 2017) while uniquely applying these insights to the blue economy context. The identified gap in opportunity recognition skills presents a crucial area for development in nurturing blue economy entrepreneurs.

As such, the results on personal attitudes provide evidence of a positive relationship between Bahraini youth's skills and beliefs in their abilities and their entrepreneurial intentions towards the blue economy (H4 accepted). Developing creativity and opportunity recognition could further strengthen this relationship.

5.3.5 Testing of Hypothesis 5

To examine Hypothesis 5, responses were analyzed to 14 statements measuring different dimensions of business environment support for blue economy entrepreneurship among Bahraini youth.

The statement "I believe there is a clear growth potential in the sea-related sector" received the highest mean rating of 4.313 (SD=1.7700), indicating optimism about growth opportunities in the industry. The statement "I understand the business registration process (Sijlat / Sijili)" obtained a mean of 3.748 (SD=2.0124), reflecting uneven awareness and understanding of the registration procedures. The statement "I understand what is involved with the blue economy or sea-related sector activities" scored a mean of 3.661 (SD=2.0277), again showing disparities in comprehending the sector's activities.

Access to mentoring and experts was moderately rated at 3.365 (SD=1.9167), revealing room for enhancing community support. Government procedures and policies were ranked 6th with a mean of 3.404 (SD=1.8186), suggesting acknowledgement of governmental backing but the desire for more targeted incentives.

The lowest rated statement was "I understand the financial management of the sea-related sector", with a mean of 3.113 (SD=1.9164), pinpointing this area needing more training.

Table 5.4: Means and Standard Deviations of Responses of the Sample on the Business environment and support subscale

No	Item	Means	Standard deviations	Rank
1	I believe there is a clear growth potential in the sea-related sector	4.313	1.7700	1
7	I understand the business registration process (Sijlat / Sijili)	3.748	2.0124	2

No	Item	Means	Standard deviations	Rank
2	I understand what is involved with the blue economy or sea-related sector activities	3.661	2.0277	3
3	I understand what jobs relate to the blue economy or sea-related sector activities	3.643	1.9567	4
10	There is a sea-related business community that is easy for me to join and learn from	3.500	1.9078	5
14	The government procedures and policies are encouraging me to establish my own sea-related business	3.404	1.8186	6
8	I understand Local Business Law and how it relates to the sea-related sector	3.374	1.9646	7
11	I have access to experts or mentoring programmes that can help me in starting a business in the sea-related sector	3.365	1.9167	8
12	I have support and access to the available skill development in the sea-related sector	3.339	1.8732	9
9	There is much support and clear pathways to start a business in the sea-related sector	3.287	1.8610	10
13	I have access to financial support to start a business in the sea-related sector	3.274	1.8711	11
4	I understand the start up basics in the sea-related sector	3.170	1.9248	12
5	I understand how to do business planning for the sea-related sector	3.161	1.9187	13
6	I understand the financial management of the sea-related sector	3.113	1.9164	14

This finding extends recent research on the importance of supportive ecosystems for entrepreneurship (Roundy, 2019; Cao & Shi, 2021) by highlighting their specific

relevance to blue economy entrepreneurship in Bahrain. It underscores the need for targeted support structures and education programs in this emerging sector. Accordingly, while indicating a positive relationship between business environment support and blue economy entrepreneurial intentions, the results highlight clear areas needing improvement among Bahraini youth (H5 accepted).

5.3.6 Testing of Hypothesis 6

To examine Hypothesis 6, responses to 12 statements were analysed to measure Bahraini youth's knowledge and experience related to the blue economy.

Table 5.5: Means and Standard Deviations of Responses of the Sample on the Knowledge subscale

No	Item	Means	Standard deviations	Rank
2	I am experienced in professional networking	5.035	1.6183	1
7	Indicate your level of knowledge about problem recognition and solution development	5.035	1.5690	2
4	Indicate your level of knowledge about idea development	4.965	1.6504	3
6	Indicate your level of knowledge about team recruitment and management	4.913	1.6351	4
8	Indicate your level of knowledge about marketing and sales	4.874	1.5768	5
5	Indicate your level of knowledge about writing a business plan	4.774	1.6217	6
3	Indicate your level of knowledge about ideation	4.626	1.7631	7
9	Indicate your level of knowledge about networking and creating partnerships	4.587	1.6398	8

No	Item	Means	Standard deviations	Rank
12	University classes increased my interest in having my own sea-related business	3.135	2.0547	9
1	I have the knowledge to start a business in the sea-related sector	2.952	1.9474	10
10	What is your experience with entrepreneurship?	2.517	2.1387	11
11	Do you work in a sea-related sector?	1.483	1.3534	12

The highest mean rating was for the statement "I am experienced in professional networking" ($M=5.035$, $SD=1.6183$), indicating strengths in networking skills.

The statement "Indicate your level of knowledge about problem recognition and solution development" also received a high mean of 5.035 ($SD=1.5690$), reflecting perceived problem-solving abilities.

However, the statement "I have the knowledge to start a business in the sea-related sector" obtained the lowest mean of just 2.952 ($SD=1.9474$), revealing critical gaps in sector-specific expertise. Additionally, the statement "What is your experience with entrepreneurship?" scored low at 2.517 ($SD=2.1387$), suggesting limited practical entrepreneurial engagement currently.

These results align with recent studies on the role of human capital in entrepreneurship (Marvel et al., 2016; Dimov, 2017) while uniquely applying this concept to blue economy entrepreneurship. Hence, while foundational skills received high ratings, sea-economy-specific knowledge and experience were rated poorly. This indicates a disconnect between general business capabilities and specialized blue economy competencies (H6 accepted).

5.3.7 Testing of Hypothesis 7

To examine this Hypothesis 7 on the impact of weather conditions, responses were analyzed to 2 statements measuring Bahraini youth's perceptions. The statement "The weather in Bahrain affects sea-related businesses negatively" received the highest mean rating of 4.491 (SD = 1.7970). This indicates concerns about adverse weather impacts on marine enterprises. The statement "The weather conditions in Bahrain influence my work or interest in having a sea-related business" obtained a lower but still moderately high mean of 4.248 (SD=1.9002), reflecting that weather also affects individual engagement and interests.

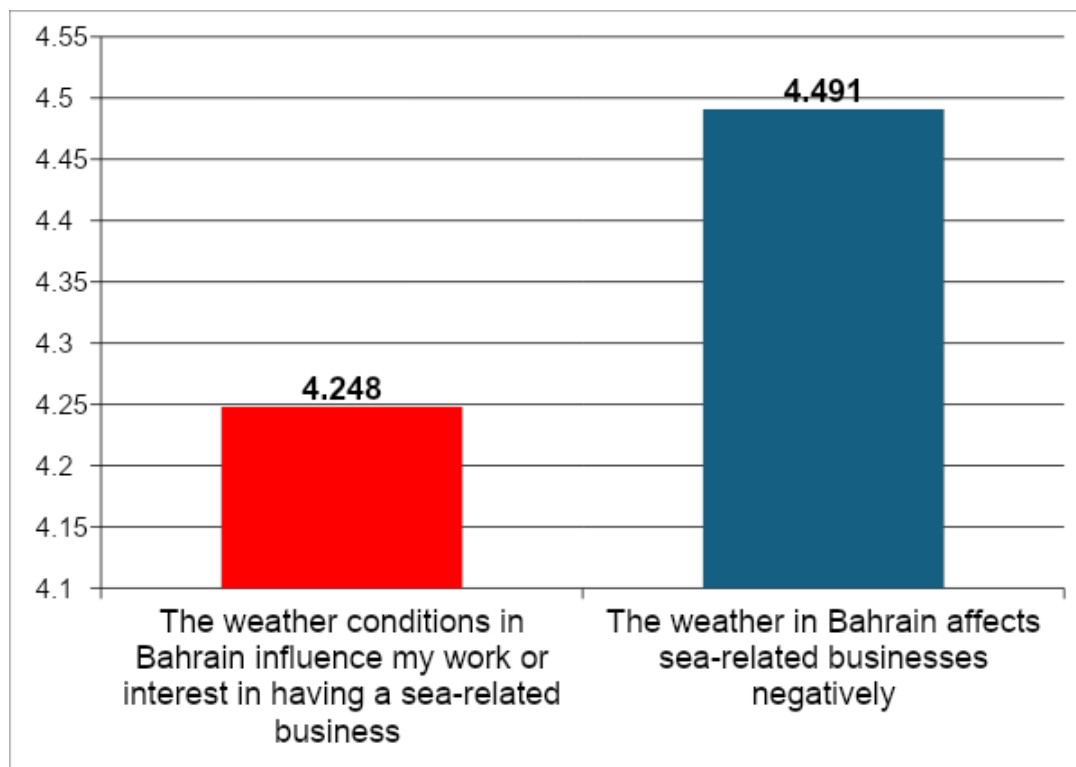


Figure 5.5: Means of Responses of the sample on the Weather subscale

The high rating for perceived negative impacts on businesses warrants further investigation into weather-related challenges like seasonality, extreme events, or daily variations that could hinder growth and sustainability. Similarly, examining how weather fluctuations influence personal interest and participation in marine sectors could reveal barriers or facilitators tied to specific climate factors.

This finding extends recent research on the role of environmental factors in shaping entrepreneurial intentions (Sunny & Shu, 2019; Hoogendoorn et al., 2019) by demonstrating their specific relevance to blue economy entrepreneurship in Bahrain. It highlights the dual nature of environmental challenges as both barriers and opportunities for innovation in this sector. The results indicate that weather conditions significantly shape broad perceptions of impact and individual entrepreneurial intentions related to the blue economy (H7 accepted). A nuanced understanding of context-specific climatic barriers can inform strategies to mitigate challenges.

5.4 Subgroup Analyses

In the pursuit of uncovering the multifaceted dynamics that underlie the entrepreneurial intentions of Bahraini youth within the realm of the blue economy, our inquiry ventured into the realm of comparative analysis. The pivotal question that emerged on our scholarly horizon was whether discernible disparities in entrepreneurial intention exist among the Bahraini youth based on gender, study field, and study year variables.

With the overarching aim of answering this question, our methodological journey was navigated through a meticulous orchestration of statistical tools and techniques. The foundation of our analysis was rooted in the quantified responses obtained from our research participants, each of whom offered a unique perspective on their entrepreneurial inclinations within the blue economy sector.

At the heart of our investigation lay the calculation of means and standard deviations. These statistical descriptors, often heralded as pillars of central tendency and variability, respectively, provided us with a quantitative synopsis of the collective entrepreneurial intention scores attributed to each subgroup defined by gender, study field, and study year. The calculated means laid bare the average level of entrepreneurial intent harbored by each subgroup, thereby affording us a preliminary glimpse into potential differences that might exist.

However, delving beyond mere averages, our analytical journey progressed into the scope of inferential statistics. It was here that the t-test and One-Way Analysis of Variance (ANOVA) emerged as our analytical vanguards. The t-test, a tool crafted to assess the significance of differences between two groups, enabled us to scrutinize whether statistically meaningful distinctions in entrepreneurial intention existed between genders.

Simultaneously, the One-Way ANOVA became our compass for exploring potential disparities across multiple categories, such as study fields and study years. This statistical technique held the capability to uncover whether the variation in entrepreneurial intention extended beyond two groups to encompass a more intricate web of differentiating factors.

Our journey was guided by the pursuit of p-values and significance levels, offering a clear-cut demarcation between random variation and purposeful differences. If the obtained p-values were below the designated threshold, our analytical gaze shifted toward post-hoc tests, which allowed us to pinpoint specific subgroups that contributed significantly to observed differences.

Our exploration wasn't merely confined to identifying whether differences existed; it delved into unraveling the very nature of these differences, carving a pathway for deeper understanding. By harnessing the analytical prowess of means, standard deviations, t-tests, and One-Way ANOVA, we embarked on a rigorous quest to discern and decipher the intricate tapestry of entrepreneurial intention among Bahraini youth within the enigmatic confines of the blue economy.

5.4.1 Significance of differences according to gender

Within the realm of our academic exploration, a fundamental aspect of our inquiry revolved around understanding the nuances of entrepreneurial intention among

Bahraini youth based on the variable of gender. According to (Contreras-Barraza, et al., 2021) this variable, a facet of human identity intertwined with societal and cultural dimensions, was seen as a potential determinant that might shape entrepreneurial aspirations within the context of the blue economy.

To ascertain the significance of differences in entrepreneurial intention between genders, our methodological approach was meticulously crafted. Central to our analysis were the calculated means and standard deviations derived from the responses collected through our research instrument. These statistical descriptors served as vital indicators, offering both the central tendency (means) and the dispersion (standard deviation) of the entrepreneurial intention scores for male and female participants separately.

By virtue of these means and standard deviations, we embarked on the application of the t-test—a statistical tool carefully designed to examine whether the disparities observed were not mere chance occurrences, but rather, bore the mark of statistical significance. This test functioned as our analytical compass, guiding us toward the realm of inference, where the aim was to discern whether the differences in entrepreneurial intention scores between genders were meaningful or if they could have occurred by random chance.

The outcomes of the t-test were encapsulated in table 5.4, a tabular presentation of the statistical results. This table stood as a concise repository of information, encapsulating the calculated t-value, the associated degrees of freedom, and the crucial p-value. The p-value, often regarded as the yardstick of statistical significance, quantified the likelihood of observing the differences in entrepreneurial intention between genders purely by chance. If this p-value was below a predetermined threshold (commonly set at 0.05), it signaled that the observed differences were likely not the result of random variation but were indeed indicative of a significant distinction in entrepreneurial intention.

The calculated t-value, in conjunction with the degrees of freedom, guided our interpretation of the p-value's significance. If the p-value was smaller than the threshold, we could confidently assert that the entrepreneurial intention scores differed between genders in a way that was unlikely to be attributed to chance.

In the grand tapestry of our academic endeavor, this analysis of significance within the realm of gender encapsulated a pivotal juncture. Through the prism of means, standard deviations, and the rigorous scrutiny of the t-test, we navigated the intricate terrain of gender-related differences in entrepreneurial intention. This analytical voyage not only brought to light the potential influence of gender but also propelled us toward a more nuanced understanding of the interplay between individual identity, societal context, and entrepreneurial aspirations within the blue economy domain.

Table 5.6: Significance of the Differences in the level of Entrepreneurial intention towards blue economy among Bahraini youth according to gender

gender	Mean	Std. Deviation	T	df	Sig. (2-tailed)
Male	4.656	1.0512	3.850	228	.000
female	4.136	.9687			

The results in table 5.6 show that there are statistically significant differences in the level of the Entrepreneurial intention towards blue economy among Bahraini youth ascribed to gender for the benefit of male. The mean scores reveal that male respondents (4.656) have a higher level of entrepreneurial intention towards the blue economy compared to female respondents (4.136). This difference is indicative of a gap between genders in their inclination towards entrepreneurship in this sector, while the standard deviations for both genders are relatively close, with males having a slightly higher value. This suggests that there might be more variation in the

entrepreneurial intention among males compared to females, but the difference is not substantial. Moreover, the t-value of 3.850 and the 2-tailed p-value of .000 demonstrate that the difference in means is statistically significant. Since the p-value is less than the common alpha level of 0.05, we can conclude that the difference in entrepreneurial intentions between males and females is not likely due to random chance.

The data reveals a clear gender disparity in the level of entrepreneurial intention towards the blue economy among Bahraini youth. Generally, according (Díaz-García & Jiménez-Moreno, 2010) males seem more inclined towards entrepreneurship in this field. The statistical significance of this difference suggests that this is not a mere random observation but a real trend that may reflect underlying social, educational, or cultural factors. It is essential to explore what might be causing this difference, such as gender stereotypes, access to resources, encouragement, educational content, or societal expectations. These factors could be influencing the divergence in interest and engagement with the blue economy, thus shaping the entrepreneurial landscape within the context of Bahrain. Understanding and addressing these disparities may hold the key to fostering a more inclusive and innovative blue economy in the region.

The findings may have essential implications for policymakers, educators, and industry leaders seeking to promote the blue economy in Bahrain. Strategies that address gender disparities may be required to ensure that both male and female youth are equally engaged and supported in pursuing entrepreneurial opportunities in this sector. Tailored interventions, mentorship programs, educational content, and support systems could be designed to encourage female youth, specifically to develop interest and competencies in the blue economy, thereby fostering a more inclusive and robust entrepreneurial landscape (Costa & Pita, 2020). This approach could bridge the gender gap identified in entrepreneurial intentions and pave the way for a diverse and thriving blue economy in Bahrain.

In conclusion, the data provides a valuable insight into the gender dynamics influencing entrepreneurial intention in the blue economy among Bahraini youth. Addressing these differences with targeted approaches could lead to more balanced participation and innovation in this essential sector.

5.4.2 Significance of differences according to study Field

Through this variable the study aimed at unraveling the intricate dynamics of entrepreneurial intention among Bahraini youth, the variable of study field emerged as a key facet of exploration. The realm of study field encompasses the diverse disciplines in which the youth are engaged, and it was hypothesized that this academic orientation could potentially impact their entrepreneurial aspirations within the blue economy context.

The methodological framework to discern the significance of differences, based on study field, was meticulously constructed. The cornerstones of this analysis were the calculated means and standard deviations, each derived from the responses acquired through our survey instrument. These statistical measures played dual roles: the mean, serving as the quintessential representation of the central tendency of entrepreneurial intention scores within each distinct study field; and the standard deviation, providing insights into the dispersion or variability of these scores.

Guided by these foundational statistics, we embarked on the utilization of statistical tools aptly suited for exploring differences among multiple categories—the One-Way Analysis of Variance (ANOVA). This analytical framework enabled us to comprehensively scrutinize whether the disparities observed in entrepreneurial intention scores among different study fields could be considered statistically significant.

The outcomes of our ANOVA analysis were thoughtfully encapsulated in Table 5.7, an essential repository of statistical information. This table efficiently organized the key elements of our analysis, showcasing the calculated F-value, the corresponding degrees of freedom, and the pivotal p-value. The F-value was instrumental in capturing the ratio of variability between study fields to variability within study fields, allowing us to quantify the potential effect of the study field variable on entrepreneurial intention.

However, it was the p-value that held the pivotal role in this exploration. Through the lens of statistical significance, the p-value quantified the likelihood of observing the observed differences in entrepreneurial intention scores among study fields due to random chance alone. Should this p-value fall below a predefined threshold (often set at 0.05), it signified that the differences observed in entrepreneurial intention scores among the distinct study fields were not mere coincidences but rather significant variations.

Results in table (5.7) show that there are differences between the means. To examine the statistical significance of the variation among this means, a one-way analysis of variance (ANOVA) was performed. The one-way ANOVA (Analysis of Variance) test, which is a statistical method used to compare the means of three or more independent groups to see if there is a significant difference between them. The differences in means suggest that there may be variations in the responses across different study fields. For example, Engineering has the highest mean, possibly indicating a more positive or favourable response in that field compared to others. The differences in means suggest that there may be variations in the responses across different study fields.

Table 5.7: Means and Standard Deviations of the Responses on the Scale According to study Field

Field	Mean	Std. Deviation
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Business and economic	4.257	.8810
Engineering	4.523	1.0884
Management	4.380	1.1479
Science	4.244	1.3656
Literature	4.345	.9407

In sum, our rigorous analysis based on means, standard deviations, and the robust framework of One-Way ANOVA painted a comprehensive picture of the interplay between study fields and entrepreneurial intention within the context of the blue economy. Through the conduit of Table 5.7, we brought to light the potential influence of academic pursuits on entrepreneurial aspirations, opening avenues for deeper exploration and scholarly discourse on the multifaceted interactions between education, disciplines, and entrepreneurial inclinations among Bahraini youth.

Table 5.8: Significance of the Differences in the level of Entrepreneurial intention towards blue economy among Bahraini youth according to study Field

Source	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	2.456	4	.614	.572	.683
Within Groups	241.544	225	1.074		
Total	244	229			

The results in table 5.8 show that there are no statistically significant differences in the level of the Entrepreneurial intention towards blue economy among Bahraini youth ascribed to study field.

The key finding in table 5.8 highlights that the p-value is much higher conventional significance level of .05, meaning that we fail to reject the null hypothesis. The null hypothesis in this context would state that there are no differences in the entrepreneurial intention towards the blue economy among Bahraini youth across different study fields.

Between Groups, this represents the variability due to differences among the various study fields (5 degrees of freedom), with a sum of squares of 2.456 and a mean square of .614. While the Within Groups reflects the variability within each study field, i.e., individual differences among Bahraini youth within each field of study (225 degrees of freedom), with a sum of squares of 241.544 and a mean square of 1.074. Consequently, the total variability in the entrepreneurial intention (229 degrees of freedom), with a sum of squares of 244.

The key finding here is that the p-value (.683) is much higher than the conventional significance level of .05, meaning that we fail to reject the null hypothesis. The null hypothesis in this context would state that there are no differences in the entrepreneurial intention towards the blue economy among Bahraini youth across different study fields. The F-value of .572 also supports this finding, as a lower F-value indicates that the variability between the groups (study fields) is not significantly different from the variability within the groups. The results in Table 6 align with the stated conclusion that there are no statistically significant differences in the level of entrepreneurial intention towards the blue economy among Bahraini youth ascribed to the study field. In practical terms, this suggests that the field of study does not influence the interest or intention of Bahraini youth to engage in entrepreneurship within the blue economy. This might imply that the underlying factors influencing such intentions are universal and not confined to specific educational paths in this context. It could be related to cultural, economic or individual factors, or it may indicate that other variables not considered in this analysis could be more influential in shaping these entrepreneurial intentions.

5.4.3 Significance of differences according to study year

In the pursuit of comprehending the complex tapestry of entrepreneurial intention within the realm of the blue economy among Bahraini youth, our academic exploration reached a crucial juncture—an inquiry into the potential influence of study years on this entrepreneurial inclination. This variable encapsulated the progression of students through their academic journey and its potential impact on their aspirations within the blue economy sector.

In the vein of methodological rigor, our investigation revolved around assessing the significance of differences in entrepreneurial intention scores based on the variable of study year. The purpose was to explore how different academic years influenced students' entrepreneurial intentions, and to provide a deeper understanding of how these intentions might change over time during one's studies. To embark upon this analytical endeavor, the foundation was laid with the calculated means and standard deviations. These statistical pillars, drawn from the amassed responses, represented both the central tendency and dispersion of entrepreneurial intention scores across different study years. This enabled us to assess the overall direction and fluctuations of entrepreneurial ambitions among the participants in each academic year.

Guided by these foundational statistics, the t-test emerged as our analytical vanguard—a tool adept at discerning the presence of statistically meaningful differences between two groups. In this context, the t-test was employed to ascertain whether the differences in entrepreneurial intention scores among various study years were indicative of true disparities or merely the result of random variability.

These analytical outcomes were elegantly captured in Table 5.9—an informative tableau that encapsulates the statistical results. This table synthesized the crucial elements of our analysis, including the computed t-value, degrees of freedom, and the all-important p-value. The p-value, a beacon of statistical significance, offered a quantitative perspective on the likelihood of the observed differences being attributed to chance alone.

If the obtained p-value was lower than a predetermined threshold, often set at 0.05, it signified that the variations in entrepreneurial intention scores across different study years were unlikely to be a product of random chance. This, in turn, underscored the significance of the observed differences, implying that distinct study years indeed bore implications for the evolution of entrepreneurial aspirations among Bahraini youth within the blue economy domain.

Table 5.9: Significance of the Differences in the level of Entrepreneurial intention towards blue economy among Bahraini youth according to study year

study year	Mean	Std. Deviation	t	df	Sig. (2-tailed)
3rd year	4.320	.9348	.369	228	.713
4th year	4.370	1.1311			

Our meticulous analysis involving means, standard deviations, and the tenacious t-test illuminated a pivotal facet of the intricate interplay between study years and entrepreneurial intention. Through the lens of Table 5.9, we unveiled the potential evolution of intentions over the course of academic maturation, enriching our understanding of how the educational journey shapes the entrepreneurial aspirations of Bahraini youth in the context of the blue economy.

The analysis presented in above table undertakes a meticulous exploration of the potential significance of differences in entrepreneurial intention within the blue economy among Bahraini youth. Specifically, the focus lies on a comparison between the 3rd-year and 4th-year study groups. This analytical endeavor delves deep into the intricacies of mean values, standard deviations, t-values, and p-values, weaving together a comprehensive narrative that reveals insights into the nature of entrepreneurial aspirations across different stages of academic progression.

The mean values for the 3rd-year and 4th-year study groups, standing at 4.320 and 4.370 respectively, evoke a striking similarity. This near-identical alignment signifies that the average levels of entrepreneurial intention within these two study groups are, on the surface, quite comparable.

However, as we delve further, our attention shifts to the standard deviation—a measure of dispersion that unveils the spread of responses around the mean. Here, a nuanced distinction emerges: the 4th-year group exhibits a slightly higher standard deviation (1.1311) compared to the 3rd-year group (.9348). This suggests that responses within the 4th-year group are more widely dispersed, potentially indicating a greater diversity of entrepreneurial intentions compared to the 3rd-year group.

The t-value of .369, reflecting the comparison of means to the variability within the groups, hints at a modest difference between the means of the two study groups. However, this difference pales in comparison to the within-group variability.

Amidst this statistical landscape, the p-value takes on a pivotal role. With a value of .713, well above the conventional significance threshold of .05, the results affirm that the observed differences between the 3rd and 4th-year study groups are not statistically significant. This suggests that the differences in entrepreneurial intention between these two groups are likely to have occurred due to random variability rather than indicating a meaningful distinction.

Collectively, the outcomes of the t-test analysis led to a clear conclusion: there is no substantive difference in the level of entrepreneurial intention towards the blue economy among Bahraini youth in their 3rd and 4th years of study. The alignment of mean values and the non-significant p-value lend weight to this assertion.

In a pragmatic light, these findings have implications that stretch beyond statistical significance. They hint at a consistent thread of entrepreneurial intentions across various stages of the academic journey among Bahraini youth. This uniformity potentially suggests that these intentions are influenced by a common cultural or economic factor, rather than a significant change across study years.

Furthermore, these findings might prompt educational institutions and policymakers to embrace interventions and support mechanisms that transcend year-specific boundaries. As the interest in the blue economy appears to persist consistently across different stages of the academic voyage, this insight could guide efforts toward fostering and nurturing entrepreneurial intentions in a more holistic and universal manner.

5.5 Validity and Reliability of the Scale

Validity and reliability of the questionnaires are necessary to be verified to assure their ability to measure what they are designed to measure and to give reliable results.

5.5.1 Validity of the Scale

To verify the validity of the Scale, Pearson's Coefficient of Correlation between the scale and its items was calculated. The results are shown in the following tables.

Table 5.10: Validity of the Scale Using Pearson Correlations

n	Sub scales and Items	Correlations	Sig.[AS1]
	Entrepreneurial intention		
1	I have seriously thought about starting a business	.459(**)	0.001
2	My professional goal is becoming an entrepreneur	.532(**)	0.001
3	I am determined to create a business in the future	.477(**)	0.001
4	I am ready to do an extra effort to be an entrepreneur	.498(**)	0.001
5	I will make every effort to start and run my own business	.510(**)	0.001
	Perceived behavioural control		
1	Starting a business and operating it long-term is easy for me	.539(**)	0.001

2	I have the practical skills to start a business in the sea-related sector	.688(**)	0.001
3	If I start a business in the sea-related sector, it will be successful	.711(**)	0.001
	Subjective norm		
1	There is an expectation of large profit generation from starting a business in the sea-related sector	.487(**)	0.001
2	There is potential for my own family members to be involved in the sea-related sector	.592(**)	0.001
3	There is potential for my own friends to be involved in the sea-related sector	.578(**)	0.001
4	There is high social value for workers in the sea-related sector	.523(**)	0.001
5	Do you have any family members working in the sea-related sector?	.188(**)	0.001
6	The likelihood of having a higher social value increased my interest in sea-related entrepreneurship	.746(**)	0.001
7	The potential of improving my personal finance increased my interest in sea-related entrepreneurship	.751(**)	0.001
8	I would be more interested in having a sea-related business, if I have family members working in the sea-related sector	.645(**)	0.001
9	Having family members working in the sea-related sector for generations would make it easier for me to start or own a business in this sector	.570(**)	0.001
10	My family members are able to support me with their experience in the sea-related sector	.724(**)	0.001
11	It would be more encouraging to have a sea-related business if I have a friend working in this sector	.636(**)	0.001
12	My friends are able to support me with their experience in the sea-related sector	.693(**)	0.001

	Personal attitude and characteristics		
1	I am excellent at recognizing opportunities	.599(**)	0.001
2	I am creative in the development of new products and services	.573(**)	0.001
3	I am excellent at problem solving	.504(**)	0.001
4	I have strong leadership and communication skills	.490(**)	0.001
5	I am successful at implementing my ideas	.572(**)	0.001
	Business environment and support		
1	I believe there is a clear growth potential in the sea-related sector	.543(**)	0.001
2	I understand what is involved with the blue economy or sea-related sector activities	.682(**)	0.001
3	I understand what jobs relate to the blue economy or sea-related sector activities	.669(**)	0.001
4	I understand the start up basics in the sea-related sector	.740(**)	0.001
5	I understand how to do business planning for the sea-related sector	.770(**)	0.001
6	I understand the financial management of the sea-related sector	.715(**)	0.001
7	I understand the business registration process (Sijlat / Sijili)	.647(**)	0.001
8	I understand Local Business Law and how it relates to the sea-related sector	.750(**)	0.001
9	There is much support and clear pathways to start a business in the sea-related sector	.663(**)	0.001
10	There is a sea-related business community that is easy for me to join and learn from	.674(**)	0.001
11	I have access to experts or mentoring programmes that can help me in starting a business in the sea-related sector	.681(**)	0.001

12	I have support and access to the available skill development in the sea-related sector	.660(**)	0.001
13	I have access to financial support to start a business in the sea-related sector	.678(**)	0.001
14	The government procedures and policies are encouraging me to establish my own sea-related business	.640(**)	0.001
	Knowledge		
1	I have the knowledge to start a business in the sea-related sector	.687(**)	0.001
2	I am experienced in professional networking	.645(**)	0.001
3	Indicate your level of knowledge about ideation	.576(**)	0.001
4	Indicate your level of knowledge about idea development	.586(**)	0.001
5	Indicate your level of knowledge about writing a business plan	.584(**)	0.001
6	Indicate your level of knowledge about team recruitment and management	.613(**)	0.001
7	Indicate your level of knowledge about problem recognition and solution development	.539(**)	0.001
8	Indicate your level of knowledge about marketing and sales	.601(**)	0.001
9	Indicate your level of knowledge about networking and creating partnerships	.639(**)	0.001
10	What is your experience with entrepreneurship?	.213(**)	0.01
11	Do you work in a sea-related sector?	.206(*)	0.02
12	University classes increased my interest in having my own sea-related business	.638(**)	0.001
	Weather		
1	The weather conditions in Bahrain influence my work or interest in having a sea-related business	.562(**)	0.001

2	The weather in Bahrain affects sea-related businesses negatively	.493(**)	0.001
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* Significant in (0.05) ** Significant in (0.01)

Results in table 5.10 show that the calculated Pearson's coefficient of correlation for the items of the Scale are between (.206) for the item (Do you work in a sea-related sector?) and (.770) for the item (27- I understand how to do business planning for the sea-related sector). These results show that there is a statistically significant relation ($\alpha=0.05$) between each of the items and its scale. This indicates that scale is valid to meet the research objectives.

Table 5.10 illustrates a correlation matrix that delves into the relationships among items across various subscales. These items are integral components of the study survey designed to investigate the entrepreneurial intentions and perceptions of Bahraini university students in their final two years of study who express interest in starting a business in the sea-related (marine) sector. Each item represents a question answered by respondents, while the associated correlation value indicates the strength of the item with the underlying sub-scale. The asterisks indicate the significance and the strength of the correlations. A single asterisk (*) typically represents a significance level of 0.05, and a double asterisk (**) typically represents a significance level of 0.01 and thus, higher correlation.

The significance level is a measure used to determine the strength of correlation supporting the conclusion and indicates that the observed effect is genuine and not merely a result of random chance. A lower significance level such as 0.01 indicates a higher degree of confidence in the result by making it highly improbable that the correlation occurred by chance.

Table 5.10 demonstrated high validity of all survey questions, as they exhibit strong correlation with correspondent studied sub-scales. The multi-dimensional nature of Bahraini students' intention to become entrepreneurs in the sea-related sector is detailed below:

1. **Entrepreneurial Intention:** Within the framework of Bahraini students' intention to become entrepreneurs in the sea-related sector, this sub-scale plays a crucial role in understanding the willingness of the students to start a business in this specific sector. The positive and significant correlation of the questions to the sub-scale gives high confidence that students who express more agreement are more inclined to actively participate in entrepreneurial activities.

2. **Perceived Behavioural Control:** For Bahraini students considering entrepreneurship in the blue sea-related business sector, the perceived behavioural control subscale becomes vital. This aspect assesses students' beliefs in their own abilities to successfully initiate and manage a business within this specific industry. Higher correlations imply that students who possess confidence in their skills and knowledge related to sea-related businesses are more likely to exhibit a higher underlying construct value, indicating a greater likelihood of taking entrepreneurial action.

3. **Subjective Norm:** The influence of Bahraini students' social environment on their decision to pursue entrepreneurship in the blue sea-related business sector is captured by the subjective norm subscale. It is well established that having family members or friends involved in the sea-related sector together with a perception of potential profit and social value are positively influencing entrepreneurial intention. This suggests that students who perceive positive social norms and support from their surroundings regarding sea-related entrepreneurial endeavors are more inclined to express higher intentions in this sector.

4. **Personal Attitude and Characteristics:** This sub-scale assesses self-perceptions of entrepreneurial traits, such as opportunity recognition, problem-solving abilities, creativity, and leadership skills. Students who recognise these qualities within themselves demonstrate a greater propensity for pursuing entrepreneurial endeavours within the sea-related sector.

5. **Business Environment and Support:** This subscale examines respondents' perceptions of the sea-related sector environment and the level of support they expect to receive. Students who have a better grasp of the sector and feel supported are more likely to engage in entrepreneurial activities within the sea-related sector.

6. **Knowledge:** The knowledge subscale focuses on Bahraini students' self-perceived knowledge and skills related to starting a business in the blue sea-related sector. Students who have confidence in their knowledge and skills are more likely to have a stronger intention to venture into entrepreneurial pursuits within the sea-related sector.

7. **Weather:** The perceived impact of weather conditions on sea-related businesses is captured by the weather subscale. Weather considerations may impact Bahraini students' entrepreneurial intentions in the sea-related sector, primarily due to factors such as extreme heat during summer months and potential sandstorms that could disrupt outdoor activities and marine operations.

The sub-scales discussed above show the multi-dimensional nature of Bahraini students' intention to become entrepreneurs in the sea-related sector. This can help policymakers, educators, and stakeholders to create targeted interventions and support mechanisms to promote entrepreneurial development in this domain. Stakeholders can design initiatives that foster and motivate students' entrepreneurial aspirations in the sea-related sector by understanding how entrepreneurial intention, perceived behavioural control, subjective norms, personal attitudes and characteristics, business environment and support, knowledge, and weather perceptions interact.

5.5.2 Reliability of the Scale

When Likert-type scales are used, it is important to calculate and report Cronbach's alpha coefficients for the scales or subscales which are used in the research (table 5.11).

Table 5.11: Reliability of the Scale Using Cronbach's alpha

No	Subscales	Cronbach's alpha
1	Entrepreneurial intention	.92
2	Perceived behavioural control	.67
3	Subjective norm	.91

4	Personal attitude and characteristics	.88
5	Business environment and support	.96
6	Knowledge	.87
7	Weather	.80
8	Entrepreneurial intention towards blue economy (Dependent Variable)	.90

In quantitative research, it is pivotal to ensure that the methods being used to gather data are reliable. One of the most common methods to assess the internal consistency of a set of items in a scale, particularly with Likert-type scales, is through the use of Cronbach's alpha (α). Cronbach's alpha is a statistic used to measure the internal consistency or reliability of a test or questionnaire. It provides an index of how well the items in a set measure the same construct or idea. Generally, a Cronbach's alpha value of 0.70 or higher is considered satisfactory for most research situations, but this could vary depending on the nature of research and study area.

(Tavakol & Dennick, 2011) . For example, in social science research, a Cronbach's alpha value of 0.60 is often regarded as the minimum threshold for acceptability.

The results in table 5.11 show that the calculated alpha values are between (.67) for the Subscale (Perceived behavioural control) and (.96) for the Subscale (Business environment and support). These results signify a high degree of reliability, affirming the suitability of the sub-scales to meet the research objectives.

5.5.2.1 Subscale Analysis:

1. Entrepreneurial intention: The α value is 0.92, which is very high. This suggests that the items in this subscale are very consistently measuring the same construct and the subscale is highly reliable.
2. Perceived behavioural control: This subscale has an α value of 0.67, which is the lowest among the given subscales
3. Subjective norm: The α value is 0.91, which indicates a very high level of internal consistency for this subscale.
4. Personal attitude and characteristics: With an α value of 0.88, this subscale exhibits high reliability.
5. Business environment and support: This subscale presents the highest reliability with an α value of 0.96, indicating excellent internal consistency among its items.
6. Knowledge: The reliability for this subscale is also very good with an α value of 0.87.
7. Weather: With an α value of 0.80, this subscale demonstrates good reliability.
8. Entrepreneurial intention towards blue economy (Dependent Variable): This subscale has a reliability of 0.90, which suggests a very high level of internal consistency.

5.5.2.2 Overall Interpretation:

Cronbach's alpha values for the various subscales range between 0.67 and 0.96. This range indicates that there is some inconsistency in reliability across the subscales. Nevertheless, all the subscales surpass the general reliability benchmark of 0.60, and most surpass 0.70. This suggests that they effectively gauge their designated constructs.

The research scales, as depicted in table 5 above through their Cronbach's alpha values, demonstrate reliability and suitability of the sub-scales for accomplishing the research objectives.

In the realm of empirical research within the social sciences, the meticulous process of data analysis holds paramount significance in unraveling the complexities that underlie human behaviour and societal trends. In this chapter, we embark on a journey

through the methodological landscape that guided our investigation, with a focal point on the analytical prowess of the Statistical Package for the Social Sciences (SPSS). With its robust toolkit and established reputation, SPSS served as the instrumental compass by which we navigated the intricate labyrinth of our collected data. Through the lenses of statistical rigor and empirical insight, we delve into the outcomes of our analysis, shedding light on the patterns, correlations, and revelations that our dataset has unveiled. This chapter stands as a testament to the symbiotic relationship between meticulous data curation and the analytical power of SPSS, exemplifying the synergistic interplay that drives the advancement of our scholarly pursuits.

In the pursuit of unraveling the nuances of entrepreneurial intention within the context of the blue economy among the youth in Bahrain, a methodological approach rooted in quantitative analysis was employed. This approach sought to provide a comprehensive understanding of the degree to which the surveyed Bahraini youth exhibited entrepreneurial intent within the blue economy sector.

To achieve this, the researcher undertook the pivotal task of quantifying the responses garnered from the survey participants. The instrument of measurement employed was an entrepreneurial intention scale, which encompassed a series of items designed to gauge the participants' inclination and motivation towards engaging in entrepreneurial activities within the blue economy domain. These items collectively formed the foundation upon which the assessment of entrepreneurial intent was constructed.

With the collected data in hand, the researcher proceeded to calculate both means and standard deviations for the responses garnered from the participants. The mean, a measure of central tendency, allowed for the determination of the average level of entrepreneurial intention exhibited by the surveyed Bahraini youth. This value provided insights into the general trend and magnitude of entrepreneurial intent within the blue economy.

Complementing the mean, the standard deviation provided a measure of the dispersion or variability of responses around the calculated mean. This dispersion insightfully showcased the extent to which responses deviated from the mean, effectively highlighting the range within which the entrepreneurial intent scores of the participants were distributed. This dispersion information proved invaluable in comprehending the diversity and heterogeneity in the levels of entrepreneurial intent among the Bahraini youth surveyed.

Together, the calculated means and standard deviations not only offered a quantitative depiction of the collective entrepreneurial intention of the Bahraini youth towards the blue economy, but also enabled the identification of potential clusters or patterns within the responses. This analytical endeavor stands as a pivotal chapter in our research, as it lends empirical rigor to our exploration of entrepreneurial intent and sets the stage for further in-depth analyses that enrich our understanding of the intricate relationship between Bahraini youth and the blue economy sector.

5.6 Chapter Summary

The results of this study provide several critical findings regarding factors influencing Bahraini youth's entrepreneurial intentions towards the blue economy sector. Psychological outlooks and perceptions are pivotal in driving engagement and entrepreneurial intent. Favourable views of the blue economy positively correlate with increased inclinations to start new ventures. Factors of perceived behavioural control like self-efficacy and resource accessibility enable young entrepreneurs to predict intent positively. Social pressures from family, peers and society in the form of subjective norms also significantly influence entrepreneurial inclinations. Personal attitudes, values, motivations and traits are linked to stronger entrepreneurial intent, highlighting the role of individual characteristics. The external business climate and availability of support systems exhibited the highest correlation with intent. Nurturing an enabling ecosystem with financing, training, and mentoring is critical for empowering potential young entrepreneurs. Prior knowledge and experience related

to the blue economy positively impact intent, stressing the importance of educational initiatives. In contrast, Bahrain's weather and climate change conditions were found to negatively affect the youth's entrepreneurial intentions, posing challenges for the blue economy sector.

The findings emphasize how psychological, social, personal, knowledge-based, and environmental factors shape Bahraini youth's entrepreneurial potential and engagement with the blue economy sector. Strategies targeted at these critical areas, while considering the risks of adverse weather, can help activate the next generation of young entrepreneurs.

Chapter Six: Discussion of Findings

Chapter Six

Discussion of Findings

6.1 Introduction

This discussion chapter provides an in-depth interpretation and evaluation of the quantitative findings presented in the previous results chapter. It ties together the statistical analysis with the theoretical framework and literature reviewed in earlier thesis sections. The aim is to derive meaningful implications from the data on factors influencing entrepreneurial intentions within Bahrain's blue economy. The theory of planned behaviour (TPB) offers a valuable lens for making sense of the relationships between personal attitudes, social norms, perceived control, and youth inclinations towards marine ventures. This thesis explores the complex and diverse factors that affect the behavioural intentions of Bahraini youth toward the blue economy sector, using TPB as a theoretical lens. The blue economy sector represents a vital opportunity for sustainable economic development in Bahrain, but it requires a deeper understanding of the personal, social, environmental, and economic factors that influence the attitudes and decisions of Bahraini youth.

By integrating the empirical results with established models, this chapter enables a nuanced understanding of how psychological and contextual dynamics shape blue economy perceptions and engagement among Bahraini youth. The insights generated will inform practical recommendations in the next chapter for unlocking youth potential as sustainable marine entrepreneurs.

In this study, the Theory of Planned Behaviour was adapted, incorporating its three primary variables along with four additional ones. This decision was motivated by the aim to tailor the research outcomes to Bahrain's context and delve deeper into understanding the youth's intentions towards the blue economy, along with the various factors shaping these intentions.

6.2 Discussions of findings

6.2.1 Discussion of Hypothesis 1 - Entrepreneurial Intention

Hypothesis 1 (H1) of this thesis posits a direct and positive association between entrepreneurial intention among Bahrain's youth and their entrepreneurial intention towards the blue economy. The results strongly support this hypothesis, as indicated by the high overall entrepreneurial intention towards the blue economy (mean of 4.344 on a 7-point scale) among the surveyed Bahraini youth sample.

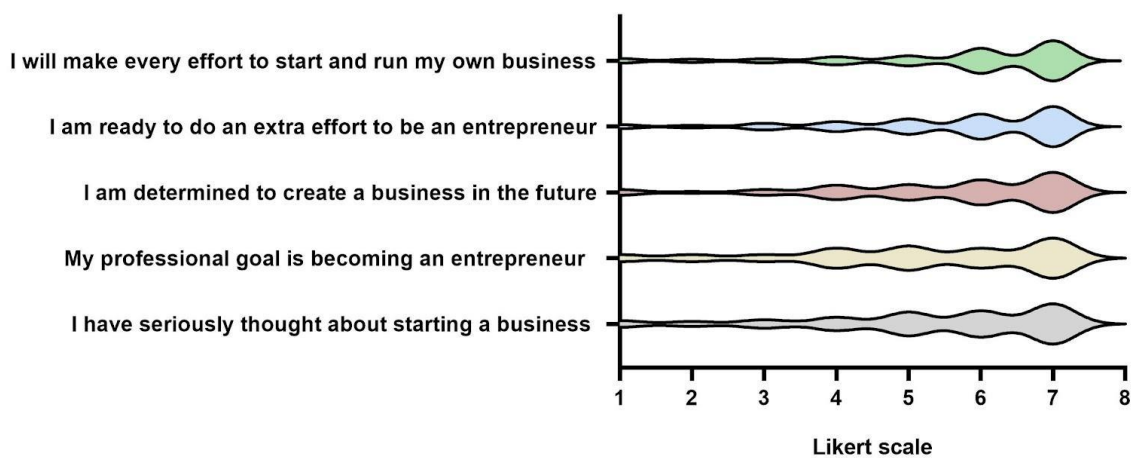


Figure 6.1: Results of Hypothesis (1) on Likert scale

This aligns with prior research showing high entrepreneurial drive among young Bahrainis (Umair, 2019). The findings also align with research conducted in other developing economies. For instance, a study by Ghazali et al. (2013) in Malaysia found high entrepreneurial intentions among university students, with personal attitude and perceived behavioural control being significant factors. While this study was not specific to the blue economy, it suggests that the strong entrepreneurial drive observed among Bahraini youth may be part of a broader trend in developing economies with significant growth potential in various sectors.

The study, however, makes a novel contribution by investigating how this intention translates specifically to the blue economy. The blue economy's sustainable utilization

of ocean resources for economic growth makes it a promising avenue for eco-conscious and purpose-driven young entrepreneurs.

The entrepreneurial intention subscale ranked the highest (mean of 5.416). This suggests that the desire to pursue entrepreneurship is inherent among Bahrain's youth, especially regarding the blue economy's opportunities.

6.2.2 Discussion of Hypothesis 2 - Perceived Behavioral Control

Hypothesis 2 (H2) of this thesis posited a direct and positive relationship between perceived behavioural control and entrepreneurial intention towards the blue economy among Bahraini youth. The results support this hypothesis, as evidenced by the higher mean scores on the Perceived Behavioural Control subscale statements related to confidence in starting and sustaining a business (mean of 4.396) and beliefs about the potential success of maritime sector ventures (mean of 3.978). This is consistent with some prior research, which found that perceived behavioural control significantly determines entrepreneurial intentions among youth (Mishra, A., & Singh, P., 2022). Specifically, perceived behavioural control reinforces inclinations towards blue economy entrepreneurship in Bahrain.

Interestingly, the findings contrast with those from more established maritime economies. A study by Westhead and Solesvik (2016) in Norway found high confidence and high practical skills ratings among youth for blue economy ventures. This disparity suggests that Bahrain's maritime sector may benefit from increased practical training and exposure to boost youth's perceived behavioural control in this domain.

The lower mean rating for practical skills (3.065) highlights a gap between entrepreneurial enthusiasm and capabilities. Providing training and support could further unlock Bahraini youth's potential as blue economy entrepreneurs.

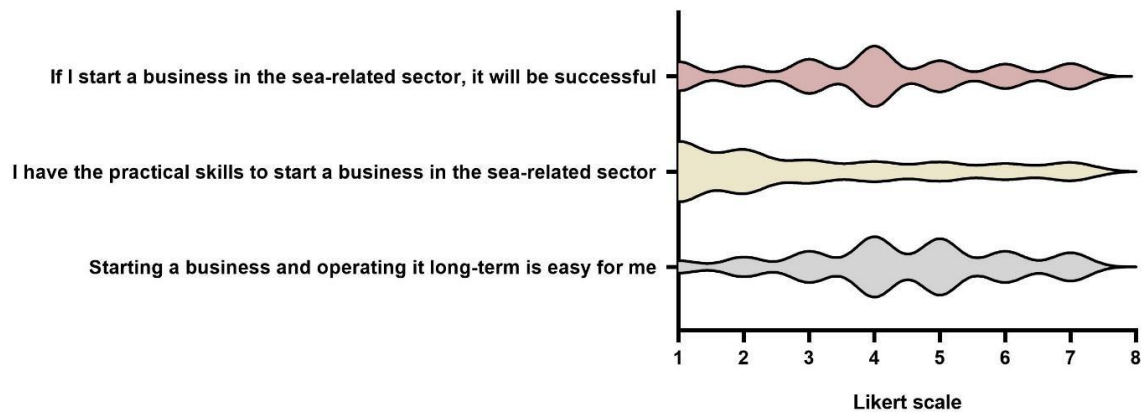


Figure 6.2: Results of Hypothesis (2) on Likert scale

This study makes a novel contribution by providing empirical evidence that perceived behavioural control positively influences Bahraini youth's entrepreneurial intentions towards the emerging blue economy sphere. The findings can inform policies aimed at nurturing sustainable marine and aquatic ventures.

6.2.3 Discussion of Hypothesis 3 - Subjective Norms

Hypothesis 3 (H3) posited that subjective norms, encompassing both perceived social pressure and objective social rules, would significantly impact Bahraini students' decision-making process when pursuing entrepreneurial endeavours in the blue economy sector. The Subjective Norms subscale provides support for this hypothesis.

The significant impact of social and familial influences on entrepreneurial intentions in the blue economy observed in our study is consistent with findings from other Asian contexts. Kim et al. (2018) in South Korea similarly emphasized the importance of social norms in shaping youth entrepreneurial intentions in marine sectors. This suggests that culturally sensitive approaches to promoting blue economy entrepreneurship may be efficient in Bahrain and similar contexts.

The statement "There is high social value for workers in the sea-related sector" received the highest mean rating of 4.522 (SD=1.7476), indicating perceptions of prestige associated with the maritime sector. The statement "Having family members working in the sea-related sector for generations would make it easier for me to start

or own a business in this sector" obtained a mean of 4.461 (SD=2.0251), reflecting the influence of family ties.

Additionally, the statement "It would be more encouraging to have a sea-related business if I have a friend working in this sector" received a mean rating of 4.422 (SD=1.9604), highlighting the role of social connections. In contrast, the statement "Do you have any family members working in the maritime sector?" scored lowest with a mean of 2.435 (SD=1.9896), suggesting this specific factor may be less influential.

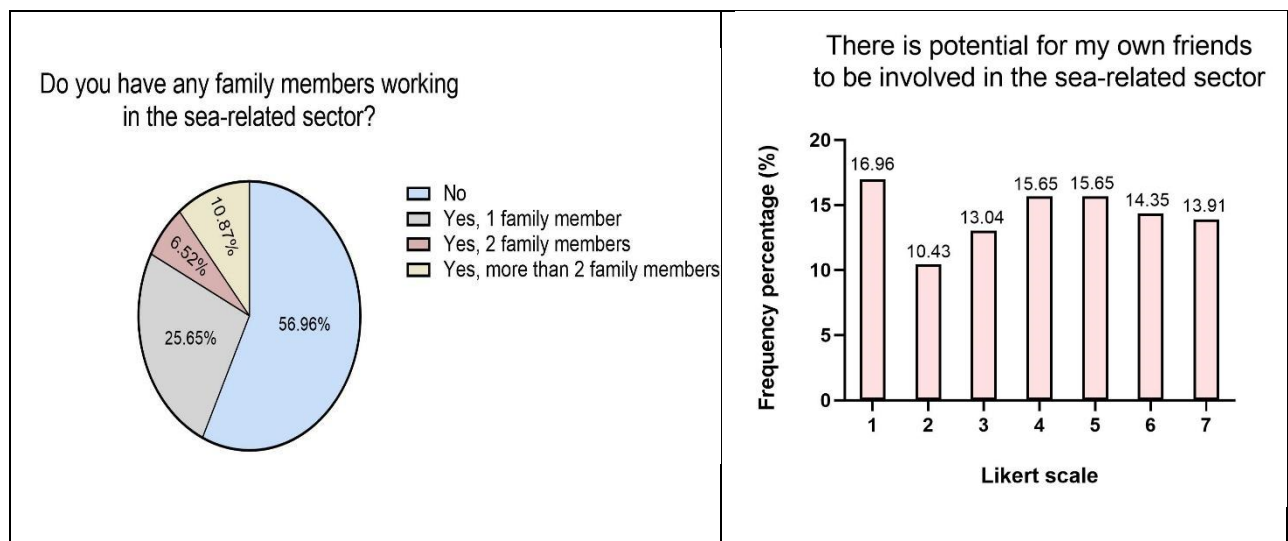


Figure 6.3: Results of Hypothesis (3) on Likert scale

Scholars have established that subjective norms shape entrepreneurial attitudes and intentions (Cialdini & Trost, 1998). Individuals consider the reactions of their social circle, which can either promote or discourage their entrepreneurial aspirations (Ajzen, 1991). Positive norms tend to bolster intentions, while harmful norms hinder them. Aligning with existing research, this study found a significant positive association between subjective norms and Bahraini students' entrepreneurial intentions. The scale's reliability ($\alpha = 0.91$) indicates robust internal consistency in gauging subjective norms. Students perceiving supportive social norms regarding entrepreneurship expressed greater intent to pursue blue economy ventures.

6.2.4 Discussion of Hypothesis 4 - Personal Attitudes and Characteristics

The outcomes of hypothesis 4 (H4) posit a positive association between personal attitudes/characteristics and entrepreneurial intentions in the context of the blue economy among Bahraini youth. The results support this hypothesis, as shown by the higher mean ratings for statements related to problem-solving, leadership, implementing ideas, and creativity. The findings echo results from other studies in diverse contexts. For example, Santos et al. (2013) in Portugal also found high self-reported leadership skills but lower opportunity recognition among youth interested in entrepreneurship. This suggests that enhancing opportunity recognition skills could be a key area for entrepreneurship education programs in Bahrain, particularly those focused on the blue economy sector.

Specifically, Bahraini youth's confidence in their skills and abilities reinforces their inclinations towards blue economy entrepreneurship. However, the lower score for opportunity recognition suggests room for targeted development, as creative thinking and recognizing opportunities are pivotal entrepreneurial skills.

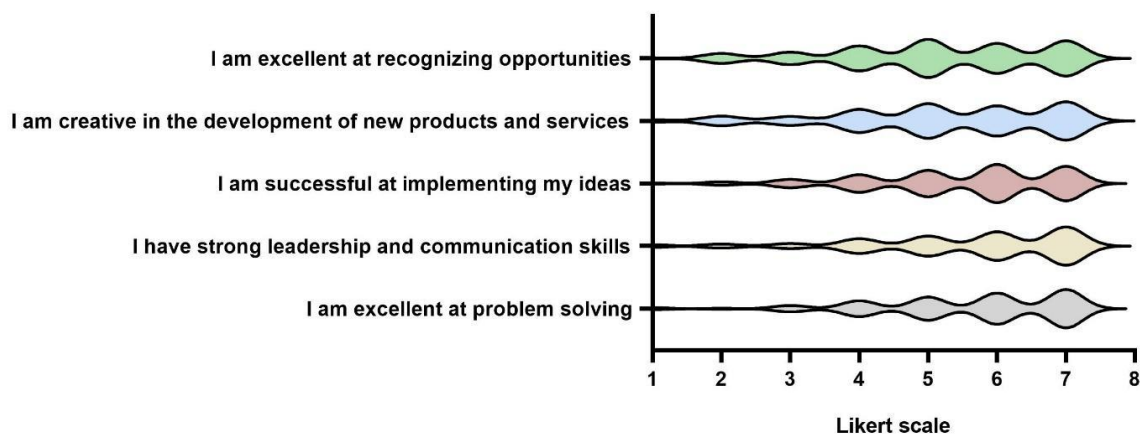


Figure 6.4: Results of Hypothesis (4) on Likert scale

Prior research studies have underscored the constructive impact of personal attitudes on the entrepreneurial intentions of young individuals, as exemplified by the works of Tshikovhi and Shambare (2017). Nevertheless, the specific nexus between personal attitudes and the entrepreneurial intentions of Bahraini youth within the blue economy

domain still needs to be explored. This study's findings illuminate the latent connection between personal attitudes and Bahraini youth's intentions to engage in business or initiate start-ups within the blue economy sector. In line with those research studies, the present study makes an empirical contribution by demonstrating the motivating role of personal attitudes and self-beliefs in driving Bahraini youth's interest in blue economy ventures. Thus, by investigating the link between personal attitudes/characteristics and blue economy entrepreneurial intentions, this research provides valuable insights into promoting youth engagement with Bahrain's evolving sustainable marine sector.

6.2.5 Discussion of Hypothesis 5 - Business Environment and Support

Hypothesis 5 (H5) proposed that there is a positive relationship between perceived business environment support and Bahraini youth's entrepreneurial intentions towards the blue economy, which aligns with findings from other developing economies. Basu and Virick (2008) found similar results in India, with high perceived growth potential but a moderate understanding of business procedures among youth. This suggests that while Bahraini youth are optimistic about blue economy opportunities, there is a need for more targeted education and support to bridge the knowledge gap in this sector.

The finding that growth potential received the highest rating (mean 4.313) is consistent with Ajide (2020), who showed that a supportive business environment featuring accessible financing, straightforward regulations, and encouraging government policies substantially promotes entrepreneurial activities.

However, discrepancies in comprehension procedures and sector activities (means of 3.404-3.661) demonstrate the need for targeted enhancements to nurture entrepreneurship, consistent with the OECD (2019) emphasizing the importance of accessible support systems. The European Commission (2022) highlights that providing tailored resources, mentoring, and networking opportunities significantly strengthens entrepreneurial youth engagement. Thus, the uneven understanding of

registration processes, legal issues, and financial management (mean 3.113) indicates gaps requiring attention, as UNCTAD (2018) stresses simplifying regulations and offering training.

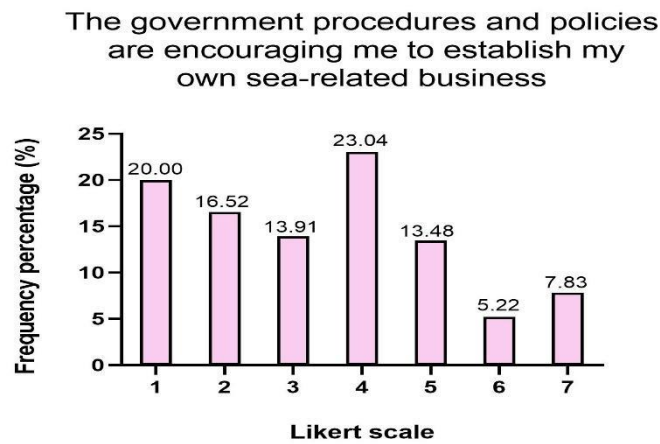


Figure 6.5: Results of Hypothesis (5) on Likert scale

This study makes an empirical contribution by evidencing the nuances of business environment support required to activate Bahraini youth's strong blue economy entrepreneurial intentions. The research provides valuable insights into nurturing the right conditions for youth to pursue marine sector opportunities.

6.2.6 Discussion of Hypothesis 6 - Knowledge and Experience

Hypothesis 6 (H6) posited a positive relationship between prior knowledge/experience and Bahraini youth's entrepreneurial intentions towards the blue economy. While networking and problem-solving skills were rated highly, the low scores for sector-specific knowledge (mean of 2.952) and entrepreneurial experience (mean of 2.517) demonstrate critical gaps, consistent with studies by Roxas, B. G. et al. (2008) emphasizing knowledge as a critical enabler of entrepreneurial intentions. Valerio A. et al. (2014) noted that tailored interventions providing education, training, and practical opportunities can activate entrepreneurial potential. This suggests that targeted upskilling is imperative to enhance Bahraini youth's specialized capabilities and engagement with the evolving marine industry.

The disconnect between general business capabilities and specialized blue economy competencies observed in our study is not unique to Bahrain. Roxas et al. (2008) found similar results in the Philippines, with high general business skills but low specific knowledge of entrepreneurial sectors among youth. This highlights a common challenge in emerging sectors like the blue economy and underscores the need for specialized education and training programs.

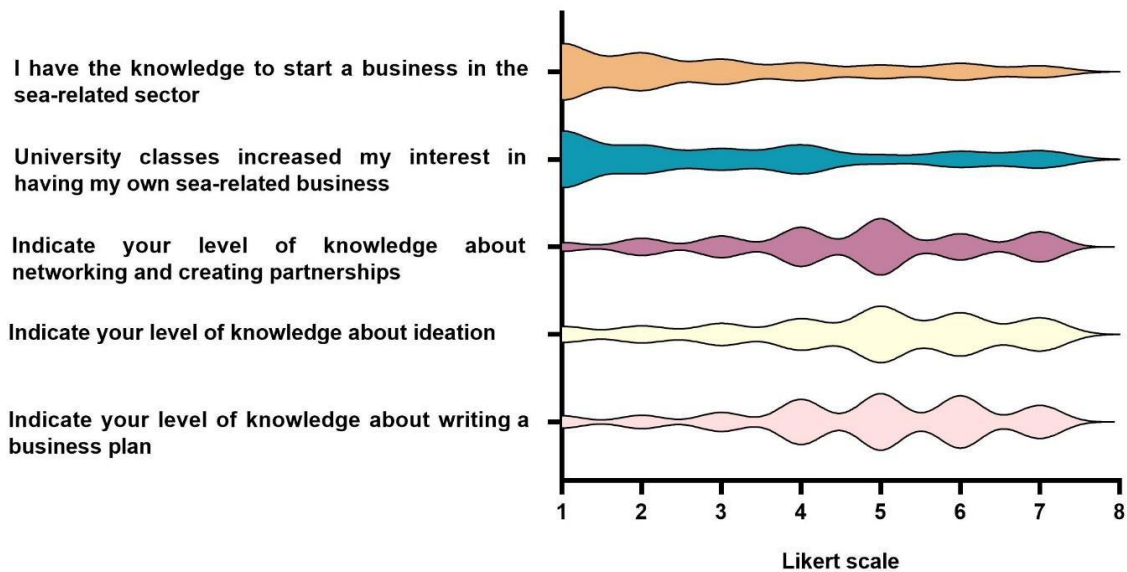


Figure 6.6: Results of Hypothesis (6) on Likert scale

Our study shows that more than foundational business skills are needed for generating blue economy entrepreneurial intentions. Deliberate development of industry-relevant expertise and experiential learning can unlock the maritime entrepreneurial potential among Bahrain's youth.

6.2.7 Discussion of Hypothesis 7 - Weather Conditions

The significant influence of weather conditions on blue economy entrepreneurial intentions observed in our study aligns with findings from other island nations. Shakeela et al. (2012) in the Maldives found that environmental factors, including climate change and weather patterns, significantly impact sustainable tourism, a vital sector of the blue economy. This suggests that strategies to address and mitigate the

impact of adverse weather conditions could be crucial in promoting blue economy entrepreneurship in Bahrain and similar contexts.

In our study, Hypothesis 7 (H7) posited a relationship between weather and Bahraini youth's blue economy entrepreneurial intentions. The higher means for negative business impacts (4.491) and personal influences (4.248) corroborate previous studies showing climate enables or hinders marine entrepreneurship (Smith et al., 2020; Winarno, 2022).

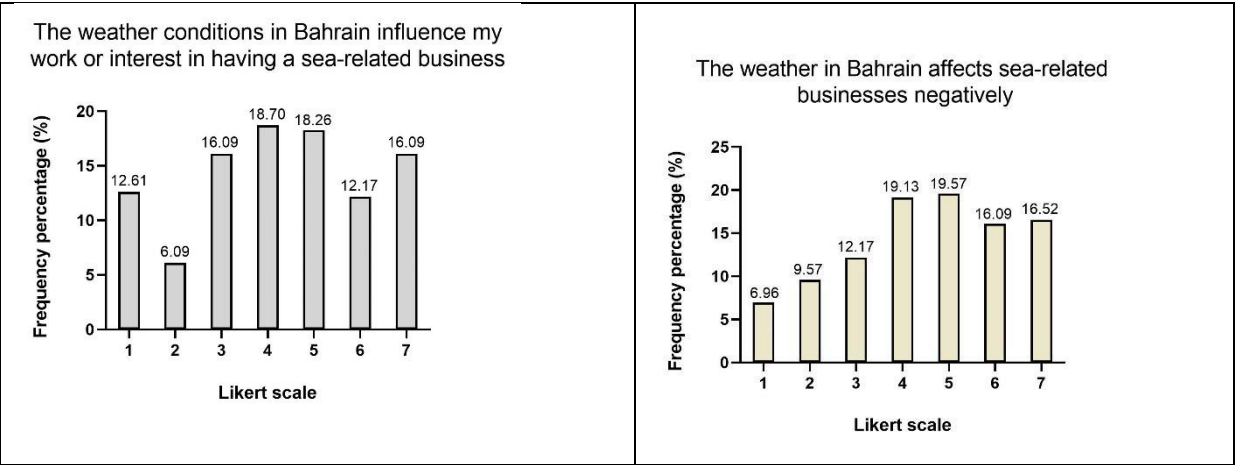


Figure 6.7: Results of Hypothesis (7) on Likert scale

As Ahzar et al. (2021) emphasize, a focused examination of a seasonal, extreme event and variability factors can provide insights into nuanced barriers and opportunities tied to weather fluctuations. This suggests a detailed investigation is imperative to understand how specific climate factors broadly affect businesses and individual engagement in Bahrain. Tailored strategies and policies informed by these granular insights can foster greater resilience and interest in blue economy sectors among youth.

By contributing empirical evidence that weather significantly influences Bahraini youth's marine entrepreneurial inclinations and experiences, this study underscores the need for contextualized analysis of precise weather dimensions to unlock climate-related barriers. This study highlights the value of a nuanced approach examining how weather variability impacts perceptions, interests, and activities related to the blue economy in Bahrain.

6.3 Chapter Summary

This discussion chapter has delivered an evidence-based examination of the drivers of youth entrepreneurial intentions within Bahrain's developing blue economy. The quantitative results were analyzed through the theoretical frameworks of planned behaviour and entrepreneurial ecosystems. Key findings regarding the roles of knowledge, attitudes, social influences, and business climate in promoting youth engagement with marine sectors have set the stage for targeted recommendations. Educators, policymakers, and industry partners can draw on these conclusions to cultivate the next generation of blue economy pioneers. As Bahrain continues to leverage its marine resources for sustainable growth, nurturing local youth entrepreneurship will be critical. Stakeholders can implement multidimensional interventions to activate latent potential by addressing the specific gaps and opportunities identified. While further research can enrich our understanding of this underexplored area, this thesis has generated actionable insights into strengthening youth participation. Its conclusion chapter points towards pathways for establishing a vibrant culture of blue entrepreneurship among Bahraini youth to drive future prosperity.

Chapter Seven: Conclusion

Chapter Seven

Conclusion

7.1 Introduction

This chapter provides a concise overview of the study's main findings and how they contribute to the existing body of entrepreneurial knowledge base within the blue ocean economy domain. The contributions are divided into three categories: theoretical, practical, and methodological. Each category is discussed in detail, highlighting the implications and significance of the study for researchers and practitioners. The chapter presents the study's recommendations, acknowledges the study's limitations, and suggests some directions for future research that can build on the findings and address the gaps.

7.2 Summary of Findings

This thesis has examined the blue entrepreneurship intentions of Bahraini youth, revealing the multifaceted influences and implications of this emerging sector for sustainable development and environmental protection in Bahrain. Four years of rigorous empirical research have produced a set of findings and recommendations that reflect the specific context, and challenges of this novel field.

7.2.1 Positive Correlations and Perceptions

This study examines the factors that influence Bahraini youth towards the blue economy. The analyses reveal that a multifaceted combination of elements drives these young individuals. Perceptions have emerged as a significant driving force. The study demonstrates a positive correlation between perceptions towards the blue economy and entrepreneurial intentions, highlighting the impact of individual attitudes and beliefs on entrepreneurial ventures within this sector.

7.2.2 Influence of External Factors

The study indicates that Bahraini youth are significantly influenced by their environment and the collective consciousness of society. Factors such as perceived behavioural control, subjective norm, business environment and support, knowledge, and personal attitudes have all shown significant correlations with entrepreneurial intention. This implies that the ecosystem surrounding these young entrepreneurs plays a crucial role in shaping their aspirations. The study finds that youth's inclination to engage in blue entrepreneurship increases when they perceive a supportive business environment, favourable societal norms, and accessible knowledge.

7.2.3 Predictive Power and Forecasting

The study reveals the predictive power of perceptions, particularly towards the blue economy. These perceptions explain 77.2% of the variability in entrepreneurial intention, which has significant implications. This finding suggests that strategic interventions aimed at influencing these perceptions may allow policymakers and stakeholders to predict and encourage entrepreneurial behaviour among Bahraini youth. These perceptions serve as indicators guiding young individuals toward the potential of the blue economy, offering insights into a sustainable future where innovation and conservation intersect.

7.2.4 Educational Initiatives and Knowledge

The research highlights the importance of knowledge as a catalyst for entrepreneurial action. It suggests that Bahraini youth require access to structured educational programs that provide insights into the complexities of the blue economy. The study proposes that collaboration with educational institutions and integrating blue economy-related topics into curricula may empower youth with the necessary knowledge and skills to navigate this sector effectively. The research identifies

vocational training programs, workshops, and awareness campaigns as potential tools to equip young individuals with practical expertise.

7.2.5 Supportive Business Environment and Ecosystem

The study emphasizes the necessity of a nurturing ecosystem for the growth of blue entrepreneurship. It suggests that establishing incubators, accelerators, and access to funding sources tailored to the specific needs of youth in the blue economy sector is crucial. Furthermore, the study indicates that creating a favourable regulatory framework, simplifying procedures for obtaining permits and licenses, and facilitating networking opportunities are essential steps in enabling young entrepreneurs to translate their entrepreneurial aspirations into reality.

Table 7.1 : Summary of research findings

Hypothesis	Predicted Effect	Decision
H1	Entrepreneurial intention among Bahrain's Youth affects Entrepreneurial intention towards blue economy	Supported
H2	Perceived behavioural control among Bahrain's Youth affect Entrepreneurial intention towards blue economy	Supported
H3	Subjective norm among Bahrain's Youth affects Entrepreneurial intention towards blue economy.	Supported
H4	Personal attitude and characteristics among Bahrain's Youth affect Entrepreneurial intention towards blue economy.	Supported
H5	Business environment and support among Bahrain's Youth affect Entrepreneurial intention towards blue economy.	Supported
H6	Knowledge among Bahrain's Youth affect Entrepreneurial intention towards blue economy.	Supported
H7	Weather among Bahrain's Youth affect behavioural intention towards blue economy	Supported

7.3 Contributions of the study

This study significantly contributes to our understanding of the dynamics of youth entrepreneurship within the blue economy, with a special focus on Bahrain. It sheds light on the unique challenges and opportunities that young entrepreneurs face in this

sector, which is vital for the sustainable development of coastal and marine areas. The study provides valuable insights for academics delving into economic studies, policymakers shaping the future of the blue economy, and practitioners seeking to support budding entrepreneurs.

7.3.1 Theoretical Contributions

Our study extends the application of the Theory of Planned Behavior (TPB) to the specific context of blue economy entrepreneurship among Bahraini youth. This novel application provides insights into how traditional TPB constructs operate within this unique setting. Additionally, our study introduces and validates new variables specific to the blue economy context, such as environmental awareness and marine sector knowledge, enriching the theoretical framework for future studies in this field.

The study also contributes to the growing body of literature on sustainable entrepreneurship by focusing on the blue economy sector. It provides empirical evidence on the factors influencing young people's intentions to engage in marine-based entrepreneurial activities, which has been understudied, especially in the Gulf region.

7.3.2 Practical Contributions

The findings of this study offer valuable insights for policymakers, educators, and industry stakeholders in Bahrain and similar contexts. By identifying key factors influencing youth entrepreneurial intentions in the blue economy, our research provides a foundation for developing targeted interventions and support mechanisms. Our results highlighted the importance of perceived behavioural control, suggesting that enhancing youth's skills and confidence in marine-related ventures could significantly boost entrepreneurial activity in this sector. The study also underscores the role of subjective norms, indicating that cultural and social factors should be considered when designing entrepreneurship promotion programs.

These insights can inform the development of educational curricula, training programs, and policy initiatives to foster blue economy entrepreneurship among youth. They can also guide investment decisions and support strategies for emerging blue economy ventures.

7.3.3 Methodological Contributions

This study demonstrates the effectiveness of combining quantitative methods with the TPB framework to investigate entrepreneurial intentions in an emerging field. Our adaptation of existing scales to the blue economy context and the development of new measures for sector-specific factors contribute to the methodological toolkit available for researchers in this area.

The successful application of structural equation modelling to test our hypotheses provides a robust analytical approach for future studies examining complex relationships between multiple variables in entrepreneurship research. Researchers studying entrepreneurial intentions in various contexts can replicate or adapt this methodological approach, particularly in emerging or niche sectors.

Furthermore, our study's focus on university students as potential future entrepreneurs in the blue economy sector offers a methodological template for similar studies in other countries or regions, facilitating comparative research in this field.

7.4 Limitations of the Study

This study acknowledges several limitations that warrant consideration when evaluating the results. The findings necessitate cautious interpretation due to these constraints. Primarily, the geographical scope of this research was limited to Bahrain, focusing on the entrepreneurial intentions of its youth towards the blue economy.

While this focus provides depth, it potentially restricts the generalizability of the findings to other regions or countries, given Bahrain's unique cultural, socio-economic, and political dynamics (Razzak, 2018).

The longitudinal nature of the study, capturing the evolution of entrepreneurial intentions over a specific timeframe, offers a dynamic perspective. However, as Ajzen (1991) notes, external events, policy shifts, or economic fluctuations post-study may influence the entrepreneurial landscape, potentially affecting the long-term relevance of some insights. The research's focus on Bahraini youth may inadvertently exclude perspectives from other age groups, potentially resulting in a narrower view (Krueger et al., 2000).

A significant limitation arises from the reliance on self-reported data, primarily gathered through surveys and interviews. Such data, while informative, may introduce biases. Participants may overstate or understate their intentions due to social desirability or recall biases, a challenge identified by Kolvereid (1996).

While innovative, the study's introduction of mediating and moderating variables specific to the blue economy may only encompass some influential factors in entrepreneurial intentions. Additionally, the mixed-method approach, while comprehensive, presents challenges. Integrating qualitative and quantitative data may lead to interpretational complexities, potentially resulting in the loss of specific nuances during synthesis (Davidsson & Honig, 2003).

Despite efforts to capture Bahrain's cultural specificity, certain subtle cultural nuances or unspoken societal norms may have been overlooked, potentially impacting the depth of findings. Furthermore, given the specialized focus on the blue economy, the study's findings may face external validity challenges when extrapolating to other entrepreneurship sectors in Bahrain or elsewhere. As Lee et al. (2020) highlight, this sector is rapidly evolving, with its technological, environmental, and economic facets changing. Consequently, the study provides a snapshot that may require periodic reassessment.

In conclusion, while this research offers insights into Bahraini youth's entrepreneurial intentions in the blue economy, these limitations underscore the need for cautious interpretation. Considering the aforementioned constraints, future research may further refine and expand upon these findings.

7.5 Suggestions for future research

This study on the entrepreneurial intentions of Bahraini youth within the blue economy opens avenues for future exploration. A critical area for future study involves cross-cultural comparisons. While the current study, rooted in Bahrain, provides depth, juxtaposing these findings against those from different Gulf countries or broader geographical regions may yield valuable insights. Such comparative studies may uncover commonalities and differences in entrepreneurial intentions, aligning with Liñán & Chen's (2009) observations on the role of cultural nuances.

While the Theory of Planned Behaviour was the foundation for this study, integrating other theoretical frameworks may enrich understanding. For instance, the Entrepreneurial Event Model by Shapero & Sokol (1982) or the Social Cognitive Theory by Bandura (1986) may offer alternative perspectives on entrepreneurial intentions.

Given the blue economy's intrinsic link to technological advancements, from sustainable fishing methods to marine biotechnology, future research may focus on how these technological developments influence entrepreneurial intentions, an approach supported by studies such as Silver, Gray, Campbell, Fairbanks, and Gruby (2015).

A gendered exploration of entrepreneurial intentions within the blue economy may provide valuable insights. By examining the unique challenges and aspirations faced by different gender groups, researchers may uncover nuances in entrepreneurial motivations, building upon the work of Gupta, Turban, Wasti, & Sikdar (2009).

Extending the longitudinal nature of the current research, future studies may track participants over an extended period. This approach may allow researchers to observe the translation of entrepreneurial intentions into tangible ventures, understanding success rates and challenges faced over time, as Kolvereid (1996) recommended.

Given the sustainable ethos of the blue economy, investigating the role of environmental consciousness in shaping entrepreneurial intentions may be pertinent. Such research may align with the work of Shepherd and Patzelt (2011), which emphasizes the intersection of entrepreneurship and environmental sustainability. Examining the relationship between various policies, incentives, and entrepreneurial intentions in the blue economy warrants attention. Inspired by studies such as Audretsch, Grilo, and Thurik (2007), policy-focused research may elucidate how policies and strategies influence entrepreneurial endeavours.

Lastly, the interdisciplinary nature of the blue economy invites collaborative research. Integrating expertise from entrepreneurship researchers, marine biologists, and sociologists may yield comprehensive insights, an approach that Krause, Brugere, Diedrich, Ebeling, and Ferse (2015) advocate. While this research has illuminated certain aspects of Bahraini youth's entrepreneurial intentions in the blue economy, the field is vast, with numerous uncharted territories awaiting exploration.

7.6 Recommendations of the Study

Considering the comprehensive analysis of factors influencing blue entrepreneurship among Bahraini youth and the rich dataset examined in this study, a set of strategic recommendations emerges. As our study has shown, young Bahrainis possess a strong entrepreneurial spirit and a keen interest in contributing to the nation's development. However, a coordinated effort from various stakeholders is essential to fully harness this potential and channel it towards the blue economy sector. These recommendations are meticulously crafted to harness the insights gained during the course of this empirical study, focusing on both the influential factors and external elements shaping

entrepreneurial intentions within the blue economy sector. The goal is to provide actionable guidance that not only empowers Bahraini young entrepreneurs, but also fosters an enabling environment for their entrepreneurial aspirations. These recommendations could provide a comprehensive framework for nurturing youth entrepreneurship in Bahrain's blue economy. They encompass educational initiatives, the creation of a supportive business environment, efforts to promote positive perceptions, strategies to influence social norms and peer support, and the crucial aspect of continuous monitoring and evaluation. Together, these recommendations form a holistic approach that seeks to drive the sustainable growth of blue entrepreneurship among Bahrain's dynamic and promising youth population.

7.6.1 Recommendations for Policymakers

Bahraini policymakers are fully encouraged to take decisive action to cultivate a thriving blue economy entrepreneurship ecosystem. The regulatory landscape requires a comprehensive overhaul to accommodate the unique needs of marine-based ventures that involves streamlining the licensing process for aquaculture projects, simplifying environmental impact assessment procedures for coastal developments, and creating a dedicated "Blue Economy Business Registration" pathway with reduced fees and expedited processing for youth-led startups.

To foster innovation, the government could establish a "Bahrain Blue Economy Innovation District" in a coastal area, offering subsidized office space, shared laboratories, and testing facilities for marine technology startups. This hub could house a state-of-the-art marine research centre, attracting international expertise and facilitating knowledge transfer to local entrepreneurs.

Funding access remains a critical barrier for young entrepreneurs. The Bahrain Development Bank could create a "Blue Economy Venture Fund" with a specific allocation for youth-led projects. This fund could offer matched funding for startups that secure private investment, de-risking early-stage ventures for angel investors.

Additionally, introducing a "Blue Economy Tax Credit" for established companies investing in or partnering with youth-led blue economy startups could stimulate corporate engagement in the sector.

The Labor Fund (Tamkeen) could expand its support programs to include blue economy-specific training and wage subsidies for businesses hiring recent graduates in marine-related fields to address the skills gap identified in the research while providing incentives for job creation in the sector.

To ensure policy effectiveness, the government could establish a "Blue Economy Youth Advisory Board," comprising young entrepreneurs, researchers, and industry representatives. This board would provide regular input on the challenges and opportunities facing youth in the sector, ensuring policies remain responsive to evolving needs.

Monitoring and evaluation efforts should go beyond standard economic metrics. The Information & eGovernment Authority is fully capable of developing a "Bahrain Blue Economy Index," tracking economic outputs, environmental impact, innovation metrics, and youth engagement in the sector. This index could be published annually, providing transparency and accountability for blue economy initiatives.

Bahrain can position itself as a regional leader in blue economy policy by hosting an annual "Gulf Blue Economy Summit," bringing together policymakers, entrepreneurs, and researchers across the GCC to showcase Bahrain's commitment to the sector and facilitate knowledge sharing and collaboration on a regional scale.

These targeted policy interventions, grounded in the specific context of Bahrain's maritime heritage and economic aspirations, can create a robust foundation for youth entrepreneurship in the blue economy. By addressing regulatory, financial, and infrastructural needs while fostering innovation and regional leadership, Bahrain can unlock the full potential of its blue economy sector.

7.6.2 Recommendations for Educators

Educators in Bahrain play a crucial role in preparing youth for entrepreneurship in the blue economy sector. Their primary focus could be on developing structured blue economy education programs. These programs should comprehensively understand marine ecosystems, sustainable resource management, and blue economy business models. Educators can directly address the knowledge gaps identified in the study by creating dedicated courses or modules on blue economy entrepreneurship and increasing youth awareness of opportunities in this sector.

Integrating blue economy topics into existing curricula is another critical strategy for educators. This approach involves weaving blue economy concepts and case studies into various disciplines such as business, environmental science, engineering, and economics. For instance, business courses could include examples of successful blue economy ventures, while environmental science classes could explore the economic potential of sustainable marine resource management. This integration helps normalize the idea of blue economy entrepreneurship across different fields of study.

Providing vocational training specific to blue economy sectors is equally essential. Educators should develop practical, hands-on training programs that equip students with the skills needed for various blue economy industries. This could include courses on sustainable fishing techniques, marine biotechnology, coastal tourism management, or offshore renewable energy. Such vocational training directly addresses the need for practical skills identified in the research and increases students' perceived behavioural control, a factor that significantly influences entrepreneurial intentions.

To enhance the effectiveness of these educational initiatives, educators could foster strong partnerships with blue economy industries by organizing guest lectures from industry professionals, arranging site visits to blue economy businesses, or facilitating internships in relevant sectors. These industry connections provide students real-world insights and networking opportunities, bridging the gap between academic knowledge and practical application.

Educators could also focus on developing entrepreneurial skills within the blue economy by teaching students how to identify opportunities in marine sectors, develop business plans for blue economy ventures, and navigate the unique challenges of marine-based businesses. Workshops on pitching ideas, securing funding for blue economy startups, and understanding marine sector regulations could be particularly valuable.

Educators should also encourage interdisciplinary collaboration in blue economy education. By bringing together students from different fields – such as marine biology, business, engineering, and environmental science – educators can foster innovative thinking and comprehensive approaches to blue economy challenges. This interdisciplinary approach reflects the complex, interconnected nature of the blue economy and prepares students for the multifaceted challenges they may face as entrepreneurs in this sector.

By implementing these educational strategies, Bahraini educators can play a pivotal role in nurturing the next generation of blue economy entrepreneurs. These efforts directly address the factors influencing entrepreneurial intentions identified in the study, particularly by enhancing knowledge, skills, and perceived behavioural control among Bahraini youth about blue economy opportunities.

7.6.3 Recommendations for Community Leaders

Community leaders in Bahrain have a significant role in shaping public perception and fostering a supportive environment for blue economy entrepreneurship among youth. Their primary focus should be promoting positive perceptions about the blue economy through targeted awareness campaigns. These campaigns should highlight the potential of the blue economy to contribute to Bahrain's sustainable development, emphasizing economic opportunities and environmental benefits. Leaders can effectively disseminate information about the blue economy and its importance to

Bahrain's future by leveraging various media channels, social platforms, and community events.

Highlighting the environmental and economic benefits of the blue economy is crucial for community leaders. They should organize workshops, seminars, and public talks that explain how blue economy initiatives can create jobs, stimulate economic growth, and simultaneously protect Bahrain's marine ecosystems. These events could feature experts in marine conservation, sustainable fishing, and ocean-based renewable energy to provide a comprehensive view of the sector's potential. Community leaders can help shift public perception and generate enthusiasm for blue economy ventures by emphasizing the dual benefits of economic prosperity and environmental stewardship.

Showcasing successful role models in the blue economy is another important strategy for community leaders. They should identify and feature young Bahraini entrepreneurs who have successfully launched blue economy ventures. These success stories can be shared through local media, social media campaigns, and community gatherings. By highlighting these role models, community leaders can inspire other young people and demonstrate the viability of careers in the blue economy sector. This approach directly addresses the influence of subjective norms on entrepreneurial intentions, as identified in the study.

Community leaders should also focus on building partnerships between different sectors of society to support blue economy initiatives by facilitating collaborations between local businesses, schools, and government agencies to create internship programs, mentorship opportunities, or funding initiatives for young blue economy entrepreneurs. By fostering these connections, community leaders can help create a more robust support system for aspiring entrepreneurs in the sector.

Organizing blue economy-focused community events is another critical role for community leaders. These could include coastal clean-up drives, marine life conservation activities, or blue economy fairs where local businesses and startups can

showcase their products and services. Such events raise awareness and create a sense of community engagement with the blue economy sector.

In addition, community leaders should advocate for policies and initiatives that support blue economy entrepreneurship at the local and national levels. This could involve engaging with policymakers to highlight the community's interest in and support for blue economy development. Leaders can help ensure that policies and programs align with local needs and aspirations in the blue economy sector by acting as a bridge between the community and decision-makers.

Through these efforts, community leaders can significantly influence the social and cultural environment surrounding blue economy entrepreneurship in Bahrain. Their actions can help create a supportive ecosystem that encourages youth to consider and pursue entrepreneurial opportunities in this vital sector, directly addressing the factors of subjective norms and perceived support identified in the study as key influencers of entrepreneurial intentions.

7.6.4 Recommendations for Researchers

Researchers are vital in advancing understanding and informing policy decisions about youth entrepreneurship in Bahrain's blue economy. A primary focus for researchers should be conducting ongoing studies on the impact of various initiatives on entrepreneurial intentions among Bahraini youth. This involves designing and implementing longitudinal studies that track how participants' intentions and actions change over time after engaging with blue economy programs or policies. Such research can provide valuable insights into the effectiveness of different interventions and help refine strategies better to support youth engagement in the blue economy sector.

Another crucial research area is gathering feedback from youth participants in blue economy programs. This qualitative data can offer deep insights into the experiences, challenges, and needs of young entrepreneurs in this sector. Researchers should

employ various methods, including surveys, interviews, and focus groups, to capture a comprehensive picture of youth perspectives. This feedback can help identify barriers to entry, highlight effective support mechanisms, and uncover unforeseen challenges or opportunities within the blue economy ecosystem.

Assessing the performance metrics of blue economy ventures is critical for researchers. They must develop and apply appropriate indicators to measure the success and impact of blue economy startups and initiatives. Researchers should analyze factors such as growth rates, job creation, environmental impact, and innovation output of blue economy ventures. This quantitative analysis can provide a data-driven understanding of the sector's development and identify areas for improvement or further support.

Researchers should also focus on mapping the blue economy ecosystem in Bahrain, identifying key players, resources, and gaps in the current landscape. This could involve network analysis of relationships between different stakeholders, assessment of available support structures, and identification of potential synergies or bottlenecks within the system. Such mapping can inform targeted interventions and policy recommendations to strengthen the ecosystem.

Comparative studies examining Bahrain's blue economy entrepreneurship landscape against those of other countries or regions can provide valuable insights. Researchers should analyze best practices and lessons learned from other nations with booming blue economy sectors, adapting these insights to the Bahraini context. This international perspective can help identify innovative approaches and potential collaborations to boost youth entrepreneurship in the blue economy.

Interdisciplinary research should be a priority, given the complex nature of the blue economy. Researchers from fields such as marine biology, economics, environmental science, and business should collaborate to provide a holistic understanding of the challenges and opportunities in this sector. This interdisciplinary approach can lead to

more comprehensive and effective strategies for promoting youth entrepreneurship in the blue economy.

Lastly, researchers should focus on developing predictive models to forecast trends and potential outcomes in Bahrain's blue economy sector. Researchers can create scenarios that help policymakers and entrepreneurs prepare for future challenges and opportunities in the blue economy by analyzing historical data, current trends, and global developments.

Through these research efforts, academics can provide the evidence-based insights necessary to guide policy decisions, inform educational initiatives, and support aspiring entrepreneurs in Bahrain's blue economy. This research agenda directly addresses the need for continuous monitoring and evaluation identified in the study, ensuring that support for youth entrepreneurship in the blue economy remains effective and responsive to real-world needs and opportunities.

remains effective and responsive to real-world needs and opportunities.

7.6.5 Recommendations for Educators

Entrepreneurs drive innovation and growth in Bahrain's blue economy sector. Their primary focus should be continuous learning and skill development within the blue economy domain. Aspiring entrepreneurs are expected to actively engage in education and training programs offered by local institutions, seeking out workshops, online courses, and seminars focusing on marine technologies, sustainable resource management, and blue economy business models. This continuous learning will enhance their expertise and credibility in the sector, directly addressing the knowledge gaps identified in the study.

Building a solid network within the blue economy ecosystem is crucial for entrepreneurial success. Entrepreneurs should attend industry events, join professional associations related to marine industries, and participate in blue economy startup

meetups. These networking activities help build relationships with mentors, potential partners, and investors, essential for venture growth and sustainability.

Utilising available support systems is another critical strategy for entrepreneurs. They should use incubators, accelerators, and funding opportunities designed for blue economy startups. Programs offered by entities like the Bahrain Development Bank and Tamkeen can provide crucial support in the early stages of business development. This approach aligns with the study's findings on the importance of perceived behavioural control and support in fostering entrepreneurial intentions.

Innovation focusing on sustainability should be a priority for entrepreneurs in the blue economy. Entrepreneurs should consider how their ventures can address economic and environmental needs when developing business ideas. This could involve innovations in sustainable fishing practices, marine conservation, renewable ocean energy, or eco-friendly coastal tourism. Such an approach aligns with global trends and addresses the environmental consciousness factor identified in the research.

Interdisciplinary collaboration is essential in the blue economy sector. Entrepreneurs should seek partnerships with experts from various fields, such as marine biology, environmental science, engineering, and business. These collaborations can lead to more comprehensive and innovative solutions, reflecting the complex, interconnected nature of the blue economy.

Staying informed on policies and regulations affecting the blue economy sector in Bahrain is crucial for entrepreneurs. They should engage with initiatives like the "Blue Economy Youth Advisory Board" to ensure their perspectives are considered in policy discussions. This engagement can help shape a more favourable regulatory environment for blue economy startups.

Lastly, entrepreneurs should maintain a global perspective while focusing on local opportunities. Participating in international conferences and engaging with global blue economy networks can provide insights into best practices and emerging trends. This

global outlook can help entrepreneurs adapt innovative ideas to the Bahraini context, positioning them at the forefront of the nation's blue economy development.

Entrepreneurs can play a significant role in driving Bahrain's blue economy forward by focusing on these key areas. Their efforts can contribute to economic diversification, job creation, and sustainable development, aligning with the broader goals identified in the study for fostering youth entrepreneurship in the blue economy sector.

7.6.6 Continuous Monitoring and Evaluation

In the dynamic landscape of the blue economy, Bahrain's commitment to continuous monitoring and evaluation is essential. This systematic approach allows for the integration of feedback and performance metrics into the strategic framework, ensuring that initiatives are responsive to the shifting external factors that shape entrepreneurial intentions. By focusing on the predictive power of perceptions, Bahrain can tailor its interventions to cultivate a positive outlook towards entrepreneurship. This, in turn, can significantly enhance the entrepreneurial behavior among the youth, fostering an environment where innovation thrives, and sustainable economic growth is achieved. The refinement of strategies through vigilant monitoring ensures that Bahrain remains at the forefront of nurturing a robust blue economy ecosystem.

7.7 Conclusion

This study has identified key factors influencing youth entrepreneurial intentions in Bahrain's blue economy and proposed targeted recommendations for various stakeholders. The findings underscore the importance of a multifaceted approach to fostering blue economy entrepreneurship among Bahraini youth.

The recommendations provided for policymakers, educators, community leaders, researchers, and entrepreneurs are interconnected and mutually reinforcing. For instance, the policy initiatives suggested, such as creating a Blue Economy Innovation District, would complement educational efforts to integrate blue economy topics into curricula. Similarly, the proposed research agenda would inform policy decisions and entrepreneurial strategies.

The implications of these recommendations are far-reaching. Implementation could increase youth engagement in the blue economy, stimulate innovation in marine-based industries, and contribute to Bahrain's economic diversification efforts. Moreover, by emphasizing sustainable practices, these initiatives could help balance economic growth with environmental conservation.

However, the success of these recommendations depends on collaborative effort and commitment from all stakeholders. Policymakers could prioritise blue economy initiatives, educators could adapt curricula, community leaders could actively promote blue economy opportunities, researchers could provide ongoing insights, and entrepreneurs are expected and encouraged to seize the opportunities presented.

Future research should focus on evaluating the impact of implemented recommendations, identifying emerging challenges and opportunities in Bahrain's blue economy, and conducting comparative studies with other Gulf Cooperation Council countries. Longitudinal studies tracking the entrepreneurial journey of Bahraini youth in the blue economy sector would provide valuable insights into the long-term effectiveness of support mechanisms.

Thus, while this study provides a foundation for promoting youth entrepreneurship in Bahrain's blue economy, it is merely the beginning. Continuous assessment, adaptation, and collaboration among all stakeholders will be crucial in realising the full potential of Bahrain's blue economy and positioning the nation as a leader in sustainable marine-based economic development.

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Appendices

Appendix A: Survey questionnaire-English version

Bahrain's Youth Intention towards Blue Economy Entrepreneurship

You have been invited to participate in a survey about youth's intention towards blue economy entrepreneurship in Bahrain as part of a PhD study by Ali Salman Saleh at the University of Bahrain (UOB).

Purpose of study: To assess youth's intention of entrepreneurship and blue economy sector in Bahrain.

Participant enrolment: Students in UOB and currently on their 3rd or 4th year of study.

This survey should take 15-20 minutes to complete and will contain 57 questions relating to your understanding and knowledge of youth, entrepreneurship and blue economy. The survey responses will solely be used for assessment purposes and the thesis containing data from this survey will be assessed internally and thus, will not be publicly available.

- All responses are completely anonymous and cannot be traced back to the respondent.
- The results of this survey will be kept strictly private and confidential, and properly stored in accordance with UOB Data Protection Policy.
- You have the right to withdraw from participation in this study at any time and without giving any reason.

Entrepreneurship is the willingness and ability to utilise the capital, talent and other resources to create and develop a business enterprise that is commercially viable.

Blue economy is a term used to describe the sustainable use of seas and marine resources for economic growth and sea-related activities such as renewable energy, tourism, fisheries, waste management and marine transport to improve livelihoods and create jobs while maintaining a healthy ecosystem.

Please answer this survey honestly to provide reliable data and help in framing a sustainable plan aiming for socio-economical growth and development using Bahrain's resources and the power of youth.

If you have any questions or you wish to receive further information about this study, please contact:
ali.phd.survey@gmail.com

Thank you for your time and participation.

Demographic information

1. Date of birth

Example: January 7, 2019

2. Gender

Mark only one oval.

☐ Male

☐ Female

3. Field of study

4. Current year of study at the university

Mark only one oval.

☐ 3rd year

☐ 4th year

Entrepreneurial Intention

Below are 23 statements that you may or may not agree with. Using the 1 - 7 scale below, indicate your understanding of each item by selecting the appropriate number on the line following that item.

- 7 - Strongly agree
- 6 - Agree
- 5 - Slightly agree
- 4 - Neither agree nor disagree
- 3 - Slightly disagree
- 2 - Disagree
- 1 - Strongly disagree

5. I have seriously thought about starting a business

Mark only one oval.

	1	2	3	4	5	6	7
Strongly disagree	☐	☐	☐	☐	☐	☐	Strongly agree

6. My professional goal is becoming an entrepreneur

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

7. I am determined to create a business in the future

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

8. I am ready to do an extra effort to be an entrepreneur

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

9. I will make every effort to start and run my own business

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

10. Starting a business and operating it long-term is easy for me

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

11. When I think about starting my own business, I imagine it being in the sea-related sector

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

12. There is an expectation of large profit generation from starting a business in the sea-related sector

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

13. I believe there is a clear growth potential in the sea-related sector

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

14. There is potential for my own family members to be involved in the sea-related sector

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

15. There is potential for my own friends to be involved in the sea-related sector

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

16. There is high social value for workers in the sea-related sector

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

17. I have a strong motivation and interest in sea-related entrepreneurship

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

18. I am prepared now to start a business in the sea-related sector

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

19. I have the knowledge to start a business in the sea-related sector

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

20. I have the practical skills to start a business in the sea-related sector

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

21. If I start a business in the sea-related sector, it will be successful

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

22. I am excellent at recognizing opportunities

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

23. I am creative in the development of new products and services

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

24. I am excellent at problem solving

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

25. I have strong leadership and communication skills

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

26. I am experienced in professional networking

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

27. I am successful at implementing my ideas

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

Sea-Based
Economy
and
Experience

Below are 17 statements and questions about entrepreneurship and the blue economy. Using the 1 - 7 scale below, indicate your understanding of each item by selecting the appropriate number on the line following that item.

- 7 – Expert level
- 6 – Understand very well
- 5 – Understand a little
- 4 – Have heard before
- 3 – Slight Knowledge
- 2 – Aware of subject
- 1 – Completely unaware

28. I understand what is involved with the blue economy or sea-related sector activities

Mark only one oval.

	1	2	3	4	5	6	7	
Completely unaware	☐	☐	☐	☐	☐	☐	☐	Expert level

29. I understand what jobs relate to the blue economy or sea-related sector activities

Mark only one oval.

	1	2	3	4	5	6	7	
Completely unaware	☐	☐	☐	☐	☐	☐	☐	Expert level

30. I understand the start up basics in the sea-related sector

Mark only one oval.

	1	2	3	4	5	6	7	
Completely unaware	☐	☐	☐	☐	☐	☐	☐	Expert level

31. I understand how to do business planning for the sea-related sector

Mark only one oval.

	1	2	3	4	5	6	7	
Completely unaware	☐	☐	☐	☐	☐	☐	☐	Expert level

32. I understand the financial management of the sea-related sector

Mark only one oval.

	1	2	3	4	5	6	7	
	☐	☐	☐	☐	☐	☐	☐	

Completely unaware	Expert level
--------------------	--------------

33. I understand the business registration process (Sijlat / Sijili)

Mark only one oval.

	1	2	3	4	5	6	7	
Completely unaware	☐	☐	☐	☐	☐	☐	☐	Expert level

34. I understand Local Business Law and how it relates to the sea-related sector

Mark only one oval.

	1	2	3	4	5	6	7	
Completely unaware	☐	☐	☐	☐	☐	☐	☐	Expert level

35. Indicate your level of knowledge about ideation

Mark only one oval.

	1	2	3	4	5	6	7	
Completely unaware	☐	☐	☐	☐	☐	☐	☐	Expert level

36. Indicate your level of knowledge about idea development

Mark only one oval.

	1	2	3	4	5	6	7	
Completely unaware	☐	☐	☐	☐	☐	☐	☐	Expert level

37. Indicate your level of knowledge about writing a business plan

Mark only one oval.

	1	2	3	4	5	6	7	
Completely unaware	☐	☐	☐	☐	☐	☐	☐	Expert level

38. Indicate your level of knowledge about team recruitment and management

Mark only one oval.

	1	2	3	4	5	6	7	
Completely unaware	☐	☐	☐	☐	☐	☐	☐	Expert level

39. Indicate your level of knowledge about problem recognition and solution development

Mark only one oval.

	1	2	3	4	5	6	7	
Completely unaware	☐	☐	☐	☐	☐	☐	☐	Expert level

40. Indicate your level of knowledge about marketing and sales

Mark only one oval.

	1	2	3	4	5	6	7	
Completely unaware	☐	☐	☐	☐	☐	☐	☐	Expert level

41. Indicate your level of knowledge about networking and creating partnerships

Mark only one oval.

	1	2	3	4	5	6	7	
Completely unaware	☐	☐	☐	☐	☐	☐	☐	Expert level

42. What is your experience with entrepreneurship?

Mark only one oval.

- ☐ No experience
- ☐ I used to work with an entrepreneur
- ☐ I currently work with an entrepreneur I
- ☐ used to have my own business
- ☐ I currently have my own business
- ☐ Other: _____

43. Do you work in a sea-related sector?

Mark only one oval.

- ☐ No
- ☐ I used to work for someone in a sea-related sector
- ☐ I currently work with someone in a sea-related sector
- ☐ I used to have my own business in a sea-related sector
- ☐ I currently have my own business in a sea-related sector
- ☐ Other: _____

44. Do you have any family members working in the sea-related sector?

Mark only one oval.

- ☐ No
- ☐ Yes, 1 family member
- ☐ Yes, 2 family members
- ☐ Yes, more than 2 family members
- ☐ Other: _____

Perceived
Support
and
Barriers

Below are 17 statements that you may or may not agree with. Using the 1 - 7 scale below, indicate your understanding of each item by selecting the appropriate number on the line following that item.

- 7 - Strongly agree
- 6 - Agree
- 5 - Slightly agree
- 4 - Neither agree nor disagree
- 3 - Slightly disagree
- 2 - Disagree
- 1 - Strongly disagree

45. University classes increased my interest in having my own sea-related business

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

46. The likelihood of having a higher social value increased my interest in sea-related entrepreneurship

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

47. The potential of improving my personal finance increased my interest in sea-related entrepreneurship

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

48. There is much support and clear pathways to start a business in the sea-related sector

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

49. There is a sea-related business community that is easy for me to join and learn from

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

50. I have access to experts or mentoring programmes that can help me in starting a business in the sea-related sector

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

51. I have support and access to the available skill development in the sea-related sector

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

52. I have access to financial support to start a business in the sea-related sector

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

53. The government procedures and policies are encouraging me to establish my own sea-related business

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

54. I would be more interested in having a sea-related business, if I have family members working in the sea-related sector

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

55. Having family members working in the sea-related sector for generations would make it easier for me to start or own a business in this sector

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

56. My family members are able to support me with their experience in the sea-related sector

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

57. It would be more encouraging to have a sea-related business if I have a friend working in this sector

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

58. My friends are able to support me with their experience in the sea-related sector

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

59. I am motivated to start a business in the sea-related sector because I have a lot of support

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

60. The weather conditions in Bahrain influence my work or interest in having a sea-related business

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

61. The weather in Bahrain affects sea-related businesses negatively

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

Google Forms

Appendix B: Survey questionnaire-Arabic version

نِيّة الشباب البحريني حول ريادة الأعمال في الاقتصاد الأزرق

لقد تمت دعوتك للمشاركة في هذا الاستبيان عن "نِيّة الشباب حول ريادة الأعمال في الاقتصاد الأزرق في البحرين" كجزء من دراسة الدكتوراه التي يجريها الباحث علي سلمان صالح في جامعة البحرين (UOB).

الغرض من الدراسة: تقييم نِيّة الشباب لريادة الأعمال في قطاعات الاقتصاد الأزرق في البحرين.

عينة المشاركين: الطلاب المسجلون في جامعة البحرين، ممن هم في السنة الدراسية الثالثة أو الرابعة (السنتين الأخيرتين).

تستغرق الإجابة على هذا الاستبيان 15-20 دقيقة، ويحتوي على 57 سؤال يتعلّق بفهمك ومعرفتك بالشباب وريادة الأعمال والاقتصاد الأزرق. سيتم استخدام ردود الاستبيان لأغراض هذه الأطروحة الدراسية فقط، وكل البيانات سيتم التعامل معها ضمن هذا الغرض و بالتالي لن تكون متاحة لعموم الناس في صيغتها الحالية.

- جميع الردود ستكون مجهولة الاسم ولا يمكن إنسابها إلى المشارك في الاستبيان.
- سيتم الاحتفاظ بنتائج هذا الاستبيان بشكل خاص وسري للغاية، وسيتم تخزينها بشكل صحيح وفقاً لسياسة حماية البيانات في جامعة البحرين.
- لديك الحق في الانسحاب من المشاركة في هذه الدراسة في أي وقت و دون ذكر أي سبب.

إن ريادة الأعمال هي الرغبة و القدرة على استخدام رأس المال و المواهب و الموارد الأخرى لإنشاء و تطوير مؤسسة تجارية قابلة للاستمرار تجارياً.

أما الاقتصاد الأزرق - كمفهوم معتمد في هذه الدراسة - فهو مصطلح يستخدم لوصف الاستخدام المستدام للبحار و الموارد البحرية للنمو الاقتصادي و الأنشطة المتعلقة بالبحار مثل الطاقة المتجددة والسياحة ومصايد الأسماك و إدارة النفايات و النقل البحري لتحسين سبل العيش و خلق فرص العمل مع الحفاظ على نظام بيئي بحري صحي.

لذلك، نرجو الإجابة على هذا الاستبيان بصدق لتوفير بيانات موثوقة و للمساعدة في صياغة خطة مستدامة تهدف إلى النمو و التنمية الاجتماعية و الاقتصادية باستخدام موارد البحرين و قوة الشباب.

إذا كان لديك أي أسئلة أو كنت ترغب في الحصول على مزيد من المعلومات حول هذه الدراسة، يرجى التواصل عبر البريد الإلكتروني التالي: ali.phd.survey@gmail.com

شاكرين لكم وقتكم ومشاركاتكم.

* Required

المعلومات الشخصية للمشارك

1. * تاريخ الميلاد

Example: January 7, 2019

2. *النوع الاجتماعي

Mark only one oval.

☐ ذكر

☐ أنثى

3. *التخصص الدراسي

4. *السنة الدراسية

Mark only one oval.

☐ السنة الثالثة

☐ السنة الرابعة

النَّيَّة

لمزاولة

ريادة

الأعمال

فيما يلي 23 عبارة قد توافق عليها أو لا توافق. باستخدام المقياس من 1 إلى 7 أدناه، يرجى الإشارة إلى فهمك لكل عنصر عن طريق تحديد الرقم المناسب على السطر التالي للعبارة.

7. أوافق بشدة.
6. أوافق.
5. (أوافق جزئياً) قليلاً.
4. لا أوافق و لا أختلف.
3. (لا أوافق جزئياً) قليلاً.
2. لا أوافق.
1. لا أوافق بشدة.

5. * فكرتُ بجدية في بدء مشروع تجاري -1

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

<https://docs.google.com/forms/d/1p9PalZo3dYPoRTvTB-NG28OGBKPx1n-KAZsZTbnfaGI/edit>

2/17

26/06/2022, 19:19

نية الشباب البحريني حول ريادة الأعمال في الاقتصاد الأزرق

6. * هدفي المهني أن أصبح رائد أعمال -2

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

7. * أنا مصمم على إنشاء مشروع تجاري في المستقبل -3

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

8. * أنا مستعد لبذل مجهود إضافي كي أصبح رائد أعمال -4

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

9. * سوف أبذل كل جهدي لبداء و إدارة مشروع التجاري الخاص -5

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

10. * بدء عمل تجاري و تشغيله على المدى الطويل أمر سهل بالنسبة لي -6

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

11. * عندما أفكر في بدء عملي الخاص، أتخيل أن يكون في القطاع المتعلق بالبحر -7

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

12. * هناك توقع لجني أرباح كبيرة من بدء عمل تجاري في القطاع المتعلق بالبحر -8

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

13. * أعتقد أن هناك إمكانات نمو واضحة في القطاع المتعلق بالبحر -9

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

14. * هناك إمكانية لدى بعض أفراد عائلتي للانخراط (المشاركة) في القطاع المتعلق بالبحر -10

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

15. * هناك إمكانية لدى بعض أصدقائي للانخراط (المشاركة) في القطاع المتعلق بالبحر -11

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

16. * هناك قيمة اجتماعية عالية للعاملين في القطاع المتعلق بالبحر -12

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

17. * لدي دافع قوي و اهتمام بريادة الأعمال المتعلقة بالبحر -13

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

18. * أنا مستعد الآن لبدء عمل تجاري في القطاع المتعلق بالبحر -14

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

19. * لدي المعرفة لبدء عمل تجاري في القطاع المتعلق بالبحر -15

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

20. * لدي المهارات العملية لبدء عمل تجاري في القطاع المتعلق بالبحر -16

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

21. * إذا بدأت مشروع تجاري في القطاع المتعلق بالبحر، فسيكون ناجحاً -17

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

22. * أنا ممتاز في التعرف على الفرص -18

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

23. * أنا مبدع في تطوير منتجات و خدمات جديدة -19

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

24. * أنا ممتاز في حل المشكلات -20

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

25. * لدي مهارات قوية في القيادة و التواصل -21

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

26. * لدي خبرة في التشبيك (التواصل) المهني -22

Mark only one oval.

1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
لا أوافق بشدة						أوافق بشدة

27. * أنا ناجح في تنفيذ أفكارى -23

Mark only one oval.

1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
لا أوافق بشدة						أوافق بشدة

فيما يلي 17 سؤال حول ريادة الأعمال و الاقتصاد الأزرق. باستخدام المقياس من 1 إلى 7 أدناه، يرجى الإشارة إلى فهمك لكل عنصر عن طريق تحديد الرقم المناسب على السطر التالي للسؤال.

الاقتصاد
القائم على
البحر و
الخبرة

مستوى الخبراء - 7
أفهم جيد جداً - 6
أفهم القليل - 5
سمعت بذلك من قبل - 4
لدي معرفة طفيفة - 3
لدي وعي بالموضوع - 2
غير مدرك للموضوع بتاتاً - 1

28. * أنا أفهم ما يعنيه الاقتصاد الأزرق أو أنشطة القطاع المتعلق بالبحر -24

Mark only one oval.

1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
غير مدرك للموضوع بتاتاً						مستوى الخبراء

29. * أنا أفهم ما هي الوظائف المتعلقة بالاقتصاد الأزرق أو أنشطة القطاع البحري -25

Mark only one oval.

	1	2	3	4	5	6	7	
مستوى الخبراء	☐	☐	☐	☐	☐	☐	☐	غير مدرك للموضوع بتاتاً

30. * أنا أفهم أساسيات بدء التشغيل في القطاع المتعلق بالبحر -26

Mark only one oval.

	1	2	3	4	5	6	7	
مستوى الخبراء	☐	☐	☐	☐	☐	☐	☐	غير مدرك للموضوع بتاتاً

31. * أنا أفهم كيفية القيام بتخطيط الأعمال للقطاع المتعلق بالبحر -27

Mark only one oval.

	1	2	3	4	5	6	7	
مستوى الخبراء	☐	☐	☐	☐	☐	☐	☐	غير مدرك للموضوع بتاتاً

32. * أنا أفهم الإدارة المالية للقطاع المتعلق بالبحر -28

Mark only one oval.

	1	2	3	4	5	6	7	
مستوى الخبراء	☐	☐	☐	☐	☐	☐	☐	غير مدرك للموضوع بتاتاً

33. * (أنا أفهم عملية تسجيل الأعمال من خلال برنامج (سجلات/سجلي -29

Mark only one oval.

	1	2	3	4	5	6	7	
مستوى الخبراء	☐	☐	☐	☐	☐	☐	☐	غير مدرك للموضوع بتاتاً

34. * أنا أفهم قانون الأعمال المحلي و كيفية ارتباطه بالقطاع المتعلق بالبحر -30

Mark only one oval.

	1	2	3	4	5	6	7	
مستوى الخبراء	☐	☐	☐	☐	☐	☐	☐	غير مدرك للموضوع بتاتاً

35. * حدد مستوى معرفتك بتكوين الأفكار -31

Mark only one oval.

	1	2	3	4	5	6	7	
مستوى الخبراء	☐	☐	☐	☐	☐	☐	☐	غير مدرك للموضوع بتاتاً

36. * حدد مستوى معرفتك بتطوير الأفكار -32

Mark only one oval.

	1	2	3	4	5	6	7	
مستوى الخبراء	☐	☐	☐	☐	☐	☐	☐	غير مدرك للموضوع بتاتاً

37. * حدد مستوى معرفتك بكتابة خطة عمل -33

Mark only one oval.

	1	2	3	4	5	6	7	
مستوى الخبراء	☐	☐	☐	☐	☐	☐	☐	غير مدرك للموضوع بتاتاً

38. * حدد مستوى معرفتك بتوظيف الفريق و إدارته -34

Mark only one oval.

	1	2	3	4	5	6	7	
مستوى الخبراء	☐	☐	☐	☐	☐	☐	☐	غير مدرك للموضوع بتاتاً

39. * حدد مستوى معرفتك بالتعرف على المشكلات و تطوير الحلول -35

Mark only one oval.

	1	2	3	4	5	6	7	
مستوى الخبراء	☐	☐	☐	☐	☐	☐	☐	غير مدرك للموضوع بتاتاً

40. * حدد مستوى معرفتك بالتسويق و المبيعات -36

Mark only one oval.

	1	2	3	4	5	6	7	
مستوى الخبراء	☐	☐	☐	☐	☐	☐	☐	غير مدرك للموضوع بتاتاً

41. * حدد مستوى معرفتك بالتواصل و التشبيك و إنشاء الشراكات -37

Mark only one oval.

	1	2	3	4	5	6	7
مستوى الخبراء	☐	☐	☐	☐	☐	☐	☐
غير مدرك للموضوع بتاتاً	☐	☐	☐	☐	☐	☐	☐

42. * ما هي تجربتك مع ريادة الأعمال؟ -38

Mark only one oval.

☐ لا توجد لدي خبرة

☐ كنت أعمل مع رائد أعمال

☐ أعمل حالياً مع رائد أعمال

☐ كان لدي عملي الخاص

☐ لدي عملي الخاص حالياً

☐ Other: _____

43. * هل تعمل في قطاع متعلق بالبحر؟ -39

Mark only one oval.

☐ لا

☐ كنت أعمل لدى شخص في القطاع المتعلق بالبحر

☐ كان لدي عملي الخاص في القطاع المتعلق بالبحر

☐ أعمل حالياً مع شخص في القطاع المتعلق بالبحر

☐ لدي حالياً عملي الخاص في القطاع المتعلق بالبحر

☐ Other: _____

44. * هل لديك أفراد من العائلة يعملون في القطاع المتعلق بالبحر؟ -40

Mark only one oval.

- ☐ لا
- ☐ نعم، فرد واحد من العائلة
- ☐ نعم، فردين من العائلة
- ☐ نعم، أكثر من فردين من العائلة
- ☐ Other: _____

الدعم
المتصور
و
الحواجز

فيما يلي 17 عبارة قد توافق عليها أو لا توافق عليها. باستخدام المقياس من 1 إلى 7 أدناه، يرجى الإشارة إلى فهمك لكل عنصر عن طريق تحديد الرقم المناسب على السطر التالي للعبارة.

7. أوافق بشدة
6. أوافق
5. (أوافق جزئياً قليلاً)
4. لا أوافق و لا أختلف
3. (لا أوافق جزئياً قليلاً)
2. لا أوافق
1. لا أوافق بشدة

45. * الدروس الجامعية زادت من اهتمامي بامتلاك عملي الخاص المتعلق بالبحر -41

Mark only one oval.

	1	2	3	4	5	6	7	
لا أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	أوافق بشدة

46. * احتمال وجود قيمة اجتماعية أعلى زاد من اهتمامي بريادة الأعمال المتعلقة بالبحر -42

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

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13/17

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نية الشباب البحريني حول ريادة الأعمال في الاقتصاد الأزرق

47. * إمكانية تحسين الوضع المالي الشخصي زادت من اهتمامي بريادة الأعمال المتعلقة بالبحر -43

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

48. * هناك الكثير من الدعم و المسارات الواضحة لبدء عمل تجاري في القطاع المتعلق بالبحر -44

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

49. * هناك مجتمع أعمال مرتبط بالبحر يسهل علي الانضمام إليه والتعلم منه -45

Mark only one oval.

1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

50. * لدي إمكانية الوصول إلى الخبراء أو برامج التوجيه التي يمكن أن تساعدني في بدء عمل تجاري في القطاع -46
المتعلق بالبحر

Mark only one oval.

1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

51. * لدي الدعم و إمكانية الوصول إلى تنمية المهارات المتاحة في القطاع المتعلق بالبحر -47

Mark only one oval.

1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

52. * لدي إمكانية الوصول إلى الدعم المالي لبدء عمل تجاري في القطاع المتعلق بالبحر -48

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

53. * تشجعتني الإجراءات و السياسات الحكومية على إنشاء مشروع خاصي المتعلق بالبحر -49

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

54. * سأكون أكثر اهتماماً بامتلاك شركة ذات صلة بالأعمال البحرية، إذا كان لدي أفراد من عائلتي يعملون في -50 القطاع نفسه

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

55. * إن وجود أفراد من عائلتي يعملون في القطاع المتعلق بالبحر لأجيال من شأنه أن يسهل عليّ بدء أو امتلاك 51- مشروع تجاري في هذا القطاع

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

56. * أفراد عائلتي قادرون على دعمي بخبرتهم في القطاع المتعلق بالبحر - 52

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

57. * سيكون من المشجع أكثر أن يكون لديّ عمل تجاري متعلق بالبحر إذا كان عندي صديق يعمل في هذا - 53 القطاع

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

58. * أصدقائي قادرون على دعمي بخبرتهم في القطاع المتعلق بالبحر -54

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

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نبة الشباب البحريني حول ريادة الأعمال في الاقتصاد الأزرق

59. * أنا متحمس لبدء عمل تجاري في القطاع المتعلق بالبحر لأن لدي الكثير من الدعم -55

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

60. * يؤثر الطقس في البحرين على عملي أو اهتمامي بامتلاك مشروع تجاري متعلق بالبحر -56

Mark only one oval.

	1	2	3	4	5	6	7	
أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	لا أوافق بشدة

61. * الطقس في البحرين يؤثر سلباً على الأعمال التجارية المتعلقة بالبحر -57

Mark only one oval.

	1	2	3	4	5	6	7	
لا أوافق بشدة	☐	☐	☐	☐	☐	☐	☐	أوافق بشدة

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المُستخلص

تُعد توجّهات الشباب نحو ريادة الأعمال مساهمة كبيرة في كلّ من الابتكار الاجتماعي والاقتصادي اللّازمين؛ لتعزيز التنمية المستدامة على المستويات المحلية، والوطنية، والعالمية. إضافة إلى ذلك؛ فإن الاقتصاد الأزرق يبرز كعنصر حاسم للتحوّل الهيكلي؛ حيث يرسم مسارًا لرواد الأعمال الشباب؛ للانتقال من التعليم إلى العمل الحر، بشكل مستدام. تهدف هذه الدراسة إلى التحقّق من العوامل المؤثرة على ميول وتوجّهات الشباب الريادية للاشتغال في الاقتصاد الأزرق، وتطرح رؤية أكثر شمولية فيما يتعلق بالنمو الاقتصادي، وخاصة في مملكة البحرين، التي تسعى إلى تنويع اقتصادها. وتتبنّى هذه الدراسة منهج البحث الكمي باستخدام نظرية السلوك المخطط (TPB)، كما تعتمد على نمذجة المعادلة الهيكلية (SEM)؛ لتحليل البيانات، والتي تتوخى دراسة العوامل التي تؤثر على رغبات الشباب نحو المشاركة في جهود ريادة الأعمال، لدى قطاع الاقتصاد الأزرق. وقد تم استطلاع عينة مكونة من مائتين وثلاثين طالبًا جامعيًا من مختلف التخصصات في جامعة البحرين، باستخدام تقنيات جمع العينات العشوائية، بهدف الوصول إلى فهم أفضل للعوامل المذكورة. وتشير النتائج إلى أن بيئة الأعمال، وأنظمة الدعم، والتأثيرات المجتمعية من الأقران والأقارب تمثل أهم عوامل وأسباب توجّه الشباب البحريني نحو ريادة الأعمال بشكل كبير. وعلى النقيض من ذلك؛ فقد توصلت الدراسة إلى أن عوامل - كالظروف الجوية، ومستويات المعرفة، والسيطرة الشخصية على السلوك - تأتي بدرجة أقل أهمية في التنبؤ بنوايا الشباب نحو ريادة الأعمال في الاقتصاد الأزرق بمملكة البحرين. ختامًا؛ تسعى هذه الدراسة إلى مساعدة مختلف أصحاب المصلحة، وواضعي السياسات؛ على صياغة سياسات مناسبة؛ لتعزيز توجّهات ريادة الأعمال لدى الشباب في قطاع الاقتصاد الأزرق، ولاسيما أن هذا القطاع يغطي شريحة كبيرة، ومتنامية في المشهد الاقتصادي البحريني.

الكلمات المفتاحية : الاقتصاد الأزرق؛ ريادة الأعمال؛ شباب؛ نية ريادة الأعمال؛ نظرية السلوك المخطط؛

البحرين؛ البحر

جامعة البحرين

برنامج البيئة والتنمية المستدامة

كلية العلوم



تقييم المنظور الشبابي لريادة الأعمال في الاقتصاد الأزرق بمملكة البحرين

تم تسليم هذه الرسالة كجزء من متطلبات شهادة الدكتوراه في الفلسفة
في البيئة والتنمية المستدامة

للباحث: علي سلمان صالح
19879455

بإشراف الأستاذ الدكتور قيصر منير (أستاذ)
جامعة البحرين، مملكة البحرين

يونيو 2024م