THE INFLUENCE OF DIGITAL MARKETING LITERACY AND SELF-EFFICACY ON THE INTENTION TO BE AN E-COMMERCE ENTREPRENEUR

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MASTER OF BUSINESS ADMINISTRATION IN DIGITAL ECONOMICS AND MANAGEMENT INNOVATION

(INTERNATIONAL PROGRAM)

MAEJO UNIVERSITY

2024

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A INDEPENDENT STUDY SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION
IN DIGITAL ECONOMICS AND MANAGEMENT INNOVATION (INTERNATIONAL PROGRAM)
ACADEMIC ADMINISTRATION AND DEVELOPMENT MAEJO UNIVERSITY
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ชื่อเรื่อง อิทธิพลของความรู้ด้านการตลาดดิจิทัล และการรับรู้ความสามารถตนเองต่อความตั้งใจที่จะเป็นผู้ประกอบการอีคอมเมิร์ซ

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บทคัดย่อ

การวิจัยครั้งนี้มีวัตถุประสงค์เพื่อตรวจสอบอิทธิพลของความรู้ด้านการตลาดดิจิทัล การรับรู้ความสามารถตนเอง และการศึกษาความเป็นผู้ประกอบการต่อความตั้งใจที่จะเป็นผู้ประกอบการอีคอมเมิร์ซในหมู่นักศึกษาระดับปริญญาตรีในเมืองซีอาน มณฑลส่านซี ประเทศจีน กลุ่มตัวอย่างที่ใช้ในการวิจัยคือ นักศึกษาระดับปริญญาตรีจากมหาวิทยาลัยและวิทยาลัยต่างๆ ในมณฑลส่านซี ประเทศจีน จำนวน 406 คน โดยใช้แบบสอบถามออนไลน์เป็นเครื่องมือในการเก็บรวบรวมข้อมูล สถิติที่ใช้ในการวิเคราะห์ข้อมูล ได้แก่ ค่าความถี่ ร้อยละ ค่าเฉลี่ย ส่วนเบี่ยงเบนมาตรฐาน และการวิเคราะห์การถดถอยพหุคูณ ผลการศึกษาพบว่า 1) ความรู้ด้านการตลาดดิจิทัลมีอิทธิพลต่อความตั้งใจที่จะเป็นผู้ประกอบการอีคอมเมิร์ซของนักศึกษาระดับปริญญาตรีในมณฑลส่านซี ประเทศจีน โดยเฉพาะตัวแปรระดับความรู้ด้านการตลาดดิจิทัล (p-value = 0.049) แนวโน้มการมีส่วนร่วมด้านดิจิทัลในข้อมูลผู้ประกอบการ (p-value = 0.029) และความรู้องค์ประกอบของการตลาดดิจิทัล (p-value = 0.000) สามารถร่วมกันทำนายความตั้งใจที่จะเป็นผู้ประกอบการอีคอมเมิร์ซได้ร้อยละ 43.3 2) การรับรู้ความสามารถตนเองมีอิทธิพลต่อความตั้งใจที่จะเป็นผู้ประกอบการอีคอมเมิร์ซของนักศึกษาระดับปริญญาตรีในมณฑลส่านซีประเทศจีน โดยเฉพาะอย่างยิ่ง ตัวแปรของการรับรู้ความสามารถตนเองของผู้ประกอบการ (p-value = 0.000) ความปรารถนาที่รับรู้ (p-value = 0.001) และความเป็นไปได้ในการรับรู้ (p-value = 0.000) สามารถร่วมกันทำนายความตั้งใจที่จะเป็นผู้ประกอบการอีคอมเมิร์ซได้ร้อยละ 58.9 และ 3) การศึกษาความเป็นผู้ประกอบการมีอิทธิพลต่อความตั้งใจที่จะเป็นผู้ประกอบการอีคอมเมิร์ซของนักศึกษาระดับปริญญาตรีในมณฑลส่านซี ประเทศจีน โดยเฉพาะตัวแปรหลักสูตร (p-value = 0.000) คุณภาพการศึกษา (p-value = 0.000) สิ่งอำนวยความสะดวก (p-value = 0.000) และการยอมรับโอกาสในการเป็นผู้ประกอบการ (p-value = 0.000) สามารถร่วมกันทำนายความตั้งใจที่จะเป็นผู้ประกอบการอีคอมเมิร์ซได้ร้อยละ 70.9 ผลการวิจัยสามารถเป็นแนวทางให้สถาบันการศึกษากำหนดนโยบายพัฒนาหลักสูตรการศึกษา

ที่มุ่งเน้นการส่งเสริมทักษะความเป็นผู้ประกอบการในยุคดิจิทัลสำหรับนักศึกษาระดับปริญญาตรี

คำสำคัญ : ความรู้ด้านการตลาดดิจิทัล, การรับรู้ความสามารถตนเอง, ความตั้งใจที่จะเป็นผู้ประกอบการอีคอมเมิร์ซ

Title THE INFLUENCE OF DIGITAL MARKETING LITERACY AND SELF-EFFICACY ON THE INTENTION TO BE AN E-COMMERCE ENTREPRENEUR

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Degree Master of Business Administration in Digital Economics and Management Innovation (International Program)

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ABSTRACT

The purpose of this research is to examine the influence of digital marketing literacy, self-efficacy, and entrepreneurship education on the intention to become an e-commerce entrepreneur among undergraduate students in Xi'an City, Shaanxi Province, China. The sample used in this study consisted of 406 undergraduate students from various universities and colleges in Sichuan, China. Online questionnaires were used as the data collection instrument. Statistical analyses used included frequency, percentage, mean, standard deviation, and multiple regression analysis. The study found that: 1) Digital marketing literacy influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China, particularly the variables of knowledge of digital marketing literacy level (p-value = 0.049), digital participation tendencies in entrepreneurial information (p-value = 0.029), and knowledge of the elements of digital marketing (p-value = 0.000), which collectively predict entrepreneurial intention at 43.3%. 2) Self-efficacy influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China, particularly the variables of entrepreneurial self-efficacy (p-value = 0.000), perceived desirability (p-value = 0.001), and perceived feasibility (p-value = 0.000), which collectively predict entrepreneurial intention at 58.9%. And 3) Entrepreneurship education

influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China, particularly the variables of curriculum (p-value = 0.000), education quality (p-value = 0.000), facility (p-value = 0.000), and entrepreneurship opportunity recognition (p-value = 0.000), which collectively predict entrepreneurial intention at 70.9%. The research findings can serve as a guideline for educational institutions to formulate curriculum development policies that focus on promoting entrepreneurial skills in the digital era for undergraduate students.

Keywords : Digital marketing literacy, Self-efficacy, Intention to become an e-commerce entrepreneur

ACKNOWLEDGEMENTS

At the time of the completion of this graduation design thesis, I would like to express my heartfelt thanks to all the people who have given me help and support. First of all, I would like to thank the parents who raised me, they gave me selfless love, I know their great sacrifice and efforts for my study and life, until I have never reported, here I only express my deep yearning and gratitude for them.

Thanks to my mentors Sutthikarn KHONG-KHAI *, Siriporn KIRATIKARNKUL, Prayong KUSIRISIN. I gave me a lot of guidance in study and work, let me learn a lot of knowledge, master the theory, and acquire a lot of academic knowledge. Thanks again to Sutthikarn KHONG-KHAI for her strict requirements and sincerity that will benefit me all my life. In addition, I also give care for my life, so that I can successfully complete the graduation project outside the school Task, here I wish the mentors good health and the whole family happiness! Thank you for providing us with a good internship environment and living environment in Meizhou University, which let us feel warm in this strange environment. I would like to thank the teachers in the school and the students who are also studying outside for their care and help. They are my partners in study, work and life and also my comrades in arms in the face of difficulties and challenges. In addition, I would like to thank all the participants who participated in the survey and provided the data. Without their valuable time and sincere feedback, my research results will be impossible.

I would like to thank the teachers of Meizhou University for their help in their study and life during their study. There are many teachers and friends that I could not name and gave me guidance and help. I also express my heartfelt thanks. Their names have always been in mind! Finally, I would like to thank the experts and professors who took time out of their busy schedule to review the paper.

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CHAPTER I

INTRODUCTION

Research Background

The global market is currently undergoing transformative changes driven by the digital transition, positioning e-commerce as a pivotal arena for modern businesses. The increasing popularity of online shopping underscores the significance of e-commerce as a strategic long-term investment, especially for businesses venturing into new opportunities with minimal overhead costs. Companies with robust social media presences strategically position themselves to capitalize on this trend, reducing the reliance on physical retail spaces (Baluch, 2023). The shift towards online commerce, fueled by the evolution of digital technology, is not a fleeting trend; instead, e-commerce retail demonstrates sustained and steady growth, as visually illustrated in Figure 1.

Figure 1 The Growth in Worldwide Retail E-commerce Sales, 2016-2021

Source: Forbes Advisor (2023)

The anticipated market valuation of social media commerce reaching $2.9 trillion by 2026 signifies a substantial growth trajectory in the e-commerce sector. This surge not only represents a noteworthy revenue source but also holds significant implications for businesses with a limited presence on major social media platforms. The projected growth underscores the enduring popularity of this trend, suggesting considerable potential for further expansion, as visually depicted in Figure 2.

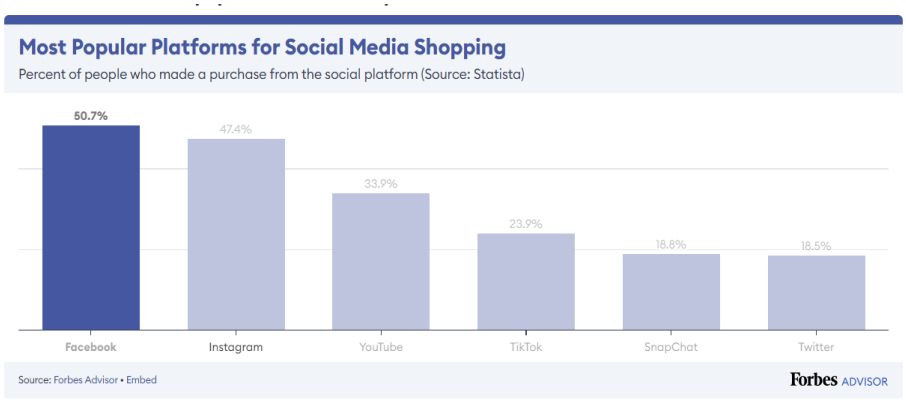


Figure 2 Most Popular Platforms for Social Media Shopping

Source: Forbes Advisor (2023)

As the digital economy flourishes, digital marketing literacy becomes indispensable for businesses, empowering them to establish unprecedented connections with customers. Digital literacy involves effectively utilizing information and communication technologies, enabling users to discover, evaluate, create, and communicate information in the online realm (Kobe Digital, 2022). Digital marketing utilizes diverse online channels, such as social media, content marketing, pay-per-click (PPC) advertising, and Search Engine Optimization (SEO), to promote products or services. These tools not only connect businesses with potential customers but also amplify brand visibility, allowing businesses to stand out in saturated markets (Future Learn, 2023). Consequently, entrepreneurs must possess digital capabilities and adeptly apply marketing techniques to digital platforms. Amidst this transformative landscape, self-efficacy emerges as a fundamental driver, empowering individuals to leverage digital tools for entrepreneurial success. Self-efficacy proves particularly vital for entrepreneurs in the e-commerce sector, where the pace of change and the requisite level of innovation can be simultaneously exhilarating and daunting. A robust sense of self-efficacy can alleviate anxiety and enhance one's ability to manage stress, leading to improved decision-making and problem-solving (Peterson, 2021). For e-commerce entrepreneurs navigating digital challenges and market uncertainties, a strong self-efficacy belief system is directly correlated with the quality of their work and the success of their online business ventures.

China, renowned for its digital innovation and entrepreneurial ventures, offers a unique ecosystem to explore these phenomena. The Chinese e-commerce sector, characterized by dynamic growth and technological integration, serves as an

exemplary case study to comprehend the interplay between digital competencies and entrepreneurial aspirations. As the largest global e-commerce market, China dominates with 50% of global transactions, boasting over 710 million digital buyers. Transactions amounted to $2.29 trillion in 2020, projected to escalate to $3.56 trillion by 2024. In 2021, China's revenue reached $1.5 trillion (International Trade Administration, 2023), as depicted in Figure 3.

Figure 3 Retail E-commerce Sales in China (USD trillions), 2019-2024

Source: eMarketer (2023)

The 'Antitrust Guidelines for the Platform Economy,' introduced by China's State Council in February 2021, as a response to the growth of the digital economy, aims to curb monopolistic practices and foster sustainable e-commerce advancement (Wu et al., 2021). Government support plays a pivotal role in expanding e-commerce and ensuring income distribution among small-scale retailers. In the broader digital economy, higher education significantly influences entrepreneurial intentions, turning universities into incubators for aspiring entrepreneurs. Equipping students with skills and confidence for e-commerce, digital marketing literacy, and self-efficacy play critical roles in shaping the entrepreneurial mindset. As part of a novel policy, the Chinese government is redirecting the economy toward consumer spending, known as the mass entrepreneurship and innovation strategy. This strategy aims to enhance conditions for entrepreneurship and innovation, engaging college students, scientists, and engineers in establishing novel enterprises (Global Entrepreneurship Monitor, n.d.). Operational within this national context is the University in Xi'an, Shaanxi Province, serving as a microcosm nurturing China’s future entrepreneur.

Investigating the influence of digital marketing literacy and self-efficacy on entrepreneurial intentions among its undergraduate students offers a focused lens to gauge the youth's preparedness in steering the future of e-commerce. This study contributes to academic discourse and provides practical insights for curriculum development, fostering an entrepreneurial ecosystem within Chinese higher education. In the rapidly evolving landscape of the digital economy, e-commerce has emerged as a dominant force, reshaping how consumers engage with markets and providing unprecedented opportunities for entrepreneurs (Munayi, 2023). However, this rapid transformation poses a unique challenge: the necessity for digital marketing literacy and self-efficacy among emerging entrepreneurs (MTC NEWS DESK, 2023). Despite recognizing the importance of these competencies, there is a notable lack of understanding regarding the extent to which digital marketing literacy and self-efficacy influence the entrepreneurial intentions of undergraduate students, the next generation of digital entrepreneurs (Andrean, 2022). While existing literature extensively explores the influence of education on entrepreneurial outcomes, the specific role of digital marketing skills and self-belief in the context of e-commerce has a shortage and limited quantity (Diez-Martin et al., 2019).

Research Questions

College students are increasingly drawn to e-commerce entrepreneurship due to a combination of factors. As digital natives, they are comfortable with technology and the internet, making the digital platform of e-commerce particularly appealing. The flexibility and autonomy that e-commerce offers allow students to manage their business alongside their studies. Additionally, e-commerce requires lower startup costs compared to traditional businesses, making it accessible for students with limited financial resources. Exposure to digital marketing and entrepreneurship courses may also inspire students to apply their knowledge in practical settings. The growth of the digital economy provides vast opportunities in a global marketplace, fostering a drive for innovation. Finally, for many, e-commerce serves not only as a business venture but also as a pathway to broader career aspirations in the fields of business and technology.

Building on this understanding, the research focuses on the specific influences that drive these students towards e-commerce entrepreneurship. The main research question posed is, "What is the influence of digital marketing literacy, self-efficacy, and entrepreneurship education on the intention to become an E-Commerce

Entrepreneur among undergraduate students in Xi'an City, Shaanxi Province, China?" This question aims to dissect the educational and psychological factors that might catalyze or inhibit the entrepreneurial ambitions of college students, directly linking their coursework and personal competencies with their entrepreneurial intentions in the expanding digital marketplace.

Research Objectives

This research is guided by a set of essential objectives:

To assess the levels of digital marketing literacy, self-efficacy, Entrepreneurship Education, and the intention to become an e-commerce entrepreneur among undergraduate students in Xi'an City, Shaanxi Province, China.

To examine the influence of digital marketing literacy, self-efficacy, and entrepreneurship education on the intention to become an e-commerce entrepreneur among undergraduate students in Xi'an City, Shaanxi Province, China.

Scope of the Study

Scope of Demography

According to the Education Department of Shaanxi Provincial Government in 2022, the total number of students enrolled in various types of higher education reached 2,037,878. Among them, the number of students in ordinary colleges and universities (undergraduate) was 764,831. In the same year, the total number of graduating students was reported to be 184,287.

For this research, the population comprises students expected to graduate in the academic year 2023 and aged between 19 and 23 years. Consequently, our focus is on the cohort of students who enrolled in 2020. As per the Education Department of Shaanxi Provincial Government's 2020 data, the total enrollment for that year was 152,134 students.

Scope of Area

As of the latest available data from the Education Department of Shaanxi Provincial Government in 2022, the region encompasses a total of 58 undergraduate ordinary colleges and universities. Among these, there are 34 public educational institutions and 24 private educational institutions.

Scope of Contents

The variables related to the research on "The Influence of Digital Marketing Literacy and Self-efficacy on the Intention to Be an E-commerce Entrepreneur among Undergraduate Students in Xi'an City, Shaanxi Province, China" are as follows:

Dependent Variable:

Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Xi'an City, Shaanxi Province, China

Independent Variables:

1. Digital Marketing Literacy: (Knowledge of digital marketing literacy level, Digital Participation Tendencies in Entrepreneurial Information, and Knowledge of the elements of digital marketing).
2. Entrepreneurial Self-Efficacy: (Innovation, Financial value, Teamwork, Product development, Start-up processes, Leadership).
3. Entrepreneurship Education: (Curriculum, Education Quality, Facility, Entrepreneurship opportunity recognition).

Scope of Time:

The research on "The influence of digital marketing literacy and self-efficacy on the intention to be an e-commerce entrepreneur among undergraduate students in Xi'an City, Shaanxi Province, China" is scheduled to unfold within a meticulously planned timeframe. The study will start in November 2023 and finish in May 2024, encompassing a strategic duration of five months. This timeframe aims to facilitate a comprehensive exploration of the specified research topic.

Research Significances

This study holds considerable significance across various dimensions, contributing to both academic understanding and practical applications in the field of e-commerce entrepreneurship among undergraduate students in Xi'an City, Shaanxi Province, China.

Academic Contribution:

1. Filling Research Gap: By investigating the interplay between Digital Marketing Literacy, Self-Efficacy, and the Intention to become an E-Commerce

Entrepreneur, this research addresses a noticeable gap in the existing literature, particularly within the context of undergraduate students.

2. Advancing Theory: The study contributes to the theoretical foundations of entrepreneurship by providing empirical insights into the factors shaping entrepreneurial intentions in the dynamic landscape of the digital economy.

Practical Implications:

1. Educational Relevance: Findings from this research can inform educational institutions and policymakers about the specific needs and areas of emphasis in fostering digital entrepreneurship skills among undergraduate students.

2. Business Strategy: Businesses and entrepreneurs can benefit from a deeper understanding of the influence of digital marketing literacy and self-efficacy on shaping entrepreneurial intentions, allowing for more targeted strategies in talent acquisition and development.

Policy and Economic Development:

1. Policy Guidance: Insights derived from this study can contribute to the formulation of policies that support the growth of the e-commerce sector, aligning with broader national objectives such as fostering innovation and entrepreneurship.

2. Economic Influence: As China continues to be a global leader in e-commerce, this research has the potential to positively influence economic development by guiding policies that support the entrepreneurial aspirations of the youth.

Long-term Societal Effects:

1. Youth Empowerment: Understanding the factors influencing the intention to become an E-Commerce Entrepreneur can empower the youth, fostering a culture of innovation and self-efficacy that aligns with the evolving demands of the digital era.

2. Regional Development: The research outcomes can contribute to the sustainable development of Xi'an City and Shaanxi Province by promoting an ecosystem that nurtures and supports emerging entrepreneurs in the digital realm.

In conclusion, this research carries implications that extend beyond the academic realm, offering valuable insights for educators, policymakers, businesses, and the broader society. The findings have the potential to shape strategies, policies,

and practices in support of a thriving e-commerce ecosystem in Xi'an City and contribute to the broader discourse on digital entrepreneurship.

Definition of Terms

1. Digital Marketing Literacy: Digital marketing literacy level signifies the proficiency in utilizing E-Commerce-specific digital marketing strategies, including social media management, website creation, advertising, copywriting, and consistent content updating.

2. Self-Efficacy: Self-Efficacy refers to an individual's belief in their own capability to execute behaviors necessary to initiate, manage, and sustain entrepreneurial activities within the context of e-commerce.

3. Entrepreneurship Education: Entrepreneurship Education involves providing knowledge and insights into the business world, fostering a desire for self-employment, and ensuring the availability of facilities and infrastructure supporting entrepreneurial spirit.

4. Intention to become E-Commerce Entrepreneur: Intention to become E-Commerce Entrepreneur represents an individual's strong commitment, concrete plans, and a view of entrepreneurship as a viable and appealing career option, showcasing their determination to initiate and manage an E-Commerce business within a specified timeframe.

5. Undergraduate Students: In the scope of this research, undergraduate students denote individuals enrolled in bachelor's degree programs at the University in Xi'an City, Shaanxi Province, China, forming a distinctive demographic group under examination.

CHAPTER II

REVIEW OF RELATED LITERATURE

The review of related literature serves as the foundation for this research, providing a comprehensive exploration of existing scholarship and empirical studies that underpin the key concepts and variables examined in the study. This chapter aims to synthesize and critically evaluate relevant literature, offering insights into the current state of knowledge, identifying gaps, and establishing the theoretical framework that informs the research design and methodology. Through this comprehensive review, the chapter not only aims to contribute to the academic discourse but also provides a theoretical foundation that informs the subsequent empirical investigation. The synthesis of existing literature serves as a guide for the formulation of hypotheses, research questions, and the development of a robust research methodology that aligns with the overarching objectives of this study.

The following sections unveil in-depth insights into different facets of the topic. This chapter provides a comprehensive review of the existing literature on the intersection of digital marketing literacy, self-efficacy, and the intention to be an e-commerce entrepreneur. The exploration particularly focuses on the burgeoning group of undergraduate students in Xi'an City, Shaanxi Province, China, who stand in the digital era and have the opportunity to enter the entrepreneurial world empowered by digital technologies. This review examines the influence of digital marketing literacy on students' entrepreneurial mindset and self-efficacy as a psychological catalyst in the entrepreneurial process. Additionally, it delves into concepts of digital marketing literacy and self-efficacy, which interact and potentially lead to a firm intention to engage in e-commerce entrepreneurship. Furthermore, this research explores the concepts of entrepreneurs, e-commerce, and intention. The review aims to establish a solid academic foundation for understanding the factors influencing the next generation of e-commerce entrepreneurs, setting the stage for empirical research in Xi'an's undergraduate community. The following sections unveil in-depth insights into different facets of the topic:

1. Exploring the Landscape: An E-Commerce in China
   1.1 Advantages, Disadvantages, and Major Types of E-Commerce
   1.2 Major Types of E-Commerce
   1.3 Determinants of E-Commerce Expansion
2. Theory of Planned Behavior
3. Concepts, Theories, and Researches Related to Digital Marketing Literacy

3.1 Definition of Digital Marketing Literacy

3.2 The Dimensions of Digital Marketing Literacy

4. Concepts, Theories, and Researches Related to Self-Efficacy

4.1 Definitions of Self-Efficacy

4.2 The Dimensions of Self-Efficacy

5 Concepts, Theories, and Researches Related to Entrepreneurship Education

5.1 Definitions of Entrepreneurship Education

5.2 The dimension of Entrepreneurship Education

6. Concepts, Theories, and Researches Related to Entrepreneurial E-Commerce Intentions

6.1 Entrepreneurial Intention

6.2 Entrepreneurial E-Commerce Intentions

7. Related Research

8. Research Framework

9. Research Hypotheses

Exploring the Landscape: An In-Depth Analysis of Big Data Platforms in China

Electronic commerce (e-commerce) entails the purchase or sale of goods and services over various computer networks, such as the Internet, an extranet (a private platform utilizing Internet technology or TCP/IP), and an electronic data interchange (EDI) network. The study of e-commerce can be categorized into three levels of analysis: global systemic, state, and individual firm or person. At the global systemic or international level, e-commerce's influence on state relations is explored. The state level examines how e-commerce influences government business and the relationship between the state and society (including firms and persons). It allows for a comparison of government initiatives to promote or discourage e-commerce and the resulting influence on a country’s economic performance. Finally, the individual level focuses on how e-commerce alters interactions between firms and individuals within a given society, whether economically or otherwise. The literature on e-commerce differs by discipline, with more attention from legal, business, and technical communities than from social science disciplines such as economics and political science (Knight & Mann, 2010). E-commerce (electronic commerce) involves the exchange of goods, services, and the transmission of funds and data over the

internet. It relies on technology and digital platforms, including websites, mobile apps, and social media, to facilitate buying and selling.

Advantages, Disadvantages, and Major Types of E-Commerce

As we embark on an exploration of the entrepreneurial landscape in Xi'an City, Shaanxi Province, China, our thesis seeks to unravel the multifaceted influences shaping the intention to become an e-commerce entrepreneur among undergraduate students. Before delving into the intricate details of digital marketing literacy, self-efficacy, and entrepreneurial aspirations, it is imperative to establish a robust foundation by understanding the fundamental advantages and disasvantage (Jolaoso & Main, 2023) that e-commerce bestows upon businesses.

Advantages of E-Commerce:

1. Expanded Global Market Reach: E-commerce platforms significantly extend a business's market reach beyond geographical limitations.
2. Reduction in Operating Expenses: Operational costs associated with e-commerce platforms are markedly lower than their physical counterparts.
3. Enhanced Convenience and Operational Flexibility: E-commerce platforms offer convenience and flexibility for both business owners and customers, allowing continuous revenue streams.
4. Streamlined Management and Marketing Efficiency: E-commerce allows for streamlined customer relations and marketing initiatives through data analytics and AI technologies.

This preliminary exploration of the advantages of e-commerce lays the groundwork for our in-depth analysis. As we proceed, the focus will shift towards the nexus between these advantages and the intention of undergraduate students in Xi'an City to embark on the entrepreneurial journey in the realm of e-commerce. Through the lens of regression analysis, we aim to unravel the complexities and nuances that underpin the dynamic landscape of e-commerce entrepreneurship in this vibrant Chinese city.

Before we navigate the complexities of disadvantages, it is crucial to recognize that, like any business model, e-commerce is not without its challenges. The drawbacks, particularly pertinent to our study, provide insights into potential barriers and concerns that undergraduate students may contemplate when considering an e-commerce entrepreneurial path.

Disadvantages of E-Commerce:

1. Reduced Direct Interaction Drawbacks: The absence of physical interaction can lead to customer dissatisfaction, especially for products where fit and usability are crucial.

2. Technological Reliability Issues: E-commerce's heavy reliance on technology exposes businesses to risks such as system failures, website crashes, and cyber-attacks.

3. Data Security Risks: Storing customer payment information exposes e-commerce sites to cyber threats, compromising customer data, and leading to financial and reputational losses.

This comprehensive exploration sets the stage for our detailed analysis, where we will employ regression analysis to decipher the intricate relationships between digital marketing literacy, self-efficacy, and the intention to embark on the entrepreneurial journey in the e-commerce domain among undergraduate students in Xi'an City.

Major Types of E-Commerce

E-commerce encompasses a spectrum of transactional relationships among diverse market entities, facilitating the digital exchange of goods and services. Within this digital marketplace, transactions are not limited to traditional business-to-customer interactions but extend to incorporate various other forms of exchange. Predominantly, there are four principal modalities of e-commerce that delineate the nature of transactions conducted over the internet:

1. Business-to-Consumer (B2C) Transactions: This prevalent model epitomizes the direct commercial exchange between businesses and the terminal consumers. Companies leverage this model to deliver their products or services straight to the individual consumers, thereby bypassing intermediary distribution channels.

2. Business-to-Business (B2B) Transactions: Under this paradigm, the transactional relationship is established between two business entities. The essence of B2B e-commerce lies in the provision of products or services, which may range from software solutions facilitating operational efficiencies (such as web hosting or accounting applications) to the exchange of raw materials or industrial machinery, all conducted through digital platforms.

3. Consumer-to-Consumer (C2C) Transactions: This modality fosters a digital environment wherein consumers engage directly with one another. Platforms operating under the C2C model facilitate an online marketplace where individuals

can list and vend their personal products or services to other consumers, thereby creating a digital community-driven marketplace.

4. Consumer-to-Business (C2B) Transactions: Inverting the traditional business-to-consumer model, C2B e-commerce allows individuals to offer their products or specialized services directly to businesses. This form of e-commerce is exemplified by scenarios where a professional (like a photographer) sells their creative outputs (such as photographs) to a business entity for its use in promotional activities or advertising campaigns.

China holds a commanding position in the global e-commerce market, contributing to over half of the total global online sales volume. The country's e-commerce sector boasts an annual generation of over $3 trillion, underscoring its supremacy in the digital commerce domain. Following China, the United States trails with annual digital commerce transactions exceeding $1 trillion. However, the e-commerce turnover in the U.S. market is approximately one-third of China's, highlighting a substantial disparity between the two leading economies. Beyond these two prominent markets, there is a more pronounced decline in e-commerce volumes. This analysis provides an overview of the top 10 countries, based on their e-commerce sales volumes, offering a comprehensive perspective on the dynamics and scale of e-commerce activities across these leading digital economies (Buck, 2024).

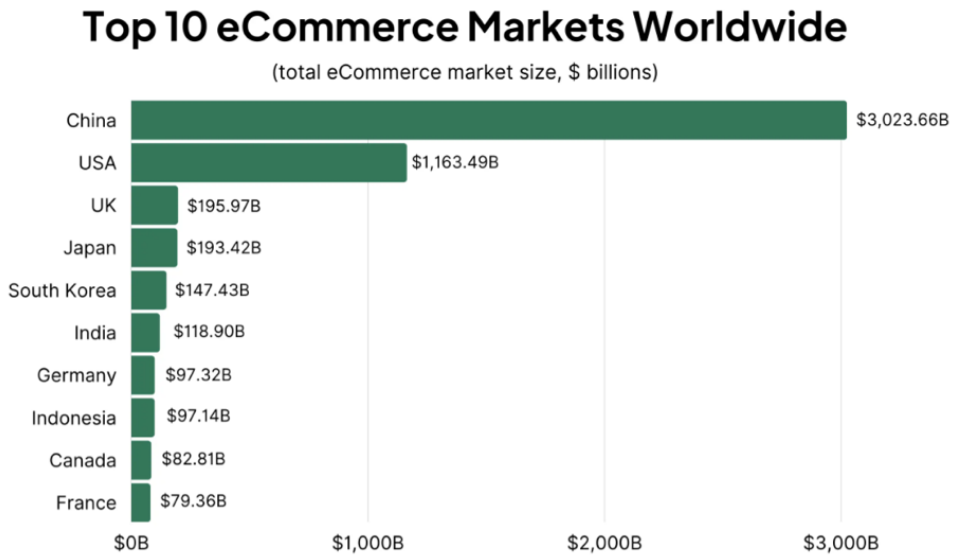


Figure 4 Illustrates the Top 10 eCommerce Markets Worldwide as of 2024

Source: Buck (2024)

China has established itself as a dominant force in the global e-commerce landscape, driven by strategic factors such as robust governmental support, the creation of special economic zones, a proactive approach to investment, advanced internet infrastructure, efficient logistical frameworks, and a vast digital user base. The trajectory of e-commerce in China began in the 1990s with the initiation of the government's 'Golden Projects,' designed to integrate the internet into the nation's commercial fabric. The country marked its inaugural online transaction in 1998, leading to the establishment of the China Electronics Chamber of Commerce in the early 2000s. China's approach to e-commerce development is structured into five-year strategic plans, initially focusing on popularizing the sector and subsequently emphasizing e-commerce applications, the digital transformation of traditional industries, and the comprehensive integration of e-commerce across all economic sectors. Significantly, China's internet speed, ranking third globally for mobile internet connectivity and fifth for fixed internet connections in 2022, stands out as a crucial factor contributing to the e-commerce boom. These well-planned and executed strategic initiatives have propelled China to a global leadership position in the domain of e-commerce (Vlasenko & Goloventchik, 2023).

In the digital era, China's e-commerce sector is asserting its presence on the global stage, poised for a projected growth spurt to an impressive CNY19.6 trillion, approximately US$3 trillion, by 2024. Demonstrating a robust compound annual growth rate of 12.4% from 2021, these figures emphasize China's dominant and evolving role in the digital economy. This growth is propelled by increased internet usage, widespread mobile adoption, and shifting consumer behavior, marking the country's transition towards a digital-first economy (Gentlemen Marketing Agency, 2024). Referencing Figure 3, which illustrates the Retail E-commerce Sales in China from 2021 to 2027 (Source: Gentlemen Marketing Agency, 2024), the data visually reinforces the significant growth anticipated in the Chinese e-commerce market. The Current State of E-Commerce in China: Currently leading with a market value of $1.13 trillion, China accounts for nearly half of the global e-commerce transactions.

In the rapidly evolving digital landscape, China has emerged as a powerhouse in the global e-commerce arena, poised to reach a remarkable CNY19.6 trillion (approximately US$3 trillion) by 2024, with a robust compound annual growth rate of 12.4% since 2021. This growth is fueled by escalating internet usage, widespread mobile adoption, and dynamic shifts in consumer behavior, reflecting China's trajectory toward becoming a digital-first economy. Figure 3, depicting Retail E-commerce Sales in China (2021-2027), visually underscores the substantial

anticipated growth in the Chinese e-commerce market. Presently leading with a staggering market value of $1.13 trillion, China commands nearly half of the global e-commerce transactions, with expectations of maintaining a growth rate of 12.42% from 2023 to 2027. This sets the stage for abundant opportunities, making it an attractive landscape for businesses aiming to tap into this thriving market (Gentlemen Marketing Agency, 2024).

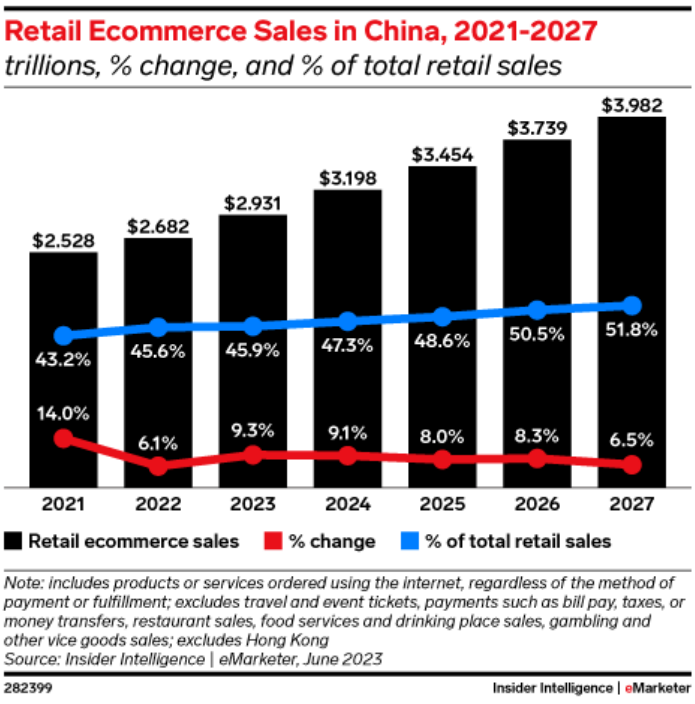


Figure 5 Retail Ecommerce Sales in China 2021-2027

Source: Gentlemen Marketing Agency (2024)

Determinants of E-Commerce Expansion

Transitioning from the foundational principles of e-commerce, we embark on an exploration of the multifaceted realm of China's e-commerce landscape by delving into the intricate determinants that steer its expansion. This section unravels the pivotal factors shaping the trajectory of e-commerce growth in China.

Demographic Composition and Digital Proliferation: The journey commences with a scrutiny of the interplay between a substantial populace and widespread internet penetration, forming a robust foundation for the surge in online commerce. The confluence of demographics and digital accessibility paves the way for the

widespread adoption of e-commerce platforms, fostering an exponential surge in digital consumer engagements.

Governmental Facilitation: Our exploration deepens as we spotlight the indispensable role of governmental interventions in propelling e-commerce growth. Strategic policies, designed to enhance digital literacy and provide robust support frameworks for Small and Medium-sized Enterprises (SMEs) in the digital realm, serve as catalysts. These initiatives not only democratize the digital marketplace but also establish an environment conducive to sustained growth and innovation within the e-commerce sector.

Evolution in Consumer Behavior: The narrative takes a transformative turn as we delve into contemporary shifts in consumer behavior, pivotal in propelling the e-commerce momentum. The emergence of social commerce within online platforms, coupled with a profound shift in consumer preferences towards digital shopping avenues, underscores the dynamic nature of the retail landscape. These trends signify a deeper integration of digital interfaces into consumer lifestyles, fueling the expansion and evolution of e-commerce.

In this thorough exploration, we intricately examine the various elements, including demographic dynamics, governmental influence, shifts in consumer behavior, and the strategic maneuvers of key market players. Collectively, these components delineate the unparalleled trajectory of China's e-commerce ascendancy. Concluding this journey, our focus shifts to the pivotal players steering the dynamic Chinese e-commerce market. From industry titans like Alibaba, renowned for their dominance with platforms such as Taobao and Tmall, to emerging forces like Douyin, experiencing aggressive growth, each player contributes a distinctive dimension to the evolving e-commerce landscape. The narrative unfolds with a detailed examination of JD, Pinduoduo, Tencent (WeChat), Suning, and Vipshop, elucidating their strategies and influence within this thriving ecosystem.

Figure 6 Key Players in the Chinese E-commerce Market

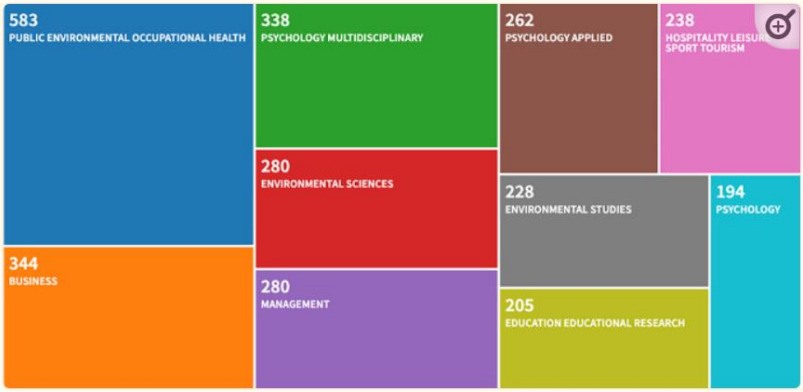
Source: GMA E-Commerce Agency (2024)

Theory of Planned Behavior

The Theory of Planned Behavior (TPB) extends the Theory of Reasoned Action (TRA) developed by Fishbein and Ajzen in 1975 (Ajzen & Fishbein, 1980). Both models share the foundational idea that individuals make logical, reasoned decisions to engage in specific behaviors based on available information. Behavior performance is determined by the individual's intention, influenced by the value placed on the behavior, ease of performance, and the views of significant others. The TPB incorporates attitudes, social support, self-efficacy, and intention, proving moderately successful in predicting and explaining self-management behaviors such as arthritis (Strating et al., 2006). While no validated questionnaires exist, Ajzen (1991) provides a comprehensive guide for developing TPB component measures, although measuring attitudes remains a challenge (Ryan & Carr, 2010).

The TPB originated as the Theory of Reasoned Action in 1980, aiming to predict an individual's intention to engage in behavior at a specific time and place. Behavioral intent, a key component, is influenced by attitudes, subjective norms, and perceived behavioral control (LaMorte, 2022). As of April 2020, the TPB has been extensively studied in over 4,200 papers, making it one of the most applied theories

in social and behavioral sciences. A thematic treemap analysis (Figure 4) indicates broad application in health sciences, environmental science, business and management, and educational research (Bosnjak et al., 2020).



Treemap of the behavioral domains in which the theory of planned behavior has been used according to the Web of Science bibliographic database (as of April 2020). 2952 out of 4230 manuscripts could be assigned to the ten most covered thematic areas.

Figure 7 Treemap of Behavioral Domains Utilizing the Theory of Planned Behavior, as Reflected in the Web of Science Bibliographic Database (as of April 2020)

Source: Bosnjak et al. (2020)

The Theory of Planned Behavior (TPB) posits that human behavior is influenced by three main considerations: behavioral beliefs, normative beliefs, and control beliefs. Behavioral beliefs revolve around perceptions of likely consequences, shaping attitudes either favorably or unfavorably toward the behavior. Normative beliefs involve expectations of others, resulting in perceived social pressure or subjective norms. Control beliefs focus on factors facilitating or impeding behavior, contributing to perceived behavioral control or self-efficacy. The interaction of attitude, subjective norm, and perceived behavioral control influences intention, with stronger intentions emerging from more favorable attitudes, subjective norms, and greater perceived control. Assuming sufficient actual control, individuals are expected to execute their intentions when presented with the opportunity. Intention is considered the immediate precursor to behavior. The veridicality of perceived behavioral control can act as a proxy for actual control, enhancing the predictive capacity of the TPB (Ajzen, 2019a). Refer to Figure 2 for a schematic representation of the theory (Figure 5).

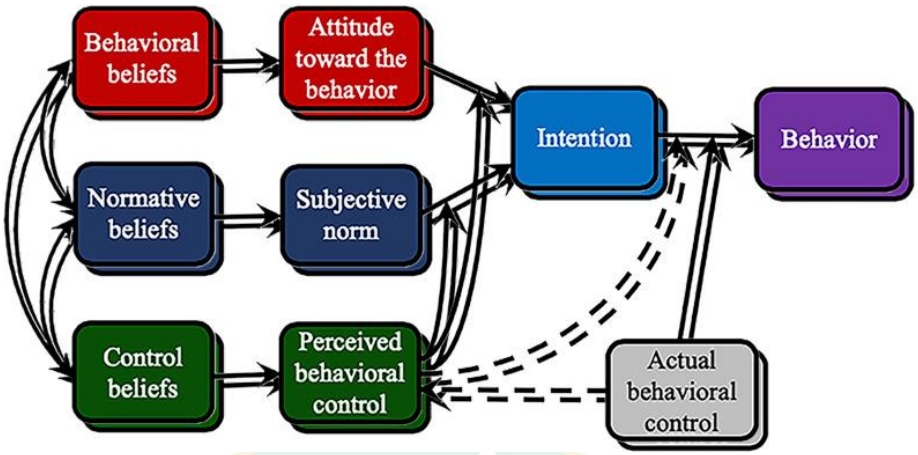


Figure 8 Graphical depiction of the theory of planned behavior

Source: Ajzen (2019b; Bosnjak et al. (2020)

The TPB asserts that the attainment of behavioral outcomes hinges on both motivation (intention) and ability (behavioral control). It delineates three types of beliefs-behavioral, normative, and control. The TPB comprises six constructs that collectively capture an individual's actual control over behavior, as outlined by LaMorte (2022):

1. Attitudes: This pertains to the extent to which an individual holds a favorable or unfavorable evaluation of the behavior of interest, involving considerations of the outcomes associated with performing the behavior.

2. Behavioral Intention: This encompasses motivational factors influencing a particular behavior, with stronger intentions correlating to a higher likelihood of performing the behavior.

3. Subjective Norms: These reflect beliefs about whether the majority of people approve or disapprove of the behavior. It relates to an individual's perceptions of whether peers and significant others think they should engage in the behavior.

4. Social Norms: This involves the customary codes of behavior within a group, community, or larger cultural context. Social norms are considered normative or standard within a particular group.

5. Perceived Power: This denotes the perceived presence of factors that could facilitate or impede the performance of a behavior. Perceived power contributes to an individual's perceived behavioral control over each of these factors.

6. Perceived Behavioral Control: This refers to an individual's perception of the ease or difficulty of performing the behavior of interest. Perceived behavioral control varies across situations and actions, leading to diverse perceptions depending on the context. This construct was added later, marking the shift from the Theory of Reasoned Action to the Theory of Planned Behavior.

The Theory of Planned Behavior (TPB) provides a robust theoretical framework for investigating the dynamics of undergraduate students' intentions to become e-commerce entrepreneurs in Xi'an City, Shaanxi Province, China, in the context of digital marketing literacy and self-efficacy. This theory underscores the significance of motivational factors, captured through attitudes and behavioral intentions, as well as the perceived control individuals have over their intended behavior. In the entrepreneurial landscape, understanding how students' positive attitudes towards digital marketing literacy, their confidence in self-efficacy, and their intentions to pursue e-commerce entrepreneurship align with the constructs of TPB offers a structured approach to unraveling the complex interplay of psychological factors influencing their entrepreneurial aspirations. The application of TPB provides a theoretical lens to explore and interpret the nuanced connections between motivational and control factors, contributing valuable insights to the broader discourse on entrepreneurship among undergraduate students in the specific context of Xi'an City.

Concepts, Theories, and Research Related to Digital Marketing Literacy

Definition of Digital Marketing Literacy

In the contemporary landscape, digital literacy has evolved into a fundamental competency, essential not only for navigating the intricate digital age but also for driving innovation and co-creation in various sectors. As Puro et al. (2022) highlight, digital literacy transcends mere proficiency with digital devices, embracing a wide spectrum of skills. These range from basic competencies required by all workers to advanced skills crucial for IT professionals. Such literacy plays a pivotal role within corporate and organizational realms, synergizing with information technology and specialized digital skills to optimize outcomes. The criticality of digital literacy in today's era, characterized by fuzzy logic and automation, is emphasized by Hamamah et al. (2023). They point out that the extensive use of digital media has led to a rapid

global dissemination of information, making digital literacy an indispensable skill for deciphering and navigating the complex digital landscape.

Further exploring the nuances of digital literacy, Nurhayati et al. (2020) introduce the concept of digital marketing literacy. They describe it as a mastery of digital technologies that are revolutionizing business landscapes, highlighting the importance of co-creation and innovation in a digitized market. This form of literacy encompasses essential competencies such as discerning credible information, effectively utilizing search engines, and understanding the role of digital media in civic engagement. Moreover, as technology becomes increasingly intertwined with education, digital marketing literacy also involves selecting appropriate digital tools for specific tasks and fostering an understanding of evolving digital platforms within educational contexts. This skill set goes beyond mere technological usage, encompassing an understanding of technology's influence, mechanisms, and potential for personal and communal development. Wicaksono Ardiansyah et al. (2023) further elucidate on digital marketing literacy, describing it as a dynamic skill set that empowers individuals to proficiently utilize technical abilities and sift through the vast information available online. This form of literacy prepares individuals for both current and future technological landscapes, irrespective of how technology evolves. It emphasizes the concept of the designed world, which includes human modifications of the natural and social worlds through information and communication technology. Digital marketing literacy, therefore, involves navigating and making sense of this designed world, particularly in the context of information management and distribution.

Berthelot-Guiet (2020) adds another dimension to digital marketing literacy, considering it as the comprehension of digital marketing concepts and practices. This includes an understanding of one's digital marketing literacy level, digital participation tendencies, and the elements of digital marketing. Grefen (2021) identifies digital literacy as a mediating variable that bridges the gap between digital marketing capability and SME business performance. Patria et al. (2023) further expand the definition of digital literacy to include digital dexterity, proficiency, and awareness, which collectively empower individuals to navigate and participate effectively in digital ecosystems.

In summary, digital literacy, particularly digital marketing literacy, is a multifaceted and dynamic skill set crucial for individuals and businesses to navigate, innovate, and thrive in the digital age. It encompasses a broad range of competencies, from basic technological proficiency to advanced skills in information

management, critical thinking, and understanding the socio-cultural implications of technology. The importance of digital literacy becomes ever more pronounced as the digital landscape continues to evolve, underpinning the success and adaptability of individuals and organizations in a rapidly changing world.

This study specifically defines digital marketing literacy as proficiency in utilizing e-commerce-specific digital marketing strategies. These strategies include social media management, website creation, advertising, copywriting, and consistent content updating

The Dimensions of Digital Marketing Literacy

As we embark on an exploration of the multifaceted dimensions of digital marketing literacy, our journey entails a comprehensive understanding of the intricate layers that define individuals' proficiency and engagement in the digital realm. The preceding section unveiled the dimensions of digital marketing literacy, emphasizing the significance of the knowledge level, participation tendencies in entrepreneurial information, and an awareness of the elements comprising digital marketing strategies. These dimensions encapsulate not only the essential skills and competencies required for effective internet and technology use but also mirror the dynamic nature of the contemporary digital landscape.

This inquiry revolves around three pivotal dimensions that form the nucleus of digital marketing literacy, dimensions we are poised to illuminate in the ensuing discussion. Each dimension contributes uniquely to a holistic framework, shedding light on the nuanced interplay of knowledge, participation, and strategic awareness within the digital domain. As we progress, we delve into the profound implications of each dimension, unraveling the intricate layers that shape the landscape of digital marketing literacy.

Knowledge of digital marketing literacy level

Digital literacy entails the development of strategies for critically and efficiently utilizing various methods, encompassing meaning-making as students interact with the Education Development Center (EDC) and multimodal forms of digital content through reading, analysis, understanding, and response. In its definition, digital literacy is often associated with the skills and competencies needed for the effective use of the Internet and digital technology (Cartelli, 2010; Ala-Mutka, 2011). Martin (2005) asserts that digital literacy converges information technology literacy, media literacy, and visual literacy, with these literacies acquiring new or increasingly crucial roles in the digital environment. Authors with similar perspectives

have shifted focus from specific skills to understanding literacy as an integrative quality linked to the use of skills and competencies in real-life tasks or problems (Martin, 2005).

The knowledge of the digital marketing literacy level signifies an individual's understanding and expertise in digital marketing, covering the principles, strategies, and tools crucial to this domain. This literacy level is not only essential for effective engagement in digital marketing activities but also extends its influence across various sectors (Moorthy & Sahid, 2022; Fharaz et al., 2022; Permana et al., 2023; Ozsan, 2023).

Digital Participation Tendencies in Entrepreneurial Information

The contemporary digital landscape presents a competitive environment, urging entrepreneurs to adopt strategic entrepreneurial approaches. To maintain a competitive edge, companies must showcase innovation, proactivity, and a willingness to take risks. Utilizing digital technologies offers avenues for enhancing entrepreneurial orientation by optimizing processes, managerial and strategic decisions, and customization.

Understanding the digital participation tendencies of respondents, especially concerning entrepreneurial information, is crucial for sustaining competitiveness in the industry. Ongoing digital transformation is reshaping fundamental business functions and processes. Entrepreneurs aspiring to achieve inclusivity in their digital ventures are compelled to adopt digital technologies to enhance their business processes (Organisation for Economic Cooperation and Development [OECD], 2019).

In the context of this study, Digital Participation Tendencies in Entrepreneurial Information refer to the inclination to use the internet for student E-Commerce projects. This involves reaching a wider audience, implementing cost-effective advertising strategies, gathering entrepreneurial information, staying informed about market trends, seeking suppliers, and utilizing online banking for payment transactions (Moorthy & Sahid, 2021).

Knowledge of the elements of digital marketing

Business industries employ a variety of strategies to generate cash for exploring new horizons of growth and expansion. Political parties, for instance, are increasingly utilizing mobile platforms for mass communication. According to Kamal (2016), digital marketing has rapidly evolved since the inception of the internet in 1989. Developed economies like Australia, the United States, and Luxembourg fully

leverage digital marketing to attain a return on investment in marketing spending. This has given rise to various elements of digital marketing, including search engine optimization (SEO), pay-per-click advertising (PPC), web banner advertising, pop-ups, Search Engine Marketing (SEM), sponsored search, social media marketing, mobile advertising, affiliate marketing, online classified advertising, and email marketing (Malik, 2017).

In the context of this study, knowledge of the elements of digital marketing pertains to the understanding and proficiency in utilizing various online marketing strategies, such as online advertising, social media marketing, email marketing, content creation, text marketing, and affiliate marketing. These strategies are specifically tailored for student E-Commerce projects (Moorthy & Sahid, 2021).

In the dynamic landscape of digital marketing, a crucial aspect for individuals and businesses striving to navigate and thrive in the digital realm is the comprehension of the intricate dimensions that constitute digital marketing literacy. Table 1 provides a comprehensive overview of three key dimensions along with their definitions.

Table 1 Dimensions of Digital Marketing Literacy

Variable of Digital Marketing Literacy	Definition	Reference
Knowledge of digital marketing literacy level	The digital marketing literacy knowledge level signifies an individual's comprehension and expertise in digital marketing, encompassing the principles, strategies, and tools integral to this domain. This level of literacy is not only pivotal for effective engagement in digital marketing activities but also extends its influence to various sectors	Moorthy & Sahid, 2022; Fharaz et al., 2022; Permana et al., 2023; Ozsan, 2023
Digital Participation Tendencies in Entrepreneurial Information	Digital participation in entrepreneurial information refers to entrepreneurs' use of digital platforms and technologies in response to external factors, digital transformation, and global challenges. This involves reforming traditional business processes, developing innovative products, and promoting collaboration between academia.	Moorthy & Sahid , 2022; Zhang & Wei, 2023; Havadzyn et al., 2023; Vinogradova et al., 2019; Edghiem & George, 2023; Li et al., 2022

Table 1 (Continued)

Variable of Digital Marketing Literacy	Definition	Reference
Knowledge of the elements of digital marketing	Knowledge of the elements of digital marketing encompasses a comprehensive understanding of its key components, which include setting clear objectives, utilizing appropriate channels, creating engaging content, analyzing data, understanding the target audience (buyer persona), and employing strategies like SEO, SMM, SEM, influencer marketing, and content marketing. It also involves the strategic use of digital technologies to market products and services effectively, coupled with monitoring, tracking, and evaluating the influence of digital marketing initiatives on both online and offline channels.	Moorthy & Sahid, 2022; Malik, 2017; Stoychev, 2020 Balatska et al., 2022; Diago ortiz & Martínez Tobar, 2017; Subbian & Selvamani, 2021

Concepts, Theories, and Researches Related to Self-Efficacy

Definitions of Self-Efficacy

Self-efficacy, a concept central to Bandura's social cognitive theory, is intricately connected to an individual's belief in their capacity to execute behaviors necessary to produce specific performance outcomes (Bandura, 1977, 1986, 1997). This belief system extends beyond mere abilities to encompass confidence in exerting control over one's motivation, behavior, and social environment. It significantly influences human experiences, shaping goals, energy expended towards achieving these goals, and the likelihood of attaining particular levels of behavioral performance (Carey, 2009). Unlike traditional psychological constructs, self-efficacy beliefs vary depending on the domain of functioning and the circumstances surrounding behavior. Mookkiah & Prabu (2019) delve deeper into the concept of self-efficacy, examining its enhancement, manifestations, and the influence of attributional styles. They highlight how self-efficacy is linked to increased engagement, job satisfaction, enthusiasm, commitment, resilience, and the assumption of additional responsibilities. It not only influences motivation and self-

directed actions but also guides choices and career paths, making it a crucial predictor of achievements and a fundamental part of human agency.

According to Flammer (2001), self-efficacy is an individual's belief in their ability to enact meaningful change. Individuals with a strong sense of self-efficacy are characterized as confident and proactive, while those with lower self-efficacy tend to feel discontented and lack motivation for action. The article provides insights into the core principles of self-efficacy, including its theoretical foundations, historical evolution, functional significance, and practical applications. It also explores the developmental trajectories of self-efficacy and its educational or therapeutic implications.

Gist & Mitchell (1992) identify self-efficacy as a critical component in motivation, shaping how individuals decide, aspire, respond emotionally, exert effort, manage adversities, and remain steadfast. This sense of self-efficacy evolves with new learning, accumulated experiences, and feedback. For a comprehensive understanding of self-efficacy and its influencing factors, it's essential to examine the methods used to evaluate it and the elements that influence this evaluation.

In the educational realm, self-efficacy is recognized as a belief in one's ability to learn and succeed in academic tasks (Samsuddin & Retnawati, 2022). Schunk & DiBenedetto (2021) emphasize that self-efficacy is about perceived capabilities to learn or perform actions at designated levels, influence choices, effort, persistence, and achievement (Stenclová, 2020). Hibatullah et al. (2022) suggest that self-efficacy is a personal construct that affects and is influenced by behaviors and social/environmental variables. Its influence on academic outcomes is considerable, affecting interest, task performance, effort, and persistence (Rachma et al., 2023).

Wyatt (2022) highlights that self-efficacy beliefs are shaped by experiences mastering a task, observing others succeed, social persuasion, and the interpretation of physiological reactions (Escobar et al., 2023). In academic settings, this belief system plays a pivotal role in shaping second language learners' engagement in valued tasks and influencing their learning outcomes (Usher & Morris, 2023).

In conclusion, self-efficacy is a multifaceted construct that plays a critical role in various domains of life, with a particular emphasis on its significance in education. It transcends mere belief in one's abilities; it extends to how these beliefs influence motivation, behavior, and performance. Understanding and fostering self-efficacy can result in enhanced engagement, achievement, and the ability to navigate challenges effectively. This makes it a focal point for educators, psychologists, and individuals aspiring for personal growth and success. In the context of this study, self-efficacy is

defined as an individual's belief in their capacity to execute behaviors necessary to initiate, manage, and sustain entrepreneurial activities within the realm of e-commerce.

The Dimensions of Self-Efficacy

In the intricate landscape of entrepreneurship, understanding the nuanced dimensions of self-efficacy becomes imperative for comprehending the intricacies that drive individuals in their entrepreneurial pursuits. This section delves into three pivotal variables, each offering unique insights into the cognitive and emotional aspects of individuals engaged in entrepreneurial activities (Table 2).

Entrepreneurs Self-Efficacy

The exploration of Entrepreneurial Self-Efficacy (ESE) represents a nuanced and multifaceted concept, extensively examined by diverse researchers, each contributing distinctive perspectives on its nature, determinants, and implications in the entrepreneurial journey. Othman & Hisam (2020) define ESE as the belief in one's abilities to successfully initiate and manage new business ventures. They emphasize its role in fostering self-motivation, influencing life choices, and note that a higher sense of ESE correlates with a greater inclination toward entrepreneurship. While crucial for sustained entrepreneurial efforts, ESE, they emphasize, doesn't guarantee success but signifies perseverance and resilience in pursuing entrepreneurial goals. Ndofirepi (2022) echoes this view, portraying ESE as the conviction in one's capabilities for successful entrepreneurial activities, influence decision-making, effort intensity, and resilience—a fundamental aspect in understanding human behavior and entrepreneurial drive. Ndofirepi also engages in the debate on whether ESE is a singular trait or comprises multiple sub-components, suggesting that, for understanding its influence on entrepreneurial intentions, it can be considered a singular yet influential variable.

Doanh & Bernat (2019) concentrate on the self-assurance entrepreneurs possess concerning their ability to perform specific tasks related to entrepreneurship, differentiating ESE from perceived behavioral control, and highlighting the entrepreneur's belief in their capability to execute entrepreneurial activities effectively. Foleide (2011) views ESE as a measure of one's belief in their ability to start and manage new business ventures, considering it a vital determinant of entrepreneurial motivation and behavior, influencing both intent and the actual pursuit of entrepreneurial activities. Foleide stresses the potential of ESE to predict

entrepreneurial success and suggests enhancement through targeted training and education. Ma et al. (2023), Sanaji (2023), and Dharmanegara et al. (2022) extend the discussion, linking ESE to business performance and entrepreneurial behavior, with emphasis on the influence of entrepreneurship education and financial support.

In summary, while each researcher contributes a unique perspective on ESE, collectively they underscore its pivotal role in entrepreneurship. ESE is portrayed as a critical determinant of entrepreneurial motivation, behavior, and success, influenced by various factors including personal traits, social capital, education, and financial support. The collective body of research presents a coherent understanding of ESE as a multifaceted construct central to the entrepreneurial journey, driving individuals' motivation, resilience, and success in their entrepreneurial endeavors.

In this study, Self-Efficacy refers to an individual's belief in their own capability to execute behaviors necessary to initiate, manage, and sustain entrepreneurial activities within the context of e-commerce.

Perceived Desirability

Perceived desirability, a critical construct in entrepreneurial studies, refers to the subjective evaluation of the personal appeal and attractiveness associated with engaging in E-Commerce entrepreneurship. In the context of Shapero's (1982) entrepreneurial event model, perceived desirability encompasses an individual's assessment of the intrinsic benefits and positive aspects linked to initiating and managing an E-Commerce venture. This multifaceted concept delves into the genuine interest, enthusiasm, and joy that individuals associate with the prospect of E-Commerce entrepreneurship. It extends beyond mere practical considerations and involves emotional and personal dimensions, incorporating an individual's recognition of opportunities within the E-Commerce landscape. Perceived Desirability is also influenced by personal experiences and the availability of supportive networks, playing a pivotal role in shaping individuals' attitudes toward E-Commerce entrepreneurship. Indicators of high perceived desirability include a strong personal interest in E-Commerce, a sense of joy associated with entrepreneurial activities, the ability to recognize and appreciate opportunities within the E-Commerce domain, and a conviction that E-Commerce entrepreneurship represents a viable and appealing career choice. As a key factor in the entrepreneurial decision-making process, Perceived Desirability significantly influences individuals' behavioral intentions and actions, contributing to the dynamic landscape of E-Commerce entrepreneurship.

In this study, perceived desirability refers to individuals' authentic interest and inclination toward E-Commerce entrepreneurship, shaped by personal experiences and support networks. Indicators of perceived desirability include interest, joy, recognition of opportunities, and the perception of E-Commerce entrepreneurship as a viable career choice (Astiana et al., 2022).

Perceived Feasibility

The concept of motivation is intricately connected to the interplay of expectancy, instrumentality, and valence. Expectancy, akin to perceived feasibility and self-efficacy in other predictive models of entrepreneurial intentions, plays a crucial role. Perceived feasibility, a pivotal factor in entrepreneurial intentions, denotes an individual's confidence in successfully initiating and managing a venture or project. This belief significantly influences the drive to commence a business, especially among undergraduate students. However, the perceived feasibility may vary, even among students with a strong entrepreneurial commitment, based on their self-assessment regarding the management of core business aspects. This perception becomes integral to decision-making processes, such as selecting educational paths like polytechnics, and is fundamentally tied to one's assessment of the skills and abilities required for initiating and managing ventures or projects (Masrury & Si, 2016; Giordano Martínez et al., 2017).

Krueger et al. (2000) conducted a comparative analysis of the predictive validity of the Ajzen and Shapero-Krueger models, utilizing a sample of 97 senior university business stud

ents. The regression analysis, employing perceived desirability, subjective norms, and perceived feasibility to predict intentions, provided support for Ajzen's theory of planned behavior.

Table 2 Dimension of Entrepreneur Self-Efficacy

Dimensions of Entrepreneur Self-Efficacy	Definition	References
1. Entrepreneurial Self-Efficacy	Entrepreneurial Self-Efficacy is the individual's confidence in effectively initiating, managing, and sustaining entrepreneurial activities, reflecting a positive outlook on their ability to achieve success in the context of e-commerce entrepreneurship.	Liñán & Chen, 2009; Solesvik et al., 2012; Souitaris et al., 2007; Liñán & Chenj, 2006; Shah et al., 2020
2. Perceived Desirability	Perceived Desirability refers to individuals' genuine interest and attractiveness towards E-Commerce entrepreneurship, shaped by personal experiences and support networks, with indicators including interest, joy, recognizing opportunities, and viewing E-Commerce entrepreneurship as a viable career choice.	Astiana et. al., 2022
3. Perceived Feasibility	Perceived Feasibility refers to the individual's subjective belief in the practicality and attainability of initiating and managing an E-Commerce business, as inferred from their willingness, commitment, and concrete plans for entrepreneurship.	Segal et al., 2005; Darmanto, 2013; Astiana et al., 2022

In the context of this study, Perceived Feasibility refers to an individual's subjective belief in the practicality and attainability of initiating and managing an E-Commerce business, deduced from their willingness, commitment, and concrete plans for entrepreneurship. A comprehensive overview of the dimensions of entrepreneur self-efficacy will be presented in Table 3.

Concepts, Theories, and Research Related to Entrepreneurship Education

Definitions of Entrepreneurship Education

Entrepreneurship Education (EE) is a dynamic and multifaceted process aiming to impart knowledge and skills essential for entrepreneurship, cultivate traits, and enhance competencies for successful ventures (Widodo & Santoso, 2023). It transcends traditional business education, focusing on nurturing entrepreneurial competencies to adapt to the evolving business landscape (Miço & Cungu, 2023). EE is dedicated to fostering a robust entrepreneurial mindset, instilling attributes like independence and versatility among students (Raghavendra & A, 2022). Educators play a pivotal role in this transformative process, requiring a deep understanding of entrepreneurship concepts and specific competencies to nurture students' confidence, flexibility, leadership, and initiative (Mbeteh & Pellegrini, 2022). EE extends beyond theoretical aspects, encompassing practical engagement with teaching and learning methods designed to develop entrepreneurial skills and knowledge (Ncanywa & Dyantyi, 2022).

Strategically oriented, EE aims to equip individuals with key entrepreneurial characteristics such as risk-taking, informed decision-making, creativity, and innovation. The ultimate goal is to significantly increase entrepreneurial intention and activities, fostering economic growth and creating employment opportunities (Thomas, 2023; Vieth, 2022). The intricate fabric of EE includes elements like alertness, inspiration, social networks, and comprehensive knowledge and skills acquisition, essential for navigating the entrepreneurial journey (Tiberius & Weyland, 2023). Its interdisciplinary nature allows integration into various academic disciplines, enriching fields like geography and economic education with entrepreneurial insights (Forcher-Mayr, 2022).

In conclusion, EE represents a comprehensive approach to fostering a vibrant entrepreneurial ecosystem, preparing individuals to thrive in the global business environment. Through theoretical knowledge, practical skills, and an innovative mindset, EE plays a crucial role in shaping future entrepreneurs, driving economic growth, and fostering a culture of innovation and creativity. In this study, Entrepreneurship Education involves providing knowledge and insights into the business world, fostering a desire for self-employment, and ensuring the availability of facilities and infrastructure supporting entrepreneurial spirit.

The dimension of Entrepreneurship Education

Entrepreneurship Education, a dynamic and multifaceted field, encompasses four crucial dimensions, each playing a pivotal role in nurturing entrepreneurial attitudes, skills, and competencies among university students. This section delves into these key dimensions, shedding light on their significance and collective influence on shaping the entrepreneurial landscape.

Curriculum

The Entrepreneurship Education Curriculum, a crucial dimension within Entrepreneurship Education, serves as a comprehensive framework designed to instill entrepreneurial attitudes, skills, and competencies in students. It employs a diverse array of instructional strategies, encompassing mandatory, elective, and extracurricular courses. The development of this curriculum involves collaboration with qualified business professionals, fostering activities such as creating business plans and providing mentorship and support for practical business endeavors. Universities play a pivotal role in this educational ecosystem by offering funding opportunities and facilitating interactions with policymakers and industry experts.

A significant focus of this educational approach is the training of teachers, ensuring educators are equipped with the necessary competencies, methods, and tools vital to effectively nurture entrepreneurial traits, including confidence, flexibility, leadership, and initiative in students. The success and influence of the Entrepreneurship Education Curriculum are often evaluated through the assessment of learning outcomes, with a specific emphasis on the attainment of entrepreneurial competences and skills (Chaker & Jarraya, 2021; Wahidmurni et al., 2019; Miço & Cungu, 2023; Turi et al., 2020; Chirume & Thondhlana, 2018).

In the context of this study, the term "Curriculum" refers to how Entrepreneurship Education provides knowledge and insights into the business world.

Education Quality

The development of a comprehensive Entrepreneurship Education Curriculum is aimed at nurturing entrepreneurial attitudes, skills, and competencies among students. This framework includes a diverse range of instructional strategies, encompassing mandatory, elective, and extracurricular courses. Collaboration with qualified business professionals, the creation of business plans, and providing mentorship and support for practical business endeavors are typical components of curriculum development. Universities play a crucial role in this educational ecosystem by offering funding opportunities and facilitating interactions with

policymakers and industry experts. A critical aspect of this educational approach is ensuring that teachers are equipped with the necessary competencies, methods, and tools to effectively cultivate entrepreneurial traits such as confidence, flexibility, leadership, and initiative in students. The success and influence of the Entrepreneurship Education Curriculum are often assessed through the evaluation of learning outcomes, focusing on the achievement of specific entrepreneurial competences and skills (Chaker & Jarraya, 2021; Wahidmurni et al., 2019; Miço & Cungu, 2023; Turi et al., 2020; Chirume & Thondhlana, 2018).

In the context of this study, the term "Education Quality" refers to the cultivation of a desire for self-employment through entrepreneurship learning.

Facility

Entrepreneurship education facilities, classified as specialized programs or centers primarily situated in tertiary institutions, are dedicated to fostering entrepreneurial skills and awareness. Their primary mission revolves around enlightening students about entrepreneurship as a viable career path, offering comprehensive insights into the dynamics of initiating and managing new business ventures. Equipped with a variety of resources and infrastructure, including training workshops, laboratories, mentorship programs, and opportunities for funding and networking, these facilities play a crucial role in providing students with the essential skills, capabilities, and knowledge necessary to encourage innovation and creativity. The effectiveness of these facilities in promoting the acquisition of entrepreneurial skills is significantly influenced by the adequacy and quality of their infrastructural offerings.

In the context of this study, the term "Facility" pertains to the accessibility of facilities and infrastructure that support the entrepreneurial spirit.

Entrepreneurship opportunity recognition

In this study, Entrepreneurship opportunity recognition Entrepreneurial Opportunity Recognition in student entrepreneurship entails identifying and seizing successful ideas within the E-commerce landscape, involving an understanding of market demand, processing resources from entrepreneurial learning, and strategically selecting and executing plans to leverage promising E-commerce opportunities.

The process of entrepreneurship opportunity recognition is intricate, significantly influenced by a combination of individual traits, attitudes, educational background, and environmental factors. Among university students, the ability to

identify and capitalize on entrepreneurial opportunities is shaped by factors such as attitude towards entrepreneurship, need for achievement, risk-taking propensity, proactive personality, self-efficacy, and specific competencies related to opportunity recognition. Additionally, entrepreneurship education plays a pronounced role, positively influence students' entrepreneurial intentions and enhancing their ability to recognize opportunities, often mediated by a boost in self-efficacy.

In this study, the identification and seizing of successful ideas within the E-commerce landscape, termed "Entrepreneurship Opportunity Recognition" in student entrepreneurship, involves understanding market demand, processing resources from entrepreneurial learning, and strategically selecting and executing plans to leverage promising E-commerce opportunities. (References: Wiramihardja et al., 2022; Klamert-Schmid et al., 2022; Ledi et al., 2022; Zhang et al., 2022; Tynan, 2023).

Additionally, after reviewing the literature and research related to factors influencing Entrepreneurship Education, we can succinctly summarize the Dimensions of Entrepreneurship Education in Tables 3.

Table 3 Dimensions of Entrepreneurship Education

Dimensions of Entrepreneurship Education	Definition	References
1. Curriculum	Entrepreneurship education provides knowledge and insight into the business world	Chaker & Jarraya, 2021; Wahidmurni et al., 2019; Miço & Cungu, 2023; Turi et al., 2020; Chirume & Thondhlana, 2018
2. Education Quality	Entrepreneurship learning has fostered a desire to be self employed	Chaker & Jarraya, 2021; Wahidmurni et al., 2019; Miço & Cungu, 2023; Turi et al., 2020; Chirume & Thondhlana, 2018

Table 3 (Continued)

Dimensions of Entrepreneurship Education	Definition	References
3. Facility	Availability of facilities and infrastructure that support the entrepreneurial spirit.	Chen, 2022; Okoli & Osi, 2018; Nnaji & Ahmed, 2018; Miço & Cungu, 2023; Korzhov & Pasko, 2020
4. Entrepreneurship opportunity recognition	Entrepreneurial Opportunity Recognition in student entrepreneurship entails identifying and seizing successful ideas within the E-commerce landscape, involving an understanding of market demand, processing resources from entrepreneurial learning, and strategically selecting and executing plans to leverage promising E-commerce opportunities.	Wiramihardja et al., 2022; Klamert-Schmid et al., 2022; Ledi et al., 2022; Zhang et al., 2022; Tynan, 2023

Concepts, Theories, and Research Related to Entrepreneurial E-Commerce Intentions

Entrepreneurial Intention

Beyond the inclination to initiate or own a business, considerations related to business growth have also gained significance. Although not the primary focus of this study, growth intentions will be addressed in the context of established businesses, encompassing the entrepreneur's aspirations for the business's growth trajectory. According to Choo and Wong (2009), entrepreneurial intention is defined as an individual's perception of their business's potential, stemming from personal commitment. Katz and Gartner (1988), as cited by Scutjens & Stam, posit that such intention involves seeking information that can contribute to achieving the goals of venture creation and growth (Scutjens & Stam, 2006).

Intention, as defined by Parker (2004), is a specific inclination for an individual to perform an action, with the ensuing behavior producing measurable results. While recognizing that not everyone may affirm this argument concerning entrepreneurial activities, it appears evident that much of what we perceive as behavioral activities,

such as entrepreneurship, is a deliberately planned outcome. Ajzen (1991) has, in a way, provided support for this argument through his research on entrepreneurial intentions.

Bird (1988) emphasizes that intentionality involves an individual's experiences and actions directed toward a particular path or goal to achieve something. Entrepreneurial characteristics, abilities, and perceptions emerge when an individual finds themselves in an environment conducive to entrepreneurial ventures, particularly among young people and graduating students.

Investigating intentionality is crucial for understanding the outcomes of purposeful behaviors. It can be theorized that by understanding these intentions and their prevalence among individuals, we can predict the presence of enterprising students within the university population. Wilbard (2009) summarizes entrepreneurial intentions, including the attributes outlined in Table 4.

Table 4 Entrepreneurial intention include the following Attributes

Attribute	Definitions
Start-up inclination	Whether and the extent to which one interested to start own business Whether someone has decided to start a business Whether one will start a business on full-time or part-time basis
Growth intentios	How big one wishes the business to be certain years after starting

In summary, the insights gleaned from the examination of entrepreneurial intention in this section establish a robust theoretical foundation and conceptual framework. They provide a comprehensive understanding of the intentional behaviors, planning processes, and mindset demonstrated by undergraduate students in Xi'an City with regard to e-commerce entrepreneurship. These valuable insights are poised to make a significant contribution to the ongoing investigation into the influence of digital marketing literacy and self-efficacy on their intention to participate in e-commerce entrepreneurship.

Entrepreneurial E-Commerce Intentions

Entrepreneurship, as articulated by Schumpeter (1984), injects vitality into the economic framework through the introduction of innovative products or services, the establishment of new organizational structures, and the transformative use of raw materials. This concept resonates with individuals initiating new ventures, encapsulating a spectrum of activities essential for identifying and capitalizing on emerging opportunities, as discussed by Ananda and Rafida (2016).

Drucker further expounded on entrepreneurship, emphasizing its core in forging new and distinct entities. This underscores the entrepreneurial competency to create offerings that are not only innovative but also distinctly different from existing alternatives (Astiana et al., 2022).

Hedrawan and Sirine (2017) asserted that the pull toward entrepreneurship emanates from an innate aspiration, coupled with the fortitude to establish, and nurture a business venture, ultimately aiming for a prosperous life. This entrepreneurial inclination, rooted in a proactive mindset, involves a relentless pursuit and engagement with business opportunities to realize one's potential, as suggested by Mardia (2021). Conversely, Hasan (2022) views entrepreneurial interest as a manifestation of an individual's determination and readiness to navigate the business landscape swiftly, undeterred by the specter of failure.

In this study, entrepreneurial interest is construed as the amalgamation of an individual's earnest ambition to embark on a business journey, underscored by a bold and venturesome spirit. This encompasses the capacity to discern and seize business prospects, paving the path to a more fulfilling life, unfettered by apprehensions of potential setbacks. Novitasyari et al. (2017) further elucidate that entrepreneurial interest can be influenced by a constellation of factors, including the inherent desire for entrepreneurship, creative ideation, the courage to confront risks, and the embodiment of leadership qualities (Putri & Wardana, 2023).

Parker (2004) emphasized that a profound interest is a fundamental requirement in the initial phase of business inception. This interest is essentially a focused desire that consciously guides and shapes an individual's actions. Ramayah and Harun (2005) conceptualized entrepreneurial intention as the inclination of an individual to innovate and create new products by capitalizing on opportunities while embracing risk-taking in business endeavors. This interest serves as the cornerstone, determining the scope and nature of entrepreneurial activities. It's not feasible for one to spontaneously transition into an entrepreneurial role without a preceding spark of interest in the domain. Hernawati and Yuliniar (2019) emphasized that

entrepreneurial interest, or intention, embodies an individual's propensity to engage in business ventures by innovating, risk-taking, and seizing opportunities. This interest is pivotal for nurturing future entrepreneurial aspirations, desires, and ambitions. Bui et al. (2020) identified five key indicators of the entrepreneurial intention's variable: a preference for entrepreneurship over traditional employment, earnest contemplation of founding a business, a professional ambition to pursue entrepreneurship, a resolute commitment to establish a business in the foreseeable future, and an unwavering readiness to undertake any necessary steps to actualize entrepreneurial goals (Astiana et al., 2022).

Transitioning to the dimensions of perceived usefulness, ease of use, and perceived risk in e-commerce, these factors significantly influence the intention of Gen-Z entrepreneurs to use e-commerce platforms. Particularly beneficial for Gen-Z entrepreneurs with limited time to learn a platform are the accessibility and velocity offered by online shopping.

Perceived ease of use is crucial, reflecting the consumer's perception that engaging in e-commerce will involve minimal effort. Furthermore, perceived risk plays a critical role in consumer behavior, contributing to the growth of online shopping. Consumers perceive a higher level of risk when buying on the Internet compared to traditional retail formats. Perceived risk is defined as the potential loss in pursuing a desired outcome when engaging in online business; it is a combination of uncertainty with the possibility of serious outcomes.

In conclusion, perceived usefulness, ease of use, and perceived risk play significant roles in the intention of Gen-Z entrepreneurs to use e-commerce platforms. Understanding these factors can help entrepreneurs make informed decisions and maximize the benefits of online shopping (Hidayah & Nurfadilah, 2022).

This study interprets the intention to become an E-Commerce Entrepreneur as an individual's strong commitment, concrete plans, and a view of entrepreneurship as a viable and appealing career option, showcasing their determination to initiate and manage an E-Commerce business within a specified timeframe.

Related Research

Moorthy and Sahid (2022) conducted research on the correlation between digital marketing literacy, entrepreneurial behavior, and entrepreneurial tendencies among public university students in Malaysia. The study aimed to discover and

explain causal links between variables and address related issues. Data from 384 respondents were collected using a survey method and analyzed with SPSS version 21.0. The results revealed that digital marketing literacy is moderately influenced by entrepreneurial behavior. Importantly, there is a positive and significant relationship between digital marketing literacy and entrepreneurial behavior, with knowledge of digital marketing elements being the most influential dimension. The study intends to raise awareness among students about digital marketing literacy, offering insights for universities on increasing digital literacy and encouraging entrepreneurial behavior among students.

Jazuli et al. (2024) aimed to fill knowledge gaps and provide insights into developing an entrepreneurial curriculum oriented towards digital marketing literacy at the vocational level. Using a descriptive qualitative approach, data was collected through observation, interviews, and documentation. The results demonstrated that learning digital marketing literacy in entrepreneurship positively contributed to students' understanding of online business at two vocational schools. The learning program was considered successful in enhancing the digital marketing literacy of vocational students in both schools.

Prihatini and Dewi (2023) examined the entrepreneurial interest of 200 Diponegoro University students who had taken the Entrepreneurship course, using the Technology Acceptance Model (TAM) method. The study found that perceived benefits and convenience positively affected students' attitudes towards e-commerce. E-commerce attitudes, in turn, positively influenced students' interests in entrepreneurship. The conclusion drawn was that the existence of e-commerce can foster students' interest in entrepreneurship, perceived as providing benefits and ease of business operations.

Wang (2022) conducted a survey revealing that college students' primary motivation for e-commerce entrepreneurship is to solve employment issues and gain life experience. Senior students (4th year) are highly active in entrepreneurship, laying the foundation for post-graduation self-employment. However, the study found that students lack entrepreneurial experience and psychological maturity, leading to low success rates. Wang recommended strengthening innovative thinking and improving the entrepreneurship education system in universities, addressing the lack of practical training and dual-qualified teachers.

Neneh's (2020) study investigated the influence of entrepreneurial self-efficacy (ESE) and self-perceived employability (SPE) on students' choice of an entrepreneurial career path. Data from 274 final year undergraduate students at a

South African university were collected using a survey approach. The results showed that ESE positively influences the intention to pursue both full-time and hybrid entrepreneurial careers, while SPE positively influences hybrid entrepreneurship but negatively affects full-time entrepreneurship. The study suggests a new line of convergence in the literature on ESE and SPE, emphasizing the need for further studies and alternative measures to assess the robustness of these associations.

Luo et al. (2022) investigated the influence of an entrepreneurial environment on college students' entrepreneurial self-efficacy, focusing on the role of entrepreneurial competence and education. The survey of 1100 students from 10 universities in Guangdong Province revealed that entrepreneurial education and practice significantly positively affect students' self-efficacy. Entrepreneurial competence and environment also had a positive predictive effect on self-efficacy. Entrepreneurial competence mediated the influence of the environment on self-efficacy, while education modified the relationship between the environment and self-efficacy. The study concludes that entrepreneurial environment, competence, and education positively influence college students' entrepreneurial self-efficacy.

Romero-Galisteo et al. (2022) applied the Theory of Planned Behavior to study entrepreneurial intention among 1518 Health Sciences students at two Southern Spain universities. The study found that perceived desirability and perceived feasibility were positive and significant predictors of entrepreneurial intention. Perceived desirability indirectly influenced entrepreneurial intention through perceived feasibility, while expectation of success and self-efficacy had no direct effect. Understanding the entrepreneurial intention of Health Sciences students can guide university policies to support entrepreneurship.

Wei et al. (2019) investigated the mediating effects of political skills and entrepreneurial opportunity recognition on perceived entrepreneurship education and innovation among Chinese student entrepreneurs. Data from 269 entrepreneurs were analyzed using structural equation modeling. Results showed a positive relationship between entrepreneurship education and innovation, with political skills and opportunity recognition playing individual and chain mediating roles.

Hidayah and Nurfadilah (2022) examined the factors influencing Generation Z entrepreneurs' interest in using e-commerce platforms. The research, conducted using questionnaires distributed to 110 respondents, found that perceived ease of use and usefulness significantly positively influenced their interest in e-commerce platforms, while perceived risk did not. The findings contribute to business and

management literature and serve as a reference for entrepreneurs and governments to increase the use of e-commerce for Generation Z in entrepreneurship.

Astiana et al. (2022) explored the role of entrepreneurship education in increasing entrepreneurial intention among business students in Indonesia. Data from 240 students using a questionnaire revealed that perceived desirability, feasibility, propensity to act, and entrepreneurship education significantly influenced entrepreneurial intentions by 61.12%. The research underscores the importance of higher education in nurturing young people for entrepreneurship, supporting the government in improving the nation's economy and society.

Shah et al. (2020) investigated the moderating role of entrepreneurship education on the predictive value of attitude, subjective norms, and self-efficacy for entrepreneurial intentions. The results showed that attitude toward entrepreneurship, subjective norms, and self-efficacy are significant predictors of entrepreneurial intentions. Entrepreneurship education was found to moderate this relationship by strengthening the path coefficients of attitude and self-efficacy while weakening the path coefficient of subjective norms.

Putri and Wardana's (2023) study explored the influence of entrepreneurship education and e-commerce on students at Universitas Negeri Malang's Faculty of Economics. The research involved 125 students who attended entrepreneurship courses and used a descriptive quantitative method. The results showed that entrepreneurship education significantly influenced entrepreneurial intention, while e-commerce had no significant effect. The study concluded that entrepreneurship education and e-commerce have a positive and significant influence on entrepreneurial intention.

Hassan's (2023) thesis aimed to understand the needs of digital marketing in Bangladeshi businesses, challenges faced by business owners in implementing digital marketing strategies, gaps in current practices, and the potential for profitability and customer retention through digital marketing. The survey findings of 20 participants highlighted that digital literacy and lack of skills are the most influence factors reducing the influence of digital marketing. Digital marketing can increase an organization's revenue, engagement, brand awareness, and customer satisfaction. Different digital marketing platforms have different influences on Key Performance Indicators (KPIs), but overall, digital marketing can help organizations increase engagement, brand awareness, and customer satisfaction. In conclusion, digital marketing in Bangladesh has both opportunities and threats, with the government providing tax breaks and a tech-savvy population.

Rizal and colleagues (2022) examined the digital marketing literacy model for the culinary creative home industry in Makassar City. The research aimed to develop an innovative model using a descriptive qualitative approach. The results showed that the digital literacy of creative culinary industry players in Makassar City is less effective due to a lack of understanding of social media functions and low-quality product content. The study identified two crucial stages for effective digital marketing implementation: the Persuasion stage, involving strengthening knowledge about social networking, privacy, and transliteration, and the Decision-Making stage, involving creating a digital identity, creating content, and self-broadcasting.

Segal et al. (2005) reviewed motivation research from organizational psychology and entrepreneurial psychology, presenting a new model of entrepreneurial motivation. The study examined the ability of tolerance for risk, perceived feasibility, and perceived net desirability to predict self-employment intentions in a sample of 114 undergraduate business students at Florida Gulf Coast University. Results showed that these factors significantly predicted self-employment intentions, with an adjusted R^2 of 0.528. The study suggested that educators, government officials, and others interested in stimulating entrepreneurial motivation should consider how their words and actions affect potential entrepreneurs' perceptions of entrepreneurial feasibility and net desirability. The model is based on established theories and provides a well-supported explanation of entrepreneurial motivation.

Simatupang et al. (2021) investigated the influence of undefined self-efficacy of student entrepreneurship on entrepreneurial intentions, the effect of undefined entrepreneurship education on entrepreneurial intentions, and the effect of self-efficacy on entrepreneurship and student entrepreneurship education on entrepreneurial intentions. The research involved 153 class students from 2016 and 2017, using a survey and questionnaire. The results showed a significant positive effect of self-efficacy and entrepreneurship education on entrepreneurial intentions. The study concluded that both self-efficacy and entrepreneurship education positively influence entrepreneurial intentions.

Ahsan and Nishadi (2023) conducted research to investigate the digital marketing challenges faced by small and medium-sized enterprises (SMEs) in developing countries like Bangladesh and Sri Lanka. The study used a qualitative case study methodology with a deductive research approach, collecting empirical data from four in-depth interviews with SMEs. The findings revealed common internal and external challenges faced by SMEs in both countries. Internal challenges included

the lack of skilled professionals for in-house digital marketing, lack of knowledge of owners/managers on digital marketing, and high startup costs. External challenges included customers' lack of trust and acceptance of digital marketing tools and increased competition. The research aimed to provide a comprehensive understanding of the challenges faced by SMEs in executing digital marketing and to contribute to the development of digital marketing strategies in these countries.

Research Framework

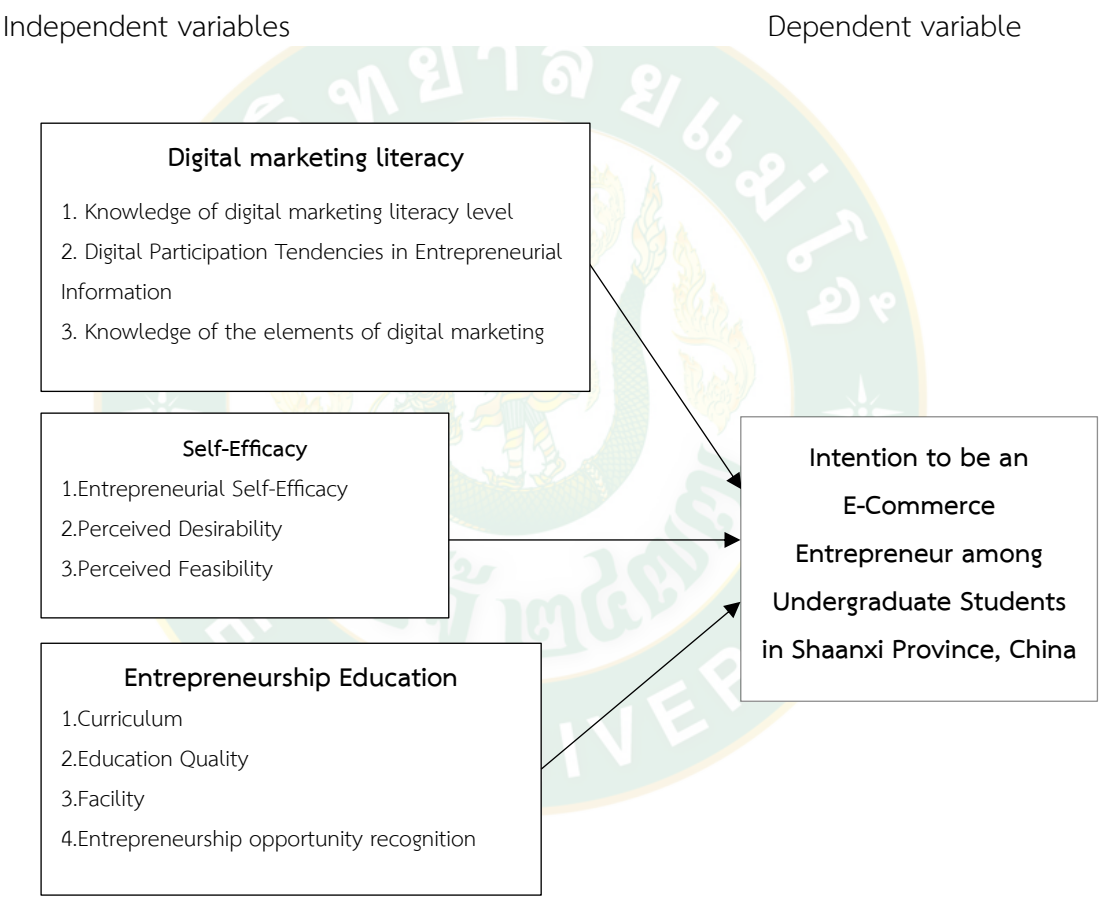


Figure 9 Research Framework

Research Hypotheses

H1: Digital marketing literacy influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China

H2: Self-Efficacy influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China

H3: Entrepreneurship Education influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China

CHAPTER III
RESEARCH METHODOLOGY

In this chapter, a comprehensive exposition of the research methodology utilized in the study titled "The Influence of Digital Marketing Literacy and Self-efficacy on the Intention to Be an E-commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China" is presented. It mainly introduces the purpose, quantity, and scope of the author's investigation. The author calculates the sample size according to a specific formula and then proceeds with data classification and analysis through a questionnaire survey. This paper employs a quantitative research approach and primarily focuses on examining the influence of digital marketing literacy, self-efficacy, and entrepreneurship education on the intention to become an e-commerce entrepreneur among undergraduate students.

The subsequent sections of this chapter will delve into the specifics as follows:

1. Research Design
2. Population and Sample
   - 2.1 Population
   - 2.2 Sample
   - 2.3 Sample selection method
3. Research Instrument
   - 3.1 Construction of Research Tools
   - 3.2 Development Process for the Questionnaire
4. Quality Testing of Research Instruments
   - 4.1 Content Validity
   - 4.2 Reliability
5. Data Collection
   - 5.1 Primary Data
   - 5.2 Secondary Data
6. Statistics and Data Analysis
   - 6.1 Descriptive Statistics
   - 6.2 Inferential Analysis
7. Research Duration
8. Research Budgeting

Research Design

This section outlines the selected research design, employing a quantitative approach to assess the influence of digital marketing literacy, self-efficacy, and entrepreneurship education on the intention to become an e-commerce entrepreneur among undergraduate students in Xi'an City, Shaanxi Province, China. The chosen research design is aligned with the study's objectives, which entail a quantitative evaluation of these factors and their interrelationships.

The research employs a quantitative approach, employing survey questionnaires for data collection. Statistical data analysis is carried out using the SPSS program to succinctly present results in tables, accompanied by relevant discussions.

Population and Sample

Population (2024)

The population includes individuals expected to graduate in the June 2024. In the 2020 academic year, the total undergraduate enrollment of the Shaanxi Provincial Department of Education is 152,134. These students are mainly between the ages of 19-23 (Baishu Volunteer Guidance, 2021)

Sample

The study's sample comprised undergraduate students from various universities and colleges in Shaanxi Province, China. All participants were currently enrolled as undergraduate students and were recruited through official university channels, including WeChat groups, QQ groups, and Weibo groups. The sample size, totaling 406 cases, was determined using the sample size calculation method developed by Taro Yamane in 1967, with a 5% margin of error applied. The calculation is as follows:

$$n = \frac{N}{1 + N(e)^2}$$

In this context:

n represents the sample size.

N represents the population of the study.

e represents the margin of error, which was set at a maximum threshold of 5%, equivalent to 0.05.

Substitute the values into the formula as follows: 152,134

$$n = \frac{152{,}134}{1 + 152{,}134\ (0.05)^2}$$

$$n = \frac{152{,}134}{381.335} = 398.95 \approx 400$$

According to the calculation of the sample size, the minimum is 398.95 people. However, to prevent data loss or incomplete response data, a total of 406 questionnaires; In order to ensure that there are no significant differences in the sampling on each location will be distributed and screened only for the target group that is consistent with the study in this research.

Sample selection method

In this research, probability sampling was employed through a multi-stage sampling method, collecting 406 online questionnaires. The details are outlined below:

Step 1: Surveying the Population

According to the latest data from the Education Department of Shaanxi Provincial Government has 58 general higher education institutions. This Private university 24 and Public university 34

Step 2: Classification of Schools

The population used in this study is those who are expected to graduate in the June 2024 in 2020 data, there were a total of 152,134 students enrolled individuals (Baishu Volunteer Guidance, 2021). The population would be between 19-23 years old.

Table 5 Presents the Schools and Populations Categorized by Educational Institution Type

Type of Educational Institution	Number of Schools (Schools)
Private university	24
Public university	34
Total	58

Source: Education Department of Shaanxi Provincial Government's, 2019

Step 3: involves selecting a sample of 406 individuals using proportional stratified random sampling, which accounts for the population within each type of educational institution. The sample size is calculated using the following formula:

$$n_i = \left(\frac{N_i}{N}\right) n$$

In this context:

ni represents the sample size of each type of educational institution

Ni represents the size of the population in each type of educational institution

N represents the total population

n represents the total sample size

Next, 50 percent of educational institutions were randomly selected within each type. From these selected institutions, a sample group of 406 individuals was randomly chosen using simple random sampling, as outlined in Table 6.

Table 6 Displays the Count of Educational Institutions, Populations,50 Percent Randomly Selected Educational Institution Types, and the Sample Sizes for Each Type of Educational Institution (Type of Educational Institution)

Type of Educational Institution	Total Number of Educational Institution	The Number of Schools (50Percent Selection)	Number of Samples
Private university	24	12	168
Public university	34	17	238
Total	58	29	406

Source: Author (2023)

Table 7 List of private universities

Private university	Number of Samples
Shaanxi International Business College	14
Shaanxi Institute of Fashion Engineering	14
Xingzhi College of Xi'an University of Finance and Economics	14
Shaanxi University of Science and Technology Haojing College	14
Xi'an Technology and Business College	14
Xi'an Innovation College of Yan'an University	14
Xi'an University of Electronic Science and Technology Chang'an College	14
Xi'an Jiaotong University City College	14
Xijing University	14
Xi'an University of Architecture and Technology Huaqing College	14
Xi'an Information Vocational University	14
Northwest University Modern College	14
Total	168

Table 8 List of public universities

Public university	Number of Samples
Northwest University	14
Xi'an Jiaotong University	14
Xi'an University of Technology	14
XiAn Industrial University	14
Xi'an University of Architecture and Technology	14
Shaanxi University of Science and Technology	14
Changan University	14
Shaanxi University of Traditional Chinese Medicine	14
Shaanxi Normal University	14
Shaanxi University of Technology	14
Xianyang Normal University	14
Weinan Normal University	14
Xi'an Academy of Fine Arts	14
Xi'an University of Arts and Sciences	14
Xi'an University of Finance and Economics	14
Xi'an University of Posts	14
Xi'an Aviation University	14
Total	238

The researcher employed a questionnaire as the primary data collection tool. One distinct method were utilized for data collection:

Online Distribution: Questionnaires were also distributed through online channels. The initial section of the questionnaire served as a screening mechanism to identify college students who had made purchases in internet celebrity live e-commerce sessions.

Step 4: Distribute the online questionnaire prepared by the researchers and initiate data collection by sending a questionnaire star link to collect responses from 406 online participants.

Research Instrument

Construction of Research Tools

The research instrument employed for this study consists of questionnaires designed to explore factors influencing college students' purchasing decisions in the context of live e-commerce. The development of the research instrument drew insights from pertinent theories, prior research, and self-study through data collection. This questionnaire is structured into four distinct sections to comprehensively assess the research variables:

Part 1: Screening Questions

This section of the questionnaire aims to identify respondents who use mobile phones and have previous experience with shopping online, as specified by the nature of the study. The questionnaire employs a checklist format and consists of two questions:

No.1 Are you currently a student at a university in Shaanxi province, China?

1.1) Yes

1.2) No (end of the questionnaire)

No.2 Do you expect to graduate in June 2024?

2.1) Yes

2.2) No (end of the questionnaire)

Part 2: Demographic

This section comprises questions about the demographic characteristics of university students, including gender, age, education level, Expenditure, and student major. It employs closed-ended questions with multiple-choice options. Respondents are instructed to select a single answer for each item. The questionnaire employs a checklist format and consists of 6 questions.

No.1 Gender

1.1) Male

1.2) Female

No.2 Age

2.1) 19- 20 years old

2.2) 21-23 years old

No.3 What type of university?

3.1) Private University

3.2) Public University

No.4 Name of Your School/University?

1) Shaanxi International Business College
2) Shaanxi Institute of Fashion Engineering
3) Xingzhi College of Xi'an University of Finance and Economics
4) Shaanxi University of Science and Technology Haojing College
5) Xi'an Technology and Business College
6) Xi'an Innovation College of Yan'an University
7) Xi'an University of Electronic Science and Technology Chang'an College
8) Xi'an Jiaotong University City College
9) Xijing University
10) Xi'an University of Architecture and Technology Huaqing College
11) Xi'an Information Vocational University
12) Northwest University Modern College
13) Northwest University
14) Xi'an Jiaotong University
15) Xi'an University of Technology
16) XiAn Industrial University
17) Xi'an University of Architecture and Technology
18) Shaanxi University of Science and Technology
19) Changan University
20) Shaanxi University of Traditional Chinese Medicine
21) Shaanxi Normal University
22) Shaanxi University of Technology
23) Xianyang Normal University
24) Weinan Normal University
25) Xi'an Academy of Fine Arts
26) Xi'an University of Arts and Sciences
27) Xi'an University of Finance and Economics
28) Xi'an University of Posts
29) Xi'an Aviation University

Part 3: Digital marketing literacy

The Digital marketing literacy questionnaire is in the form of a rating scale consisting of 3 criteria (total of 18 items):

1. Knowledge of digital marketing literacy level
2. Digital Participation Tendencies in Entrepreneurial Information
3. Knowledge of the elements of digital marketing

Scoring criteria for assessing the level of degree of influence on purchasing decisions were based on a 5-point Likert scale, ranging from "Strongly Agree" to "Strongly Disagree.

Part 4: Self-Efficacy

The Self-Efficacy questionnaire is in the form of a rating scale consisting of 3 criteria (total of 14 items):

1. Entrepreneurial Self-Efficacy
2. Perceived Desirability
3. Perceived Feasibility

Scoring criteria for assessing the level of degree of influence on purchasing decisions were based on a 5-point Likert scale, ranging from "Strongly Agree" to "Strongly Disagree.

Part 5: Entrepreneurship Education

Entrepreneurship Education questionnaire is in the form of a rating scale consisting of 4 criteria (total of 20 items):

1. Curriculum
2. Education Quality
3. Facility
4. Entrepreneurship opportunity recognition

Scoring criteria for assessing the level of degree of influence on purchasing decisions were based on a 5-point Likert scale, ranging from "Strongly Agree" to "Strongly Disagree.

Part 6: Intention to be an E-Commerce Entrepreneur

Intention to be an E-Commerce Entrepreneur questionnaire is in the form of a rating scale consisting of criteria (total of 7 items):

Scoring criteria for assessing the level of degree of influence on purchasing decisions were based on a 5-point Likert scale, ranging from "Strongly Disagree" to "Strongly Agree".

The Likert scale used in the questionnaire consists of 5 levels, each assigned a specific point value, as outlined below:

Strongly Disagree:	1 point
Disagree:	2 points
Neutral:	3 points
Agree:	4 points
Strongly Agree:	5 points

These point values are employed to score respondents' opinions and assessments in accordance with the Likert scale.

The 5-point Likert scales, which are rating scales widely used for asking respondents' opinions and attitudes, are utilized to ask to assess the influence factors of internet celebrities on college students' purchasing decisions in the live e-commerce model. The 5 points on the scale are, respectively, from 1 to 5: Strongly Disagree, Disagree, Neutral, Agree and Strongly Agree. The evaluation criteria for each class interval can be calculated using a formula to calculate the width of each class as follows:

$$\text{Class interval} = \frac{Highest\ Value - Lowest\ Value}{Number\ of\ Classes} \quad \text{..... (3.1)}$$

$$\text{Class interval} = \frac{5-1}{5}$$

$$\text{Class interval} = 0.8$$

Therefore, the class stratification is 0.8 and is used to classify the mean and criterion scores with the following descriptions:

Range of Score		Level of agreement
4.21 – 5.00	=	Strongly Agree with the statement
3.41 – 4.20	=	Agree the statement
2.61 – 3.40	=	Neutral with the statement
1.81 – 2.60	=	Disagree with the statement
1.00 – 1.80	=	Strongly Disagree with the statement

Development Process for the Questionnaire

The formulation of the questionnaire survey tool is a pivotal stage in ensuring the acquisition of reliable and influence data for the research. Here is the developmental process of the questionnaire survey tool in this study:

Literature Review: Initially, an exhaustive literature review was conducted, incorporating insights from various questionnaire design methodologies, and drawing from relevant theories and concepts. These literature sources played a vital role in shaping a questionnaire that aligns with the research framework, providing precise definitions for key variables.

Variable Integration: After the synthesis of pertinent literature, the identified variables were seamlessly integrated into the structure of the questionnaire. The final questionnaire adopted a 5-level rating scale to gauge the respondents' level of influence concerning different factors.

Advisor Consultation: The questionnaire, crafted based on the research framework, underwent scrutiny by the advisor, who provided valuable feedback and recommendations. Following the advisor's input, the questionnaire was refined accordingly.

Quality Testing of Research Instruments

The following steps were undertaken for quality testing:

Content Validity

Ensuring content validity, the researcher submitted the newly developed questionnaire to the advisor for evaluation. This assessment focused on scrutinizing the accuracy, precision, appropriateness, and structural alignment with the research objectives. Subsequent refinements were implemented to enhance the questionnaire's appropriateness and ensure consistency with the research objectives.

Reliability

The quality of the research instrument was assessed through a Try Out phase involving a group of retail businesses who were not part of the main sample.

In the questionnaire testing, Cronbach's method was utilized. The resulting α coefficient of reliability ranges between 0 and 1, offering an overall evaluation of the measure's reliability. When all scale items are completely independent from each other, with no correlation or covariance, α equals 0. Conversely, if all items exhibit high covariances, α tends to approach 1, especially when the number of items in the scale is large, indicating a high level of questionnaire confidence. Coefficients below 0.5 are generally considered unacceptable, particularly for scales claiming to be unidimensional (Cronbach, 1951). Furthermore, Nunnally (1978) proposed that reliability should be equal to or greater than 0.7.

To assess the questionnaire's accuracy and suitability, a reliability test was conducted during the pilot test phase with a test group of 30 samples before employing the questionnaire for data collection with the actual sample. This step

was essential to inform respondents and ensure their understanding. The researcher used Cronbach's formula (1970) for this purpose.

$$\alpha = \frac{n}{n-1}\ 1 - \left(\frac{\Sigma s^2(X_i)}{s^2(Y)}\right)$$

In this case.

α refers to Questionnaire reliability value

n refers to the number of scale items

s^2 (Xi) refers to the variance associated with item

s^2 (Y) refers to the variance associated with the observed total scores

Data Collection

For this research, we will initially rely on two primary sources of information:

Primary Data

The primary data for this study were collected through a customized questionnaire survey from a sample of 406 college students. These data encompass the personal information of the participants and their influence of digital marketing literacy and self-efficacy on their intention to be an e-commerce entrepreneur. The questionnaires are multiple-choice questions to gather comprehensive information. The primary data collection process was conducted through online platforms. Following data validation and processing, this primary data will be used for an in-depth analysis of the students intentions to be e-commerce entrepreneurs.

Secondary Data

In addition to primary data collection, this study also relies on secondary data. Secondary data refers to pre-existing information collected by other researchers or organizations that are relevant to the research topic. The secondary data sources used in this study include academic papers, reports, and publications related to the influence of digital marketing literacy and self-efficacy on their intention to be an e-commerce entrepreneur. These sources offer valuable insights, statistical data, and theoretical foundations that support primary data analysis.

Statistics and Data Analysis

Upon completion of the requisite number of questionnaires as determined by the study's sample size, the researcher will employ this dataset for statistical analysis. The analysis will be conducted using the SPSS (Statistical Package for the Social Sciences) program to derive conclusions in accordance with the research objectives as outlined below.

Descriptive Statistics

Statistics-based data analysis can be categorized into two types: descriptive analysis, which explicates the general characteristics of the sample data, and inferential analysis.

Descriptive Statistics Analysis: This phase involves descriptive analysis to elucidate the general characteristics of the sample data. The analysis can be further categorized based on the questionnaire as follows:

1. Questionnaire Part 1: This section pertains to the demographics of university students, encompassing gender, age, university type.

2. Questionnaire Part 2: This section focuses on the elements of digital marketing literacy that influence intention to be an E-Commerce entrepreneur among undergraduate students in Shaanxi Province, China.

3. Questionnaire Part 3: This section pertains to the elements of self-efficacy that influence intention to be an E-Commerce entrepreneur among undergraduate students in Shaanxi Province, China.

4. Questionnaire Part 4: This section pertains to the elements of entrepreneurship education that influence intention to be an E-Commerce entrepreneur among undergraduate students in Shaanxi Province, China.

5. Questionnaire Part 5: Intention to be an E-Commerce entrepreneur, descriptive statistics will be employed, namely, calculating the mean and standard deviation.

Inferential Analysis

Statistical Methods for Hypothesis Testing: Inferential statistics will be employed to test each hypothesis using the following approaches:

1. Digital marketing literacy influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China.

2. Self-Efficacy influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China.

3. Entrepreneurship Education influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China.

To evaluate the influence of assumptions 1-3, Multiple Regression Analysis is applied to explore the relationships between dependent variables and one or more independent variables. This statistical method is employed for hypothesis testing and can be expressed as a linear equation in raw score format:

$$\acute{Y} = b0 + b1X1 + b2X2 + ...+bkXk$$

When;

$\acute{Y}$ = Predictive score of dependent variable Y

b0 = Fixed effects of the prediction equation in raw score format

b1 ,..., bk = represents the weight or regression coefficient of independent variables numbered 1 through k, in sequential order

x0 ,..., X1 = represent the scores of the 1st to k independent variables.

k = number of independent variable

Research Duration

Table 9 Research Duration

No.	Start Date	End Date	Activities
1.	Nov 1, 2023	Jan 31, 2024	Project Initiation and Literature Review Define research objectives and methodologies. Conduct an extensive literature review to establish a robust theoretical framework. Refine research questions and hypotheses based on existing literature. Initiate planning for data collection.

Table 9 (Continued)

No.	Start Date	End Date	Activities
2	Feb 1, 2024	Feb 29, 2024	Defense Preparation and Data Collection Kick-off Prepare for the initial defense covering chapters 1 to 3. Develop a comprehensive defense presentation outlining research goals and methods. Commence data collection activities, ensuring alignment with ethical standards. Establish contact with participants and secure necessary permissions. Conduct the initial defense, presenting chapters 1 to 3 to the advisory committee. Address any feedback or recommendations from the defense promptly. Data Collection and Preliminary Analysis Intensify data collection efforts, ensuring a robust dataset. Monitor and address any challenges during data collection. Begin preliminary data analysis to identify emerging trends and patterns.
3.	Mar 1, 2024	Mar 22, 2024	Final Defense, Data Analysis, and International Conference Prepare for the final defense covering chapters 1 to 5. Conduct the final defense, incorporating feedback from the initial defense. Intensively analyze the collected data, employing advanced statistical methods. Interpret findings and identify significant insights for inclusion in the thesis. Prepare for and participate in the International Conference, showcasing research outcomes and engaging with the academic community.

Table 9 (Continued)

No.	Start Date	End Date	Activities
			Conclusion and Finalization Finalize the discussion and conclusion chapters of the thesis. Review and refine the entire thesis for coherence and accuracy. Address any feedback or revisions suggested by advisors. Prepare and submit the final version of the thesis.

CHAPTER IV

RESULTS

In this study, the researcher analyzed the Influence of Digital Marketing Literacy and Self-Efficacy on the Intention to be an E-Commerce Entrepreneur. to determine the impact of various factors on the Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China. The collected questionnaires were processed using the SPSS for Windows statistical package, with the presentation and interpretation of the data analysis results outlined in this research. The findings have been analyzed and presented in the form of an explanatory table, organized into three sections for clarity:

1. Descriptive statistical analysis
    1.1 General demographic characteristics of the respondents
    1.2 Factors of Digital marketing literacy influencing Intention to be an E-Commerce Entrepreneur
    1.3 Factors of Self-Efficacy influencing Intention to be an E-Commerce Entrepreneur
    1.4 Factors of Entrepreneurship Education influencing Intention to be an E-Commerce Entrepreneur
    1.5 Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China
2. Verifying Preliminary Assumptions for the Regression Model
    2.1 Reliability test
    2.2 Assessing Normality
    2.3 Examining relationships between variables
    2.4 Multicollinearity

3 Inferential Data Analysis for Hypothesis Testing

3.1 Testing Factors Affecting influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China Utilizing Multiple Regression Analysis

Descriptive statistical analysis

General demographic characteristics of the respondents

This section delves into the demographic composition of the respondents, categorizing and presenting the data according to gender, age, type of university, and

name of school/university. The findings from the data analysis are summarized below, with details provided in numbers and percentages to offer a clear demographic profile of the study participants.

The total number of people surveyed by the questionnaire was 406. The researcher collected data through the questionnaire and analyzed the data of the sample group according to statistical principles. The result are following;

Table 10 Frequency statistics for demographic characteristics classified by gender.

Gender	Frequency	Percent
Male	201	49.5
Female	205	50.5
Total	406	100.0

Table 10 shows that the majority of respondents in the questionnaire are female, with a total of 205 samples (50.5%), followed by males, with 201 samples (49.5%).

Table 11 Frequency statistics for demographic characteristics classified by age.

Age	Frequency	Percent
19 years old	77	19.0
20 years old	121	29.8
21 years old	71	17.5
22 years old	79	19.5
23 years old	58	14.3
Total	406	100.0

Table 12 shows that the majority of the sample group are aged 20 years, with 121 samples (29.8%), followed by 22 years, with 79 samples (19.5%), 19 years, with 77 samples (19.0%), 21 years, with 71 samples (17.5%), and 23 years, with 58 samples (14.3%).

Table 12 Frequency statistics for demographic characteristics classified by type of university.

Type of University	Frequency	Percent
Private University	168	41.4
Public University	238	58.6
Total	406	100.0

Table 13 showed that the majority of the sample group study at public universities, with 238 samples (58.6%), followed by private universities, with 168 samples (41.4%).

Table 13 Frequency statistics for demographic characteristics classified by Name of School/University.

Name of School/University	Frequency	Percent
Shaanxi International Business College	14	3.4
Shaanxi Institute of Fashion Engineering	14	3.4
Xingzhi College of Xi'an University of Finance and Economics	14	3.4
Shaanxi University of Science and Technology Haojing College	14	3.4
Xi'an Technology and Business College	14	3.4
Xi'an Innovation College of Yan'an University	14	3.4
Xi'an University of Electronic Science and Technology Chang'an College	14	3.4
Xi'an Jiaotong University City College	14	3.4
Xijing University	14	3.4
Xi'an University of Architecture and Technology Huaqing College	14	3.4
Xi'an Information Vocational University	14	3.4
Northwest University Modern College	14	3.4

Table 14 (Continued)

Name of School/University	Frequency	Percent
Northwest University	14	3.4
Xi'an Jiaotong University	14	3.4
Xi'an University of Technology	14	3.4
Xi'An Industrial University	14	3.4
Xi'an University of Architecture and Technology	14	3.4
Shaanxi University of Science and Technology	14	3.4
Chang'an University	14	3.4
Shaanxi University of Traditional Chinese Medicine	14	3.4
Shaanxi Normal University	14	3.4
Shaanxi University of Technology	14	3.4
Xianyang Normal University	14	3.4
Weinan Normal University	14	3.4
Xi'an Academy of Fine Arts	14	3.4
Xi'an University of Arts and Sciences	14	3.4
Xi'an University of Finance and Economics	14	3.4
Xi'an University of Posts	14	3.4
Xi'an Aviation University	14	3.4
Total	406	100.0

Table 14 shows that each university is represented equally, with 14 samples per university (3.4%).

Factors of Digital marketing literacy influencing Intention to be an E-Commerce Entrepreneur

This portion examines the perceived digital marketing literacy by the respondents. The analysis covers several aspects of Digital marketing literacy influencing Intention to be an E-Commerce Entrepreneur such as Knowledge of digital marketing literacy level, Digital Participation Tendencies in Entrepreneurial Information, and Knowledge of the elements of digital marketing. The findings are presented below, with each aspect's influence detailed through mean scores and standard deviations:

Table 14 Mean and Standard Deviation of digital marketing literacy

Digital marketing literacy	Mean	Standard Deviation	Definition of Level
Knowledge of digital marketing literacy level	4.28	0.487	Strongly Agree
Digital Participation Tendencies in Entrepreneurial Information	4.20	0.560	Agree
Knowledge of the elements of digital marketing	4.14	0.619	Agree
Total	4.21	0.387	Strongly Agree

Table 15 found that the sample group had opinions about digital marketing knowledge at the level of strongly agree (Mean = 4.21), with opinions about digital marketing knowledge at the level of agreement strongly (Mean = 4.28), followed by trends in digital participation in entrepreneurial information (Mean = 4.20) and knowledge about the elements of digital marketing (Mean = 4.14) at the agreed level. respectively.

Table 15 Mean and Standard Deviation of Knowledge of digital marketing literacy level in digital marketing literacy

Knowledge of digital marketing literacy level	Mean	Standard Deviation	Definition of Level
1. Building social media pages for E-Commerce purposes.	4.16	0.676	Agree
2. Creating a business website using E-Commerce-oriented web builders (e.g., local web builders).	4.42	0.611	Strongly Agree
3. Utilizing social media advertisements (e.g., WeChat, Weibo) specifically for E-Commerce product marketing.	4.18	0.721	Agree

Table 15 (Continued)

Knowledge of digital marketing literacy level	Mean	Standard Deviation	Definition of Level
4. Applying Copywriting techniques tailored for E-Commerce content.	4.19	0.639	Agree
5. Consistently updating social media accounts with E-Commerce content on schedule.	4.40	0.687	Strongly Agree
6. Using social media effectively for E-Commerce digital marketing.	4.32	0.748	Strongly Agree
Total	4.28	0.487	Strongly Agree

Table 16 found that the sample group had opinions on Knowledge of digital marketing literacy level at the level of strongly agree (Mean = 4.28), with comment on creating a business website using E-Commerce-oriented web builders (e.g., local web builders) (Mean = 4.42). Following this is Consistently updating social media accounts with E-Commerce content on schedule (Mean = 4.40), Using social media effectively for E-Commerce digital marketing (Mean = 4.32), Applying Copywriting techniques tailored for E-Commerce content (Mean = 4.19), Utilizing social media advertisements (e.g., WeChat, Weibo) specifically for E-Commerce product marketing (Mean = 4.18), and building social media pages for E-Commerce purposes (Mean = 4.16), respectively.

Table 16 Mean and Standard Deviation of Digital Participation Tendencies in Entrepreneurial Information in digital marketing literacy

Digital Participation Tendencies in Entrepreneurial Information	Mean	Standard Deviation	Definition of Level
1. I use the internet to effectively reach a broader audience of potential customers for student E-Commerce projects.	4.20	0.743	Agree
2. The cost-effectiveness and ease of advertising the latest products for student E-Commerce ventures motivate me to use the internet.	4.36	0.629	Strongly Agree
3. I utilize the internet to gather entrepreneurial information specific to student E-Commerce trends and branding purposes.	4.11	0.681	Agree
4. I use the internet to stay informed about the latest products in the student E-Commerce market.	4.26	0.717	Strongly Agree
5. I rely on the internet to find information about suppliers for student E-Commerce initiatives.	4.25	0.728	Strongly Agree
6. Online banking via the internet is a convenient method for receiving payments from customers for student E-Commerce projects	4.04	0.749	Agree
Total	4.20	0.560	Agree

Table 17 found that the sample group had opinions on Digital Participation Tendencies in Entrepreneurial Information at the level of agree (Mean = 4.20), with comment on the cost-effectiveness and ease of advertising the latest products for student E-Commerce ventures motivate me to use the internet (Mean = 4.36). Following this is I use the internet to stay informed about the latest products in the student E-Commerce market (Mean = 4.26), I rely on the internet to find information about suppliers for student E-Commerce initiatives (Mean = 4.25), I use the internet to effectively reach a broader audience of potential customers for student E-

Commerce projects (Mean = 4.20), I utilize the internet to gather entrepreneurial information specific to student E-Commerce trends and branding purposes (Mean = 4.11), and Online banking via the internet is a convenient method for receiving payments from customers for student E-Commerce projects (Mean = 4.04), respectively.

Table 17 Mean and Standard Deviation of Knowledge of the elements of digital marketing in digital marketing literacy

Knowledge of the elements of digital marketing	Mean	Standard Deviation	Definition of Level
1. Using online advertising effectively for student E-Commerce ventures.	4.16	0.742	Agree
2. Implementing social media marketing strategies for student E-Commerce projects.	4.14	0.713	Agree
3. Employing email marketing techniques specifically for student E-Commerce initiatives.	4.10	0.715	Agree
4. Creating compelling business content on social media platforms for student E-Commerce endeavors.	4.11	0.747	Agree
5. Utilizing text marketing effectively in the context of student E-Commerce.	4.08	0.719	Agree
6. Implementing affiliate marketing strategies for student E-Commerce projects.	4.24	0.701	Strongly Agree
Total	4.14	0.619	Agree

Table 18 found that the sample group had opinions on Knowledge of the elements of digital marketing at the level of agree (Mean = 4.14), with comment on Implementing affiliate marketing strategies for student E-Commerce projects (Mean = 4.24). Following this is Using online advertising effectively for student E-Commerce ventures. (Mean = 4.16), Implementing social media marketing strategies for student E-Commerce projects (Mean = 4.14), Creating compelling business content on social media platforms for student E-Commerce endeavors. (Mean = 4.11) Employing email

marketing techniques specifically for student E-Commerce initiatives (Mean = 4.10), and Utilizing text marketing effectively in the context of student E-Commerce (Mean = 4.08), respectively.

Factors of Self-Efficacy influencing Intention to be an E-Commerce Entrepreneur

This portion examines the perceived self-efficacy by the respondents. The analysis covers several aspects of self-efficacy influencing Intention to be an E-Commerce Entrepreneur such as Entrepreneurial Self-Efficacy, Perceived Desirability, and Perceived Feasibility. The findings are presented below, with each aspect's influence detailed through mean scores and standard deviations:

Table 18 Mean and Standard Deviation of self-efficacy

Self-Efficacy	Mean	Standard Deviation	Definition of Level
Entrepreneurial Self-Efficacy	4.11	0.649	Agree
Perceived Desirability	4.09	0.714	Agree
Perceived Feasibility	4.22	0.644	Strongly Agree
Total	4.14	0.591	Agree

Table 19 found that the sample group had opinions about self-efficacy at the level of agree (Mean = 4.14), with opinions about Perceived Feasibility at the level of agreement strongly (Mean = 22), followed by trends in Entrepreneurial Self-Efficacy (Mean = 4.11) and Perceived Desirability (Mean = 4.09) at the agreed level. respectively.

Table 19 Mean and Standard Deviation of entrepreneurial self-efficacy in self-efficacy

Entrepreneurial Self-Efficacy	Mean	Standard Deviation	Definition of Level
1. To start a business and keep it working would be easy for me.	4.12	0.735	Agree
2. I am prepared to start a viable and Business.	4.11	0.727	Agree
3. As an entrepreneur, I would have sufficient control over my business.	4.07	0.735	Agree
4. I know the necessary practical details to start a firm.	4.08	0.715	Agree
5. I know how to develop an entrepreneurial project.	4.13	0.744	Agree
6. If I tried to start a firm, I would have a high probability of succeeding.	4.17	0.771	Agree
Total	4.11	0.649	Agree

Table found that the sample group had opinions on Entrepreneurial Self-Efficacy at the level of agree (Mean = 4.11), with comment on If I tried to start a firm, I would have a high probability of succeeding (Mean = 4.17). Following this is I know how to develop an entrepreneurial project (Mean = 4.13), To start a business and keep it working would be easy for me (Mean = 4.12), I am prepared to start a viable and Business (Mean = 4.11), I know the necessary practical details to start a firm (Mean = 4.08), and As an entrepreneur, I would have sufficient control over my business (Mean = 4.07), respectively.

Table 20 Mean and Standard Deviation of perceived desirability in self-efficacy

Perceived Desirability	Mean	Standard Deviation	Definition of Level
1. I have a strong interest in becoming an E-Commerce entrepreneur.	4.02	0.799	Agree
2. The idea of being an E-Commerce entrepreneur brings me a sense of joy and fulfillment.	4.11	0.776	Agree
3. I believe there are ample opportunities and resources available for me to start and succeed in an E-Commerce business.	4.13	0.809	Agree
4. I view E-Commerce entrepreneurship as a viable and appealing career choice.	4.10	0.783	Agree
Total	4.09	0.714	Agree

Table 21 found that the sample group had opinions on Perceived Desirability at the level of agree (Mean = 4.09), with comment on I believe there are ample opportunities and resources available for me to start and succeed in an E-Commerce business (Mean = 4.13). Following this is the idea of being an E-Commerce entrepreneur brings me a sense of joy and fulfillment (Mean = 4.11), I view E-Commerce entrepreneurship as a viable and appealing career choice (Mean = 4.10), and I have a strong interest in becoming an E-Commerce entrepreneur (Mean = 4.02), respectively.

Table 21 Mean and Standard Deviation of perceived feasibility in self-efficacy

Perceived Feasibility	Mean	Standard Deviation	Definition of Level
1. I find it relatively easy to start an e-commerce business.	4.30	0.701	Strongly Agree
2. I feel adequately prepared and willing to engage in entrepreneurial activities within the e-commerce sector.	4.20	0.719	Agree
3. I believe I possess the practical skills necessary for the effective operation and success of an e-commerce enterprise.	4.22	0.711	Strongly Agree
4. I am confident in my ability to achieve success specifically in the context of e-commerce entrepreneurship.	4.17	0.764	Agree
Total	4.22	0.644	Strongly Agree

Table 22 found that the sample group had opinions on Perceived Desirability at the level of strongly agree (Mean = 4.22), with comment on I find it relatively easy to start an e-commerce business (Mean = 4.30). Following this is I believe I possess the practical skills necessary for the effective operation and success of an e-commerce enterprise (Mean = 4.22), I feel adequately prepared and willing to engage in entrepreneurial activities within the e-commerce sector (Mean = 4.20), and I am confident in my ability to achieve success specifically in the context of e-commerce entrepreneurship (Mean = 4.17), respectively.

Factors of Entrepreneurship Education influencing Intention to be an E-Commerce Entrepreneur

This portion examines the perceived entrepreneurship education by the respondents. The analysis covers several aspects of perceived entrepreneurship influencing Intention to be an E-Commerce Entrepreneur such as Curriculum, Education Quality, Facility, and Entrepreneurship opportunity recognition. The findings are presented below, with each aspect's influence detailed through mean scores and standard deviations:

Table 22 Mean and Standard Deviation of entrepreneurship education

Entrepreneurship Education	Mean	Standard Deviation	Definition of Level
Curriculum	4.15	0.649	Agree
Education Quality	4.07	0.579	Agree
Facility	4.17	0.623	
Entrepreneurship Opportunity Recognition	4.16	0.677	Agree
Total	4.14	0.563	Agree

Table 23 found that the sample group had opinions about entrepreneurship education at the level of agree (Mean = 4.14), with opinions about Facility (Mean = 4.17), followed by trends in Entrepreneurship Opportunity Recognition (Mean = 4.16), Curriculum (Mean = 0.15), and knowledge about the Education Quality (Mean = 4.07). respectively.

Table 23 Mean and Standard Deviation of curriculum in entrepreneurship education

Curriculum	Mean	Standard Deviation	Definition of Level
1. The curriculum content related to E-Commerce is essential for students' understanding to be the entrepreneur E-Commerce.	4.31	0.674	Strongly Agree
2. The insights gained from the curriculum significantly contribute to students' knowledge about the E-Commerce business.	4.10	0.768	Agree

Table 24 (Continued)

Curriculum	Mean	Standard Deviation	Definition of Level
3. The practical knowledge embedded in the curriculum is crucial for addressing real-world challenges in the E-Commerce sector, regardless of academic discipline.	4.16	0.779	Agree
4. The emphasis on entrepreneurial principles and practices in the context of E-Commerce is important for all students.	4.19	0.756	Agree
5. The curriculum, regardless of major, should adequately address the specific challenges and opportunities in E-Commerce entrepreneurship.	4.02	0.847	Agree
6. Overall, students believe that the Curriculum, irrespective of their major or program, is important in influencing their intention to be an E-Commerce Entrepreneur.	4.14	0.742	Agree
Total	4.15	0.649	Agree

Table 24 found that the sample group had opinions on Curriculum at the level of agree (Mean = 4.15), with comment on the curriculum content related to E-Commerce is essential for students' understanding to be the entrepreneur E-Commerce (Mean = 4.31). Following this is The emphasis on entrepreneurial principles and practices in the context of E-Commerce is important for all students (Mean = 4.19), The practical knowledge embedded in the curriculum is crucial for addressing real-world challenges in the E-Commerce sector, regardless of academic discipline (Mean = 4.16), Overall, students believe that the Curriculum, irrespective of their major or program, is important in influencing their intention to be an E-Commerce Entrepreneur (Mean = 4.14), The insights gained from the curriculum significantly contribute to students' knowledge about the E-Commerce business (Mean = 4.10), and The curriculum, regardless of major, should adequately address the specific challenges and opportunities in E-Commerce entrepreneurship (Mean = 4.02), respectively.

Table 24 Mean and Standard Deviation of education quality in entrepreneurship education

Education Quality	Mean	Standard Deviation	Definition of Level
1. The quality of E-Commerce Entrepreneurship education has provided me with valuable insights into self-employment opportunities within the digital business realm.	4.11	0.698	Agree
2. I believe that the education quality in E-Commerce Entrepreneurship has enhanced my understanding of the benefits of being self-employed in the online business space.	3.84	0.848	Agree
3. The practical knowledge gained from E-Commerce Entrepreneurship education significantly contributes to my desire to pursue self-employment in the context of digital entrepreneurship.	4.15	0.705	Agree
4. The quality of education in E-Commerce Entrepreneurship has motivated me to explore self-employment as a viable career option, specifically within the digital commerce sector.	4.13	0.711	Agree
5. Overall, I feel that the Education Quality in E-Commerce Entrepreneurship is a key factor in fostering my desire to be self-employed in the digital business landscape.	4.16	0.691	Agree
Total	4.07	0.579	Agree

Table 25 found that the sample group had opinions on Education Quality at the level of agree (Mean = 4.07), with comment on Overall, I feel that the Education Quality in E-Commerce Entrepreneurship is a key factor in fostering my desire to be self-employed in the digital business landscape (Mean = 4.16). Following this is The practical knowledge gained from E-Commerce Entrepreneurship education significantly contributes to my desire to pursue self-employment in the context of

digital entrepreneurship (Mean = 4.15), The quality of education in E-Commerce Entrepreneurship has motivated me to explore self-employment as a viable career option, specifically within the digital commerce sector (Mean = 4.13), The quality of E-Commerce Entrepreneurship education has provided me with valuable insights into self-employment opportunities within the digital business realm (Mean = 4.11), and I believe that the education quality in E-Commerce Entrepreneurship has enhanced my understanding of the benefits of being self-employed in the online business space (Mean = 3.84), respectively.

Table 25 Mean and Standard Deviation of facility in entrepreneurship education

Facility	Mean	Standard Deviation	Definition of Level
1. The available facilities (e.g., workspaces, labs) in my educational environment contribute to fostering an entrepreneurial spirit in the field of E-Commerce.	4.15	0.693	Agree
2. The infrastructure (e.g., technology, equipment) accessible to students enhances the entrepreneurial learning experience, especially in the context of E-Commerce Entrepreneurship.	4.20	0.724	Agree
3. The resources and facilities provided in my educational setting effectively support collaborative and innovative efforts related to E-Commerce Entrepreneurship.	4.19	0.754	Agree
4. Overall, I believe that the facilities and infrastructure in my educational environment play a significant role in fostering an entrepreneurial spirit within the field of E-Commerce Entrepreneurship.	4.14	0.776	Agree
Total	4.17	0.623	Agree

Table 26 found that the sample group had opinions on Facility at the level of agree (Mean = 4.17), with comment on the infrastructure (e.g., technology, equipment) accessible to students enhances the entrepreneurial learning experience,

especially in the context of E-Commerce Entrepreneurship (Mean = 4.20). Following this is The resources and facilities provided in my educational setting effectively support collaborative and innovative efforts related to E-Commerce Entrepreneurship (Mean = 4.19), The available facilities (e.g., workspaces, labs) in my educational environment contribute to fostering an entrepreneurial spirit in the field of E-Commerce (Mean = 4.15), and Overall, I believe that the facilities and infrastructure in my educational environment play a significant role in fostering an entrepreneurial spirit within the field of E-Commerce Entrepreneurship (Mean = 4.14), respectively.

Table 26 Mean and Standard Deviation of entrepreneurship opportunity recognition in entrepreneurship education

Entrepreneurship opportunity recognition	Mean	Standard Deviation	Definition of Level
1. I can identify potential successful ideas within the E-commerce sector based on my understanding of market demand.	4.24	0.751	Strongly Agree
2. I effectively process resources gained from entrepreneurial learning to recognize opportunities in the E-commerce business.	4.14	0.762	Agree
3. I am skilled at strategically selecting and executing plans to leverage promising opportunities within the E-commerce industry.	4.17	0.758	Agree
4. My entrepreneurial opportunity recognition is influenced by the knowledge and insights acquired through my education in E-commerce entrepreneurship.	4.10	0.760	Agree
5. Overall, I believe my ability to recognize and seize entrepreneurial opportunities within the E-commerce landscape is well-developed.	4.15	0.770	Agree
Total	4.16	0.677	Agree

Table 27 found that the sample group had opinions on Entrepreneurship opportunity recognition at the level of agree (Mean = 4.16), with comment on I can

identify potential successful ideas within the E-commerce sector based on my understanding of market demand (Mean = 4.24). Following this is I am skilled at strategically selecting and executing plans to leverage promising opportunities within the E-commerce industry (Mean = 4.17), Overall, I believe my ability to recognize and seize entrepreneurial opportunities within the E-commerce landscape is well-developed (Mean = 4.15), I effectively process resources gained from entrepreneurial learning to recognize opportunities in the E-commerce business (Mean = 4.14), and My entrepreneurial opportunity recognition is influenced by the knowledge and insights acquired through my education in E-commerce entrepreneurship (Mean = 4.10), respectively.

Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China

Table 27 Mean and Standard Deviation of Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China

Intention to be an E-Commerce Entrepreneur	Mean	Standard Deviation	Definition of Level
1. I am willing to undertake any necessary actions to initiate my own E-Commerce business.	4.02	0.713	Agree
2. My professional objective is to establish and manage my own E-Commerce business.	4.05	0.735	Agree
3. I am committed to putting forth every effort to launch and operate my own E-Commerce firm.	4.14	0.761	Agree
4. I am resolute in my determination to establish an E-Commerce firm in the future.	4.17	0.713	Agree
5. I have earnestly contemplated the prospect of launching an E-Commerce firm.	4.41	0.613	Strongly Agree

Table 28 (Continued)

Intention to be an E-Commerce Entrepreneur	Mean	Standard Deviation	Definition of Level
6. I have concrete plans to commence an E-Commerce business within five years of graduation.	4.33	0.677	Strongly Agree
7. I view entrepreneurship as a viable and appealing career option.	4.37	0.637	Strongly Agree
Total	4.21	0.573	Strongly Agree

Table 28 found that the sample group had opinions on Intention to be an E-Commerce Entrepreneur at the level of agree (Mean = 4.21), with comment on I have earnestly contemplated the prospect of launching an E-Commerce firm (Mean = 4.41). Following this is I view entrepreneurship as a viable and appealing career option (Mean = 4.37), I have concrete plans to commence an E-Commerce business within five years of graduation (Mean = 4.33), I am resolute in my determination to establish an E-Commerce firm in the future (Mean = 4.17), I am committed to putting forth every effort to launch and operate my own E-Commerce firm (Mean = 4.14), My professional objective is to establish and manage my own E-Commerce business (Mean = 0.05), and I am willing to undertake any necessary actions to initiate my own E-Commerce business (Mean = 4.02), respectively.

Verifying Preliminary Assumptions for the Regression Model

Reliability test

Table 28 Reliability Test

Factors	Question	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	α
Knowledge of digital marketing literacy level	KML1	0.717	0.891	0.905
	KML2	0.740	0.888	
	KML3	0.720	0.891	
	KML4	0.766	0.884	
	KML5	0.795	0.880	
	KML6	0.703	0.893	
Digital Participation Tendencies in Entrepreneurial Information	DEI1	0.759	0.857	0.886
	DEI2	0.674	0.871	
	DEI3	0.726	0.863	
	DEI4	0.724	0.863	
	DEI5	0.682	0.870	
	DEI6	0.640	0.876	
Knowledge of the elements of digital marketing	KDM1	0.778	0.862	0.892
	KDM2	0.693	0.878	
	KDM3	0.698	0.876	
	KDM4	0.706	0.875	
	KDM5	0.772	0.864	
	KDM6	0.647	0.883	
Entrepreneurial Self-Efficacy	ESE1	0.822	0.886	0.912
	ESE2	0.726	00.900	
	ESE3	0.754	.896	
	ESE4	0.759	0.895	
	ESE5	0.691	0.904	
	ESE6	0.771	0.893	

Table 29 (Continued)

Factors	Question	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	α
Perceived	PED1	0.762	0.793	0.858
Desirability	PED2	0.603	0.858	
	PED3	0.716	0.813	
	PED4	0.732	0.807	
Perceived Feasibility	PEF1	0.740	0.876	0.895
	PEF2	0.837	0.839	
	PEF3	0.662	0.905	
	PEF4	0.871	0.826	
Curriculum	CUR1	0.744	0.877	0.897
	CUR2	0.722	0.880	
	CUR3	0.757	0.874	
	CUR4	0.669	0.887	
	CUR5	0.780	0.873	
	CUR6	0.689	0.884	
Education Quality	EDQ1	0.771	0.860	0.890
	EDQ2	0.782	0.856	
	EDQ3	0.616	0.890	
	EDQ4	0.804	0.848	
	EDQ5	0.715	0.872	
Facility	FAC1	0.838	0.786	0.869
	FAC2	0.734	0.827	
	FAC3	0.615	0.874	
	FAC4	0.706	0.838	
Entrepreneurship	EOR1	0.743	0.854	0.884
opportunity	EOR2	0.718	0.860	
recognition	EOR3	0.759	0.850	
	EOR4	0.669	0.871	
	EOR5	0.724	0.858	

Table 29 (Continued)

Factors	Question	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	α
Intention to be an E-Commerce Entrepreneur	IEE1	0.692	0.937	0.938
	IEE2	0.735	0.934	
	IEE3	0.841	0.925	
	IEE4	0.928	0.915	
	IEE5	0.777	0.930	
	IEE6	0.827	0.925	
	IEE7	0.792	0.929	

From the reliability analysis, the corrected item-total correlation corresponding to each question item was greater than 0.4, and the Cronbach Alpha of the deleted item corresponding to each dimension question item was less than the Cronbach Alpha of the dimension to which it belonged; a scale or questionnaire with a good reliability coefficient should ideally be above 0.80, with a range of 0.70 to 0.80 being acceptable; a subscale should ideally be above 0.70 and between 0.60 and 0.70 is acceptable. The Clonbach Alpha reliability coefficients of the subscales represented by the factors in the official questionnaire of this paper are all above 0.70, according to the above criteria and reliability coefficient table can be seen: the questionnaire's reliability is ideal.

Assessing Normality

Table 29 Skewness and Kurtosis Test

Factors	Question	Skewness	Kurtosis
Knowledge of digital marketing literacy level	KML1	-0.642	1.174
	KML2	-0.742	0.589
	KML3	-0.805	1.376
	KML4	-0.652	1.716
	KML5	-0.840	0.067
	KML6	-0.990	0.941

Table 30 (Continued)

Factors	Question	Skewness	Kurtosis
Digital Participation Tendencies in Entrepreneurial Information	DEI1	-0.743	0.599
	DEI2	-0.526	-0.326
	DEI3	-0.471	0.626
	DEI4	-0.938	1.462
	DEI5	-0.851	0.751
	DEI6	-0.533	0.141
Knowledge of the elements of digital marketing	KDM1	-0.803	1.191
	KDM2	-0.462	-0.117
	KDM3	-0.476	0.307
	KDM4	-0.540	-0.009
	KDM5	-0.406	-0.133
	KDM6	-0.637	0.187
Entrepreneurial Self-Efficacy	ESE1	-0.530	0.222
	ESE2	-0.444	0.044
	ESE3	-0.412	-0.199
	ESE4	-0.554	0.644
	ESE5	-0.613	0.392
	ESE6	-0.655	0.159
Perceived Desirability	PED1	-0.623	0.400
	PED2	-0.692	0.620
	PED3	-0.743	0.429
	PED4	-0.796	1.053
Perceived Feasibility	PEF1	-0.747	0.315
	PEF2	-0.722	0.778
	PEF3	-0.685	0.622
	PEF4	-0.874	1.143
Curriculum	CUR1	-0.698	0.382
	CUR2	-0.437	-0.453
	CUR3	-0.818	0.848
	CUR4	-0.876	1.195
	CUR5	-0.703	0.270
	CUR6	-0.559	-0.012

Table 30 (Continued)

Factors	Question	Skewness	Kurtosis
Education Quality	EDQ1	-0.589	0.856
	EDQ2	-0.455	-0.186
	EDQ3	-0.471	-0.027
	EDQ4	-0.435	-0.124
	EDQ5	-0.519	0.297
Facility	FAC1	-0.549	0.421
	FAC2	-0.724	0.722
	FAC3	-0.794	0.699
	FAC4	-0.763	0.577
Entrepreneurship opportunity	EOR1	-1.061	1.783
recognition	EOR2	-0.612	0.196
	EOR3	-0.632	0.189
	EOR4	-0.685	0.569
	EOR5	-0.711	0.437
Intention to be an	IEE1	-0.357	-0.057
E-Commerce Entrepreneur	IEE2	-0.452	-0.014
	IEE3	-0.609	0.024
	IEE4	-0.580	0.224
	IEE5	-0.513	-0.626
	IEE6	-0.755	0.415
	IEE7	-0.679	0.292

Upon analyzing the skewness and kurtosis values, it was found that the data deviates slightly from zero but is considered close to zero. With skewness and kurtosis values falling within the range of ±1.96, it is deemed that the data follows a normal distribution, making it suitable for regression analysis.

Examining relationships between variables

Table 30 Correlation coefficient test

	DML	SEE	END	IEE
DML	1	0.416**	0.369**	0.339**
SEE		1	0.864**	0.755**
END			1	0.844***
IEE				1

** Correlation is significant at the 0.01 level (2-tailed).

DML = Digital marketing literacy

SEE = Self-Efficacy

END = Entrepreneurship Education

IEE = Intention to be an E-Commerce Entrepreneur

The Pearson correlation coefficient test shows that there is a significant relationship between Digital marketing literacy, Self-Efficacy, Entrepreneurship Education and Intention to be an E-Commerce Entrepreneur have a significant positive correlation ($p<0.01$) The relationship between the variables in this study is initially supported and the research hypotheses can be further tested.

Multicollinearity

Table 31 Multicollinearity test

Predictor variables	Collinearity Statistics	
	Tolerance	VIF
Digital marketing literacy	0.827	1.210
Self-Efficacy	0.242	4.130
Entrepreneurship Education	0.253	3.952

Upon testing the preliminary assumptions of Multiple linear regression analysis among Digital marketing literacy, Self-Efficacy, Entrepreneurship Education, and Intention to be an E-Commerce Entrepreneur, it was found that the tolerance values ranged from 0.242 to 0.827, which are greater than 0.1, and the VIF values

ranged from 1.210 to 4.130, which are less than 10. This indicates that each Predictor variables does not exhibit a significant level of correlation with each other and is independent of one another. Therefore, multicollinearity is not a concern.

Inferential Data Analysis for Hypothesis Testing

Testing Factors Affecting influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China Utilizing Multiple Regression Analysis

Hypothesis H1: Digital marketing literacy influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China.

H_0: Digital marketing literacy (Knowledge of digital marketing literacy level, Digital Participation Tendencies in Entrepreneurial Information, and Knowledge of the elements of digital marketing) do not influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China.

H_1: Digital marketing literacy (Knowledge of digital marketing literacy level, Digital Participation Tendencies in Entrepreneurial Information, and Knowledge of the elements of digital marketing) influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China.

X_1 = Knowledge of digital marketing literacy level
X_2 = Digital Participation Tendencies in Entrepreneurial Information
X_3 = Knowledge of the elements of digital marketing

Table 32 Displays the results of the multiple regression analysis on overall Intention to be an E-Commerce Entrepreneur, utilizing Multiple Regression values.

Source of variation	Sum of Squares	df	Mean Square	F	Sig.
Regression	58.182	3	19.394	104.026	0.000*
Residual	74.947	402	0.186		
Total	133.129	405			

*Statistically significant at the $p < 0.05$ level.

From Table 33, the multiple regression analysis examining the impact on Intention to be an E-Commerce Entrepreneur among Undergraduate Students in

Shaanxi Province, China, revealed a p-value of <0.001. This value, being below the 0.05 threshold, leads to the rejection of the null hypothesis (H_0) and the acceptance of the alternative hypothesis (H_1). This indicates that at least one aspect of the Digital marketing literacy significantly Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China, with statistical significance at the 0.05 level. Consequently, a linear prediction equation can be formulated as follows:

Table 33 Displays the multiple regression analysis results on the Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China, applied through the Enter method.

Predictor variables	Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China,			
	B	SE	t	Sig.
(Constant)	1.647	0.241	6.826	0.000
X_1	0.132	0.067	1.974	0.049*
X_2	0.127	0.058	2.185	0.029*
X_3	0.612	0.035	17.627	0.000*
r = 0.661		Adjusted R^2 = 0.433		
R^2 = 0.437		SE = 0.432		

*Statistically significant at the p < 0.05 level.

X_1 = Knowledge of digital marketing literacy level

X_2 = Digital Participation Tendencies in Entrepreneurial Information

X_3 = Knowledge of the elements of digital marketing

Table 34 presents the analysis results regarding the impact of Knowledge of digital marketing literacy level (X_1), Digital Participation Tendencies in Entrepreneurial Information (X_2), and Knowledge of the elements of digital marketing (X_3) on the Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China. The findings indicate that these variables Knowledge of digital marketing literacy level, Digital Participation Tendencies in Entrepreneurial Information, and Knowledge of the elements of digital marketing collectively account for 43.3% of the variance in Intention to be an E-Commerce Entrepreneur, as evidenced by an Adjusted R-squared (Adjusted R^2) value of 0.433.

Through multiple linear regression analysis, Knowledge of digital marketing literacy level, Digital Participation Tendencies in Entrepreneurial Information, and Knowledge of the elements of digital marketing have significant positive independent effects on Intention to be an E-Commerce Entrepreneur.

The higher the average score of Knowledge of digital marketing literacy level, the higher the average score of Intention to be an E-Commerce Entrepreneur. When the average score of Knowledge of digital marketing literacy level increases by one unit, the average score of Intention to be an E-Commerce Entrepreneur will increase by 0.132 units. Therefore, the hypothesis H1a can be accepted.

When the average score of respondents in Digital Participation Tendencies in Entrepreneurial Information is higher, the average score in Intention to be an E-Commerce Entrepreneur will be higher. When the average score of respondents in Digital Participation Tendencies in Entrepreneurial Information increases by one unit, the average score in Intention to be an E-Commerce Entrepreneur will increase by 0.127 units accordingly. Therefore, we can accept hypothesis H1b;

When the average score of respondents in Knowledge of the elements of digital marketing is higher, the average score in Intention to be an E-Commerce Entrepreneur will be higher. When the average score of respondents in Knowledge of the elements of digital marketing increases by one unit, the average score in Intention to be an E-Commerce Entrepreneur will increase by 0.612 units. Therefore, we can accept the hypothesis H1c;

Coefficient of regression table

This can be calculated by using the formula below:

Y = 1.647 + 0.132(Knowledge of digital marketing literacy level) + 0.127 (Digital Participation Tendencies in Entrepreneurial Information) + 0.612(Knowledge of the elements of digital marketing)

Hypothesis H2: Self-Efficacy influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China.

H_0: Self-Efficacy (Entrepreneurial Self-Efficacy, Perceived Desirability, and Perceived Feasibility) do not influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China.

H_1: Self-Efficacy (Entrepreneurial Self-Efficacy, Perceived Desirability, and Perceived Feasibility) influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China.

X_1 = Entrepreneurial Self-Efficacy

X_2 = Perceived Desirability

X_3 = Perceived Feasibility

Table 34 Displays the results of the multiple regression analysis on overall Intention to be an E-Commerce Entrepreneur, utilizing Multiple Regression values.

Source of variation	Sum of Squares	df	Mean Square	F	Sig.
Regression	78.828	3	26.276	194.526	0.000*
Residual	54.301	402	0.135		
Total	133.129	405			

*Statistically significant at the $p < 0.05$ level.

From Table 35 the multiple regression analysis examining the impact on Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China, revealed a p-value of <0.001. This value, being below the 0.05 threshold, leads to the rejection of the null hypothesis (H_0) and the acceptance of the alternative hypothesis (H_1). This indicates that at least one aspect of the Self-Efficacy significantly Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China, with statistical significance at the 0.05 level. Consequently, a linear prediction equation can be formulated as follows:

Table 35 Displays the multiple regression analysis results on the Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China, applied through the Enter method.

Predictor variables	Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China,			
	B	SE	t	Sig.
(Constant)	1.051	0.132	7.950	0.000
X_1	0.203	0.052	3.910	0.000*
X_2	0.154	0.044	3.501	0.001*
X_3	0.402	0.037	10.918	0.000*

r = 0.769 Adjusted R^2 = 0.589

R^2 = 0.592 SE = 0.368

*Statistically significant at the $p < 0.05$ level.

X_1 = Entrepreneurial Self-Efficacy

X_2 = Perceived Desirability

X_3 = Perceived Feasibility

Table 36 presents the analysis results regarding the impact of Entrepreneurial Self-Efficacy (X_1), Perceived Desirability (X_2), and Perceived Feasibility (X_3) on the Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China. The findings indicate that these variables Entrepreneurial Self-Efficacy, Perceived Desirability, and Perceived Feasibility collectively account for 58.9% of the variance in Intention to be an E-Commerce Entrepreneur, as evidenced by an Adjusted R-squared (Adjusted R^2) value of 0.589.

Through multiple linear regression analysis, Entrepreneurial Self-Efficacy, Perceived Desirability, and Perceived Feasibility have significant positive independent effects on Intention to be an E-Commerce Entrepreneur.

The higher the average score of Entrepreneurial Self-Efficacy, the higher the average score of Intention to be an E-Commerce Entrepreneur. When the average score of Entrepreneurial Self-Efficacy increases by one unit, the average score of Intention to be an E-Commerce Entrepreneur will increase by 0.203 units. Therefore, the hypothesis H2a can be accepted.

When the average score of respondents in Perceived Desirability is higher, the average score in Intention to be an E-Commerce Entrepreneur will be higher. When the average score of respondents in Perceived Desirability increases by one unit, the average score in Intention to be an E-Commerce Entrepreneur will increase by 0.154 units accordingly. Therefore, we can accept hypothesis H2b;

When the average score of respondents in Perceived Feasibility is higher, the average score in Intention to be an E-Commerce Entrepreneur will be higher. When the average score of respondents in Perceived Feasibility increases by one unit, the average score in Intention to be an E-Commerce Entrepreneur will increase by 0.402 units. Therefore, we can accept the hypothesis H2c;

Coefficient of regression table

This can be calculated by using the formula below:

Y = 1.051 + 0.203(Entrepreneurial Self-Efficacy) + 0.154(Perceived Desirability) + 0.402(Perceived Feasibility)

Hypothesis H3: Entrepreneurship Education influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China.

H_0: Entrepreneurship Education (Curriculum, Education Quality, Facility, and Entrepreneurship opportunity recognition) do not influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China.

H_1: Entrepreneurship Education (Curriculum, Education Quality, Facility, and Entrepreneurship opportunity recognition) influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China.

X_1 = Curriculum

X_2 = Education Quality

X_3 = Facility

X_4 = Entrepreneurship opportunity recognition

Table 36 Displays the results of the multiple regression analysis on overall Intention to be an E-Commerce Entrepreneur, utilizing Multiple Regression values.

Source of variation	Sum of Squares	df	Mean Square	F	Sig.
Regression	94.831	4	23.708	248.232	0.000*
Residual	38.298	401	0.096		
Total	133.129	405			

*Statistically significant at the $p < 0.05$ level.

From Table 37, the multiple regression analysis examining the impact on Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China, revealed a p-value of <0.001. This value, being below the 0.05 threshold, leads to the rejection of the null hypothesis (H_0) and the acceptance of the alternative hypothesis (H_1). This indicates that at least one aspect of the Entrepreneurship Education significantly Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China, with statistical significance at the 0.05 level. Consequently, a linear prediction equation can be formulated as follows:

Table 37 Displays the multiple regression analysis results on the Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China, applied through the Enter method.

Predictor variables	Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China,			
	B	SE	t	Sig.
(Constant)	0.648	0.117	5.535	0.000
X_1	0.233	0.040	5.855	0.000*
X_2	0.205	0.039	5.264	0.000*
X_3	0.246	0.050	4.978	0.000*
X_4	0.176	0.043	4.137	0.000*

r = 0.844 Adjusted R^2 = 0.709

R^2 = 0.712 SE = 0.309

*Statistically significant at the $p < 0.05$ level.

X_1 = Curriculum

X_2 = Education Quality

X_3 = Facility

X_4 = Entrepreneurship opportunity recognition

Table 38 presents the analysis results regarding the impact of Entrepreneurial Curriculum (X_1), Education Quality (X_2), Facility (X_3), and Entrepreneurship opportunity recognition (X_4) on the Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China. The findings indicate that these variables Curriculum, Education Quality, Facility, and Entrepreneurship opportunity recognition collectively account for 70.9% of the variance in Intention to be an E-Commerce Entrepreneur, as evidenced by an Adjusted R-squared (Adjusted R^2) value of 0.709.

Through multiple linear regression analysis, Curriculum, Education Quali, Facility, and Entrepreneurship opportunity recognition have significant positive independent effects on Intention to be an E-Commerce Entrepreneur.

The higher the average score of Curriculum, the higher the average score of Intention to be an E-Commerce Entrepreneur. When the average score of Curriculum increases by one unit, the average score of Intention to be an E-Commerce Entrepreneur will increase by 0.233 units. Therefore, the hypothesis H3a can be accepted.

When the average score of respondents in Education Quality is higher, the average score in Intention to be an E-Commerce Entrepreneur will be higher. When the average score of respondents in Education Quality increases by one unit, the average score in Intention to be an E-Commerce Entrepreneur will increase by 0.205 units accordingly. Therefore, we can accept hypothesis H3b;

When the average score of respondents in Facility is higher, the average score in Intention to be an E-Commerce Entrepreneur will be higher. When the average score of respondents in Facility increases by one unit, the average score in Intention to be an E-Commerce Entrepreneur will increase by 0.246 units. Therefore, we can accept the hypothesis H3c;

When the average score of respondents in Entrepreneurship opportunity recognition is higher, the average score in Intention to be an E-Commerce Entrepreneur will be higher. When the average score of respondents in Entrepreneurship opportunity recognition increases by one unit, the average score in Intention to be an E-Commerce Entrepreneur will increase by 0.176 units. Therefore, we can accept the hypothesis H3d;

Coefficient of regression table

This can be calculated by using the formula below:

Y = 0.648 + 0.233(Curriculum) + 0.205(Education Quality) + 0.246(Facility) + 0.176(Entrepreneurship opportunity recognition)

Table 38 Results of Research Hypothesis Test

	Research Hypothesis	Conclude
H1: Digital marketing literacy influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China.		
H1.1	Knowledge of digital marketing literacy level influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China.	Accepted
H1.2	Digital Participation Tendencies in Entrepreneurial Information influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China.	Accepted
H1.3	Knowledge of the elements of digital marketing influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China.	Accepted

Table 39 (Continued)

Research Hypothesis		Conclude
H2: Self-Efficacy influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China.		
H2.1	Entrepreneurial Self-Efficacy influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China.	Accepted
H2.2	Perceived Desirability influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China.	Accepted
H2.3	Perceived Feasibility influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China.	Accepted
H3: Entrepreneurship Education influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China.		
H3.1	Curriculum influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China.	Accepted
H3.2	Education Quality influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China.	Accepted
H3.3	Facility influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China.	Accepted
H3.4	Entrepreneurship opportunity recognition influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China.	Accepted

CHAPTER V

CONCLUSIONS, DISCUSSION, AND RECOMMENDATIONS

This study aims to investigate the influence of digital marketing literacy and self-perceived capabilities on the intention to become an e-commerce entrepreneur. The level of understanding and proficiency in digital marketing plays a crucial role in boosting individuals' confidence to initiate and conduct online businesses. Additionally, recognizing one's abilities in this domain enhances confidence and fosters expectations for new entrepreneurial ventures. Furthermore, perceiving competence in digital marketing may instill a positive mindset regarding opportunities and challenges in becoming an online entrepreneur, fostering enthusiasm for working in this professional field. Through this research, both academic understanding and practical applications in the field of e-commerce entrepreneurship among undergraduate students in Shaanxi Province, China, were explored. The research findings, discussions, and recommendations are summarized as follows.

1. Conclusions
2. Discussions
3. Research Significance
   3.1 Theoretical Significance
   3.2 Practical Significance
4. Limitations
5. Recommendations and Future Research

Conclusions

1. The results of the assessment of digital marketing literacy, self-efficacy, entrepreneurship education, and intention to be an e-commerce entrepreneur among undergraduate students in Shaanxi Province, China, indicate the following; The sample group strongly agrees with their level of digital marketing literacy, perceives their self-efficacy at an agreeable level, and views entrepreneurship education similarly as agreeable. The details are as follows:

1.1 Digital marketing literacy factors: The study found that digital marketing literacy is of paramount importance, with particular emphasis on the necessity of digital marketing knowledge at the highest level. Specifically, knowledge of creating business websites using e-commerce-oriented web builders (e.g., local web builders) ranked highest in importance, followed by the significance of Digital

Participation Tendencies in Entrepreneurial Information and Knowledge of the elements of digital marketing.

1.2 Self-Efficacy factors: The sample group perceived self-efficacy as highly important, with Perceived Feasibility ranking first. They believed that starting an e-commerce business is relatively easy, followed by Entrepreneurial Self-Efficacy, which increases the likelihood of success in entrepreneurship, and Perceived Desirability, as they perceive ample opportunities and resources for starting an e-commerce business.

1.3 Entrepreneurship Education factors: The participants considered Entrepreneurship Education factors highly important, with Facility being the most crucial. They recognized that accessible infrastructure (e.g., technology, equipment) enhances the entrepreneurial learning experience, especially in the context of E-Commerce Entrepreneurship. This was followed by Entrepreneurship opportunity recognition, Curriculum, and Education Quality

1.4 Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China: The study revealed that the participants seriously considered the opportunity to start e-commerce businesses as a potentially interesting career option. The majority of the sample had clear plans to start e-commerce businesses within 5 years after completing their education, demonstrating their intention and determination to establish e-commerce ventures in the future.

2. The examination of the influence of digital marketing literacy, self-efficacy, and entrepreneurship education on the intention to be an e-commerce entrepreneur among undergraduate students in Shaanxi Province, China revealed that.

2.1 Digital marketing literacy influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China, particularly the variables of knowledge of digital marketing literacy level (p-value = 0.049), digital participation tendencies in entrepreneurial information (p-value = 0.029), and knowledge of the elements of digital marketing (p-value = 0.000), which collectively predict entrepreneurial intention at 43.3%.

2.2 Self-efficacy influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China, particularly the variables of entrepreneurial self-efficacy (p-value = 0.000), perceived desirability (p-value = 0.001), and perceived feasibility (p-value = 0.000), which collectively predict entrepreneurial intention at 58.9%.

2.3 Entrepreneurship education influencing Intention to be an E-Commerce Entrepreneur among Undergraduate Students in Shaanxi Province, China,

particularly the variables of curriculum (p-value = 0.000), education quality (p-value = 0.000), facility (p-value = 0.000), and entrepreneurship opportunity recognition (p-value = 0.000), which collectively predict entrepreneurial intention at 70.9%

Discussions

In the section discussing the factors influencing the intention to become e-commerce entrepreneurs among undergraduate students in Shaanxi Province, China, this research reveals that Digital marketing literacy factors, Self-Efficacy factors, and Entrepreneurship Education factors significantly influence the intention to become e-commerce entrepreneurs among undergraduate students in Shaanxi Province, China, as evidenced by statistical analysis.

The study found that Digital marketing literacy, comprising Knowledge of digital marketing literacy level, Digital Participation Tendencies in Entrepreneurial Information, and Knowledge of the elements of digital marketing, positively impacts the intention to become e-commerce entrepreneurs among undergraduate students in Shaanxi Province, China. Each of these factors plays a role and influences the intention of students to enter the field of digital marketing amidst rapidly changing circumstances. Understanding the nuances of these factors is crucial for students' intentions to fully engage in digital marketing careers. Moreover, individuals with knowledge and understanding of digital marketing can comprehend trends and mechanisms relevant to online marketing, enabling them to efficiently apply digital marketing knowledge and skills in building and running online businesses more effectively. Additionally, having an inquisitive attitude towards entrepreneurship is essential for starting and operating online businesses. Knowledge of digital marketing elements helps students plan and conduct online marketing activities efficiently. Furthermore, digital marketing knowledge also helps students understand tools and techniques for brand building, SEO, social media marketing, and other relevant technologies crucial for pursuing careers in online business in the future. This study aligns with the research conducted by Jazuli et al. (2024), which shows that learning digital marketing knowledge positively contributes to students' understanding of online businesses in vocational schools.

Self-Efficacy factors encompass Entrepreneurial Self-Efficacy, Perceived Desirability, and Perceived Feasibility, which positively influence the intention to become e-commerce entrepreneurs among undergraduate students in Shaanxi Province, China. Belief in one's abilities aids in fostering a deep understanding and

the initiative to initiate and operate e-commerce ventures confidently. Moreover, self-confidence enables individuals to cope with obstacles and challenges that may arise in business operations more effectively, thus empowering them towards eventual success as e-commerce entrepreneurs. Entrepreneurial Self-Efficacy reflects an individual's belief in their ability to succeed in business ventures. If they have confidence in their abilities, they are more motivated and determined to seek additional knowledge and develop skills to succeed in starting their own businesses in the future. Having Perceived Desirability makes individuals perceive the value and importance of being online entrepreneurs and view it as an attractive and appealing option. Having a positive attitude towards being e-commerce entrepreneurs stimulates interest and readiness to participate in business ventures. Additionally, Perceived Feasibility is a crucial factor in the intention to become e-commerce entrepreneurs among undergraduate students. It reflects individuals' perception of the possibility of becoming e-commerce entrepreneurs. This factor affects the analysis of the feasibility of starting a business and the effectiveness of business operations. Believing that they can make the business a reality and succeed influences determination and readiness to engage in business ventures. Therefore, it is a significant factor affecting intention and assisting in business ventures for undergraduate students aspiring to become e-commerce entrepreneurs in the future. This study aligns with Neneh's (2020) research, which found that perceived self-efficacy of entrepreneurs positively influences the intention to pursue entrepreneurship among final-year undergraduate students at a university in Sub-Saharan Africa.

Entrepreneurship Education factors consist of Curriculum, Education Quality, Facility, and Entrepreneurship opportunity recognition, which positively influence the intention to become e-commerce entrepreneurs among undergraduate students in Shaanxi Province, China. Studies in this domain help students gain the understanding and necessary skills to transition into e-commerce entrepreneurs and also bolster confidence and readiness to start businesses, especially in terms of the curriculum. Curriculum is a critical foundation that dictates the content of learning and the skills students will acquire. A curriculum that integrates knowledge and skills related to online business management helps promote effective understanding and readiness to become entrepreneurs in the e-commerce sector. In addition to the curriculum, high-quality education promotes practical learning and fosters essential skills for working in the online industry, thus preparing students to efficiently participate in the e-commerce job market. Supported by various facilities, this creates an environment

conducive to studying and developing skills relevant to e-commerce entrepreneurship. Finally, Entrepreneurship opportunity recognition is crucial for the intention to become e-commerce entrepreneurs among undergraduate students. Recognizing business opportunities is a key step in starting one's own business. Recognizing business opportunities enables students to identify and be aware of opportunities for business creation, understand market needs, and develop appropriate business ideas, as well as anticipate the outcomes of business operations in the future.

Research Significance

Theoretical Significance

This research significantly contributes to examining the factors influencing the intention to become e-commerce entrepreneurs among undergraduate students. The findings demonstrate the importance of factors that promote and support students' intentions to become entrepreneurs in e-commerce, aiding scholars and researchers in gaining appropriate understanding regarding the reinforcement of knowledge and understanding of digital marketing. It helps build confidence and self-efficacy in e-commerce, as well as prepares individuals to tackle challenges and uncertainties in starting businesses in the online industry.

Practical Significance

The findings from this research can inform educational institutions and policymakers about the specific needs and areas of focus in promoting digital entrepreneurship skills among undergraduate students. Additionally, businesses and entrepreneurs will benefit from a deeper understanding of the influence of digital marketing knowledge and self-perceived capabilities on entrepreneurial intention. This leads to more targeted strategies in recruiting and developing capable individuals.

Limitations

This study examines the factors influencing the intention to become e-commerce entrepreneurs among undergraduate students, focusing solely on the province of Sichuan. The sampling was conducted specifically in Sichuan to ensure clearer and more comparable data. Therefore, it is necessary to sample from other cities to provide a detailed and comprehensive interpretation of the study results.

Recommendations and Future Research

Recommendations for Digital marketing literacy:

The focus should be on enhancing understanding and knowledge of digital marketing, which is crucial in e-commerce. Understanding and knowledge in this area enable students to plan and execute online marketing activities effectively.

Recommendations for Self-Efficacy:

Building self-confidence to efficiently undertake various tasks is essential. Having confidence and belief in one's abilities in e-commerce helps foster progress and readiness to initiate and operate online businesses effectively.

Recommendations for Entrepreneurship Education

Developing a curriculum tailored to students interested in entering the online business world is crucial. This ensures learning aligns with market demands and develops knowledge and skills relevant to rapidly changing industries. Additionally, utilizing technology and resources for learning, supporting skill development activities related to business and organization, and providing opportunities to participate in industry training programs or skill enhancement initiatives, all contribute to promoting learning and skill development necessary for entrepreneurship in the e-commerce industry, increasing the likelihood of future success.

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APPENDIXES

APPENDIX A

ENGLISH QUESTIONNAIRES

The Influence of Digital Marketing Literacy and Self-efficacy on the Intention to Be an E-commerce Entrepreneur among Undergraduate Students in Xi'an City, Shaanxi Province, China

Dear Madam/Mr :

Hello! First, thank you very much for filling out this questionnaire sincerely. This questionnaire aims to explore the impact of digital marketing literacy and self-efficacy among undergraduate students in Xi'an, Shaanxi Province on e-commerce entrepreneurial intentions, and provide relevant suggestions for individuals and merchants to better utilize digital marketing literacy and self-efficacy. Secondly, the questionnaire is filled in anonymously, and the survey results are only used for the research of this paper. They do not involve any commercial interests and are strictly confidential. Finally, please fill in the questionnaire according to your actual situation. Your filling will be of great help to this research. Thank you for your cooperation!

Part 1: Screening Questions

No.1 Are you currently a student at a university in Shaanxi province, China?

1.1) Yes

1.2) No (end of the questionnaire)

No.2 Do you expect to graduate in June 2024?

2.1) Yes

2.2) No (end of the questionnaire)

Part 2: Demographic

No.1 Gender

1.1) Male

1.2) Female

No.2 Age

2.1)19 years old 2.2)20years old

2.3)21years old 2.4)22years old

2.5)23years old

No.3 What type of university?

3.1) Private University

3.2) Public University

No.4 Name of Your School/University:

Shaanxi International Business College
Shaanxi Institute of Fashion Engineering
Xingzhi College of Xi'an University of Finance and Economics
Shaanxi University of Science and Technology Haojing College
Xi'an Technology and Business College
Xi'an Innovation College of Yan'an University
Xi'an University of Electronic Science and Technology Chang'an College
Xi'an Jiaotong University City College
Xijing University
Xi'an University of Architecture and Technology Huaqing College
Xi'an Information Vocational University
Northwest University Modern College
Northwest University
Xi'an Jiaotong University
Xi'an University of Technology
Xi'An Industrial University
Xi'an University of Architecture and Technology
Shaanxi University of Science and Technology
Chang'an University
Shaanxi University of Traditional Chinese Medicine
Shaanxi Normal University
Shaanxi University of Technology
Xianyang Normal University
Weinan Normal University
Xi'an Academy of Fine Arts
Xi'an University of Arts and Sciences
Xi'an University of Finance and Economics
Xi'an University of Posts
Xi'an Aviation University

Part 3: Digital marketing literacy

The Digital marketing literacy questionnaire is in the form of a rating scale consisting of 3 criteria (total of 18 items):

Knowledge of digital marketing literacy level

Digital Participation Tendencies in Entrepreneurial Information

Knowledge of the elements of digital marketing

Scoring criteria for assessing the level of degree of influence on digital marketing literacy were based on a 5-point Likert scale, ranging from "Strongly Agree" to "Strongly Disagree.

No.	Questions	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
Digital marketing literacy						
1. Knowledge of digital marketing literacy level						
1	Building social media pages for E-Commerce purposes.	1	2	3	4	5
2	Creating a business website using E-Commerce-oriented web builders (e.g., local web builders).	1	2	3	4	5
3	Utilizing social media advertisements (e.g., WeChat, Weibo) specifically for E-Commerce product marketing.	1	2	3	4	5
4	Applying Copywriting techniques tailored for E-Commerce content.	1	2	3	4	5
5	Consistently updating social media accounts with E-Commerce content on schedule.					
6	Using social media effectively for E-Commerce digital marketing.					
2. Digital Participation Tendencies in Entrepreneurial Information						
7	I use the internet to effectively reach a broader audience of potential customers for student E-Commerce projects.	1	2	3	4	5
8	The cost-effectiveness and ease of	1	2	3	4	5

	advertising the latest products for student E-Commerce ventures motivate me to use the internet.					
9	I utilize the internet to gather entrepreneurial information specific to student E-Commerce trends and branding purposes.	1	2	3	4	5
10	I use the internet to stay informed about the latest products in the student E-Commerce market.	1	2	3	4	5
11	I rely on the internet to find information about suppliers for student E-Commerce initiatives.					
12	Online banking via the internet is a convenient method for receiving payments from customers for student E-Commerce projects					
3. Knowledge of the elements of digital marketing						
13	Using online advertising effectively for student E-Commerce ventures.	1	2	3	4	5
14	Implementing social media marketing strategies for student E-Commerce projects.	1	2	3	4	5
15	Employing email marketing techniques specifically for student E-Commerce initiatives.	1	2	3	4	5
16	Creating compelling business content on social media platforms for student E-Commerce endeavors.	1	2	3	4	5
17	Utilizing text marketing effectively in the context of student E-Commerce.					
18	Implementing affiliate marketing strategies for student E-Commerce projects.					

Part 4: Self-Efficacy

The Self-Efficacy questionnaire is in the form of a rating scale consisting of 2 criteria (total of 14 items):

Entrepreneurial Self-Efficacy

Perceived Desirability

Perceived Feasibility

Scoring criteria for assessing the level of influence with Self-Efficacy were based on a 5-point Likert scale, ranging from "Strongly Disagree " to "Strongly Agree".

No.	Questions	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
Self-Efficacy						
1. Entrepreneurial Self-Efficacy						
1	To start a business and keep it working would be easy for me.	1	2	3	4	5
2	I am prepared to start a viable and Business.	1	2	3	4	5
3	As an entrepreneur, I would have sufficient control over my business.	1	2	3	4	5
4	I know the necessary practical details to start a firm.	1	2	3	4	5
5	I know how to develop an entrepreneurial project.	1	2	3	4	5
6	If I tried to start a firm, I would have a high probability of succeeding.	1	2	3	4	5
2. Perceived Desirability						
7	I have a strong interest in becoming an E-Commerce entrepreneur.	1	2	3	4	5
8	The idea of being an E-Commerce entrepreneur brings me a sense of joy and fulfillment.	1	2	3	4	5
9	I believe there are ample	1	2	3	4	5

No.	Questions	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
	opportunities and resources available for me to start and succeed in an E-Commerce business.					
10	I view E-Commerce entrepreneurship as a viable and appealing career choice.	1	2	3	4	5
3 Perceived Feasibility						
11	I find it relatively easy to start an e-commerce business.	1	2	3	4	5
12	I feel adequately prepared and willing to engage in entrepreneurial activities within the e-commerce sector.	1	2	3	4	5
13	I believe I possess the practical skills necessary for the effective operation and success of an e-commerce enterprise.	1	2	3	4	5
14	I am confident in my ability to achieve success specifically in the context of e-commerce entrepreneurship.	1	2	3	4	5

Part 5: Entrepreneurship Education

Entrepreneurship Education questionnaire is in the form of a rating scale consisting of 2 criteria (total of 20 items):

1) Curriculum
2) Education Quality
3) Facility
4) Entrepreneurship opportunity recognition

Scoring criteria for assessing the level of degree of influence on Entrepreneurship Education were based on a 5-point Likert scale, ranging from "Strongly Agree" to "Strongly Disagree.

No.	Questions	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
Entrepreneurship Education						
1. Curriculum						
1	The curriculum content related to E-Commerce is essential for students' understanding to be the entrepreneur E-Commerce.	1	2	3	4	5
2	The insights gained from the curriculum significantly contribute to students' knowledge about the E-Commerce business.	1	2	3	4	5
3	The practical knowledge embedded in the curriculum is crucial for addressing real-world challenges in the E-Commerce sector, regardless of academic discipline.	1	2	3	4	5
4	The emphasis on entrepreneurial principles and practices in the context of E-Commerce is important for all students.	1	2	3	4	5
5	The curriculum, regardless of major, should adequately address the specific challenges and opportunities	1	2	3	4	5

No.	Questions	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
	in E-Commerce entrepreneurship.					
6	Overall, students believe that the Curriculum, irrespective of their major or program, is important in influencing their intention to be an E-Commerce Entrepreneur.	1	2	3	4	5
2. Education Quality						
7	The quality of E-Commerce Entrepreneurship education has provided me with valuable insights into self-employment opportunities within the digital business realm.	1	2	3	4	5
8	I believe that the education quality in E-Commerce Entrepreneurship has enhanced my understanding of the benefits of being self-employed in the online business space.	1	2	3	4	5
9	The practical knowledge gained from E-Commerce Entrepreneurship education significantly contributes to my desire to pursue self-employment in the context of digital entrepreneurship.	1	2	3	4	5
10	The quality of education in E-Commerce Entrepreneurship has motivated me to explore self-employment as a viable career option, specifically within the digital commerce sector.	1	2	3	4	5
11	Overall, I feel that the Education Quality in E-Commerce Entrepreneurship is a key factor in fostering my desire to be self-	1	2	3	4	5

No.	Questions	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
	employed in the digital business landscape.					
3. Facility						
12	The available facilities (e.g., workspaces, labs) in my educational environment contribute to fostering an entrepreneurial spirit in the field of E-Commerce.	1	2	3	4	5
13	The infrastructure (e.g., technology, equipment) accessible to students enhances the entrepreneurial learning experience, especially in the context of E-Commerce Entrepreneurship.	1	2	3	4	5
14	The resources and facilities provided in my educational setting effectively support collaborative and innovative efforts related to E-Commerce Entrepreneurship.	1	2	3	4	5
15	Overall, I believe that the facilities and infrastructure in my educational environment play a significant role in fostering an entrepreneurial spirit within the field of E-Commerce Entrepreneurship.	1	2	3	4	5
4. Entrepreneurship opportunity recognition						
16	I can identify potential successful ideas within the E-commerce sector based on my understanding of market demand.	1	2	3	4	5
17	I effectively process resources gained from entrepreneurial learning to recognize opportunities in the E-	1	2	3	4	5

No.	Questions	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
	commerce business.					
18	I am skilled at strategically selecting and executing plans to leverage promising opportunities within the E-commerce industry.	1	2	3	4	5
19	My entrepreneurial opportunity recognition is influenced by the knowledge and insights acquired through my education in E-commerce entrepreneurship.	1	2	3	4	5
20	Overall, I believe my ability to recognize and seize entrepreneurial opportunities within the E-commerce landscape is well-developed.	1	2	3	4	5

Part 6: Intention to be an E-Commerce Entrepreneur

Intention to be an E-Commerce Entrepreneur questionnaire is in the form of a rating scale consisting of criteria (total of 7 items):

Scoring criteria for assessing the level of degree of Intention to be an E-Commerce Entrepreneur were based on a 5-point Likert scale, ranging from "Strongly Agree" to "Strongly Disagree.

No.	Questions	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
Intention to be an E-Commerce Entrepreneur						
1	I am willing to undertake any necessary actions to initiate my own E-Commerce business.	1	2	3	4	5
2	My professional objective is to establish and manage my own E-Commerce business.	1	2	3	4	5
3	I am committed to putting forth every effort to launch and operate my own E-Commerce firm.	1	2	3	4	5
4	I am resolute in my determination to establish an E-Commerce firm in the future.	1	2	3	4	5
5	I have earnestly contemplated the prospect of launching an E-Commerce firm.	1	2	3	4	5
6	I have concrete plans to commence an E-Commerce business within five years of graduation.	1	2	3	4	5
7	I view entrepreneurship as a viable and appealing career option.	1	2	3	4	5

APPINDIX B

CHINESE QUESTIONNAIRES

陕西省西安市大学生数字营销素养和自我效能感对电子商务创业意愿的影响

亲爱的女士/**先生**：

你好！ 首先，非常感谢您真诚地填写这份调查问卷。 **本**调查问卷旨在探讨陕西省西安市本科生数字营销素养和自我效能感对电商创业意愿的影响，为个人和商家更好地利用数字营销素养和自我效能感提供相关建议。 针对直播的特点，设计问卷旨在为个人和商家今后有效利用网红进行直播提供建议。 **其次**，调查问卷采用匿名方式填写，调查结果仅供本论文研究使用，不涉及任何商业利益，严格保密。 **最后**，请您根据您的实际情况填写调查问卷，您的填写将对本次研究有很大的帮助。 谢谢您的合作！

第 1 **部分**：筛选问题

No.1 **您目前是中国**陕西省某所大学的学生吗？

1.1) **是**

1.2) **否**（问卷结束）

No.2 **您将在**2024**年** 6**月份**毕业吗？

2.1) **是**

2.2) **否**（问卷结束）

第 2 **部分**：**人口**统计

No.1 **性**别

1.1) **男**

1.2) **女**

No.2**年**龄

2.1)19岁

2.2)20岁

2.3)21岁

2.4)22岁

2.5)23岁

No.3 **你的大学**类型：

3.1) **私立大学**

3.2) **公立大**

No.4 **学校/大学名称**：

1）陕西国际商学院

2）陕西服装工程学院

3）**西安**财经大学行知学院

4）陕西科技大学昊景学院
5) **西安工商学院**
6）**延安大学西安**创新学院
7) **西安**电子科技大学长安学院
8) **西安交通大学城市学院**
9) **西京大学**
10) **西安建筑科技大学**华清学院
11) **西安信息**职业大学
12) **西北大学**现代学院
13) **西北大学**
14) **西安交通大学**
15) **西安理工大学**
16) **西安工**业大学
17) **西安建筑科技大学**
18) 陕西科技大学
19) 长安大学
20) 陕西中医药大学
21) 陕西师范大学
22) 陕西理工大学
23) **咸阳**师范学院
24) **渭南**师范学院
25) **西安美**术学院
26) **西安文理学院**
27) **西安**财经大学
28) **西安**邮电大学
29) **西安航空大学**

第 3 部分：数字营销素养

数字营销素养调查问卷采用评级量表的形式，包含 3 个标准（共 18 个项目）：

1）了解数字营销素养水平

2）创业信息数字化参与趋势

3）了解数字营销的要

评估数字营销素养影响程度的评分标准基于李克特5点量表，范围从“强烈同意”到“强烈不同意”。

序号	问题	非常不同意(1)	不同意(2)	一般(3)	同意(4)	非常不同意(5)
网红特征						
1.了解数字营销素养水平						
1	为电子商务目的构建社交媒体页面。	1	2	3	4	5
2	使用面向电子商务的网络构建器（例如本地网络构建器）创建商业网站。	1	2	3	4	5
3	利用社交媒体广告（例如微信、微博）专门进行电子商务产品营销。	1	2	3	4	5
4	应用为电子商务内容量身定制的文案写作技术。	1	2	3	4	5
5	按计划持续更新社交媒体帐户的电子商务内容。					
6	有效利用社交媒体进行电子商务数字营销。					
2、创业信息数字化参与趋势						
7	我利用互联网有效地接触到更广泛的学生电子商务项目的潜在客户。	1	2	3	4	5
8	为学生电子商务企业宣传最新产品的成本效益和便捷性激励我使用互联网。	1	2	3	4	5
9	我利用互联网收集针对学生电子商务趋势和品牌目的的创业信息。	1	2	3	4	5
10	我使用互联网来了解学生电子商务市场的最新产品。	1	2	3	4	5
11	我依靠互联网查找有关学生电子商务计划供应商的信息。					
12	通过互联网的网上银行是接收学生电子					

	商务项目客户付款的便捷方法					
3.了解数字营销的要素						
13	为学生电子商务企业有效使用在线广告。	1	2	3	4	5
14	为学生电子商务项目实施社交媒体营销策略。	1	2	3	4	5
15	专门针对学生电子商务计划采用电子邮件营销技术。	1	2	3	4	5
16	在社交媒体平台上为学生电子商务活动创建引人注目的商业内容。	1	2	3	4	5
17	在学生电子商务背景下有效利用文字营销。					
18	为学生电子商务项目实施联盟营销策略。					

第四部分：自我效能感

自我效能感问卷采用评分量表的形式，由2**个**标准组成（共14**个**项目）：

1）创业自我效能感

2) **感知欲望**

3）**感知的可行性**

评估自我效能感影响程度的评分标准基于 5 **点李克特量表，范**围从"**强烈不同意**"**到**"**强烈同意**"。

序号	问题	非常不同意(1)	不同意 (2)	一般 (3)	同意 (4)	非常不同意 (5)
自我效能感						
1. 创业自我效能感						
1	创办企业并保持其运转对我来说很容易	1	2	3	4	5
2	我准备开始一个可行的生意	1	2	3	4	5
3	作为一名企业家，我将对我的业务有足够的控制权	1	2	3	4	5
4	我知道创办公司所需的实际细节	1	2	3	4	5
5	我知道如何开发创业项目	1	2	3	4	5
6	如果我尝试创办一家公司，我成功的可能性很大	1	2	3	4	5
2. Perceived Desirability						
7	我对成为一名电子商务企业家有着浓厚的兴趣。	1	2	3	4	5
8	成为一名电子商务企业家的想法给我带来了喜悦和成就感。	1	2	3	4	5
9	我相信有充足的机会和资源可供我开始电子商务业务并取得成功。	1	2	3	4	5
10	我认为电子商务创业是一种可行且有吸引力的职业选择。	1	2	3	4	5
3 Perceived Feasibility						
11	我发现开展电子商务业务相对容易。	1	2	3	4	5
12	我觉得自己已经做好了充分的准备，也愿意从事电子商务领域的创业	1	2	3	4	5

序号	问题	非常不同意(1)	不同意 (2)	一般 (3)	同意 (4)	非常不同意 (5)
	活动。					
13	我相信我拥有电子商务企业有效运营和成功所需的实践技能。	1	2	3	4	5
14	我对自己在电子商务创业方面取得成功的能力充满信心。	1	2	3	4	5

第五部分：创业教育

创业教育问卷采用评分量表的形式，由2个标准组成（共20个项目）：

1）课程设置

2）**教育**质量

3) 设施

4）创业机会认可

评估创业教育影响程度的评分标准采用李克特5**点量表，从“非常同意”到“非常不同意”**

序号	问题	非常不同意(1)	不同意 (2)	一般 (3)	同意 (4)	非常不同意 (5)
创业教育						
1. 课程设置						
1	与电子商务相关的课程内容对于学生了解成为电子商务企业家至关重要。	1	2	3	4	5
2	从课程中获得的见解极大地有助于学生了解电子商务业务。	1	2	3	4	5
3	无论学科如何，课程中嵌入的实践知识对于解决电子商务领域的现实挑战至关重要。	1	2	3	4	5
4	强调电子商务背景下的创业原则和实践对所有学生都很重要。	1	2	3	4	5
5	无论专业如何，课程都应充分解决电子商务创业中的具体挑战和机遇。	1	2	3	4	5
6	总体而言，学生认为，无论其专业或课程如何，课程对于影响他们成为电子商务企业家的意愿都很重要。	1	2	3	4	5
2. 教育质量						
7	电子商务创业教育的质量为我提供了对数字商业领域自营职业机会的宝贵见解	1	2	3	4	5
8	我相信电子商务创业的教育质量增强了我对在线商业领域个体经营的好处的理解。	1	2	3	4	5
9	从电子商务创业教育中获得的实践知识极大地促进了我在数字创业背景下追求自营职业的愿望。	1	2	3	4	5

序号	问题	非常不同意(1)	不同意 (2)	一般 (3)	同意 (4)	非常不同意 (5)
10	电子商务创业教育的质量促使我探索自营职业作为一种可行的职业选择，特别是在数字商务领域。	1	2	3	4	5
11	总的来说，我认为电子商务创业教育质量是培养我在数字商业领域自主创业的愿望的关键因素。	1	2	3	4	5
3. 设施						
12	我的教育环境中的可用设施（例如工作空间、实验室）有助于培养电子商务领域的创业精神。	1	2	3	4	5
13	学生可以获得的基础设施（例如技术、设备）增强了创业学习体验，特别是在电子商务创业的背景下。	1	2	3	4	5
14	我的教育环境中提供的资源和设施有效支持与电子商务创业相关的协作和创新努力。	1	2	3	4	5
15	总的来说，我相信我的教育环境中的设施和基础设施在培养电子商务创业领域的创业精神方面发挥着重要作用。	1	2	3	4	5
4. 创业机会认可						
16	根据我对市场需求的了解，我可以识别电子商务领域潜在的成功想法。	1	2	3	4	5
17	我有效地处理从创业学习中获得的资源，以识别电子商务业务中的机会。	1	2	3	4	5
18	我擅长战略性地选择和执行计划，以利用电子商务行业内有前途的机会。	1	2	3	4	5
19	我对创业机会的认知受到我在电子商务创业教育中获得的知识和见解的影响。	1	2	3	4	5
20	总的来说，我相信我在电子商务领域识别和抓住创业机会的能力已经非常成熟	1	2	3	4	5

第六部分：成为电子商务企业家的意愿

成为电商企业家意愿调查问卷采用评分量表形式，包含标准（共 7 项）：

评估成为电子商务企业家的意愿程度的评分标准基于李克特5**点量表，范**围从“**强烈同意**”**到**“**强烈不同意**”**。**

序号	问题	非常不同意(1)	不同意 (2)	一般 (3)	同意 (4)	非常不同意 (5)
立志成为一名电子商务企业家						
1	我愿意采取任何必要的行动来开展我自己的电子商务业务。	1	2	3	4	5
2	我的职业目标是建立和管理自己的电子商务业务。	1	2	3	4	5
3	我致力于尽一切努力创办和运营我自己的电子商务公司。	1	2	3	4	5
4	我坚定了未来要创办一家电子商务公司的决心。	1	2	3	4	5
5	我认真考虑过创办一家电子商务公司的前景。	1	2	3	4	5
6	我有具体计划在毕业后五年内开展电子商务业务。	1	2	3	4	5
7	我认为创业是一种可行且有吸引力的职业选择。	1	2	3	4	5

CURRICULUM VITAE

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DATE OF BIRTH	14 November 1989	
EDUCATION	2015-2018	Tianjin University of Commerce
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