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BUILDING A PHOTOGRAPHY ENTREPRENEURSHIP ECOSYSTEM FOR GENERATION Z: INTEGRATING PRODUCTS, EDUCATION AND COMMUNITY

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ABSTRACT

The rapid expansion of the digital creative economy has created new opportunities for Generation Z to transform photography-related skills and interests into entrepreneurial activities. However, limited research has examined how different components of a photography entrepreneurship ecosystem collectively contribute to entrepreneurial capability and entrepreneurial intention. This study develops and empirically examines an integrated photography entrepreneurship ecosystem comprising the availability of photography products and services, photography knowledge, and photography community support. Drawing on Human Capital Theory and the Theory of Planned Behavior, the study investigates the direct effects of these ecosystem dimensions on entrepreneurial capability, the effect of entrepreneurial capability on entrepreneurial intention, and the mediating role of entrepreneurial capability. Data were collected from 311 respondents in Vietnam with experience, interest, or involvement in photography-related activities and analyzed using partial least squares structural equation modeling (PLS-SEM). The findings indicate that all three ecosystem dimensions positively influence entrepreneurial capability, with photography knowledge demonstrating the strongest effect ($\beta = 0.467$, $p < 0.001$), followed by the availability of photography products and services ($\beta = 0.283$, $p < 0.001$) and photography community support ($\beta = 0.144$, $p = 0.010$). Entrepreneurial capability has a strong positive effect on entrepreneurial intention ($\beta = 0.567$, $p < 0.001$) and significantly mediates the relationships between all three ecosystem dimensions and entrepreneurial intention. The study contributes to creative entrepreneurship research by positioning entrepreneurial capability as a central mechanism connecting ecosystem resources with entrepreneurial intention and provides practical implications for developing integrated photography entrepreneurship support for Generation Z.

KEYWORDS: Creative economy; entrepreneurial capability; entrepreneurial intention; Generation Z; photography entrepreneurship.

1.0 INTRODUCTION

The emergence of Generation Z into the workforce has transformed the landscape of entrepreneurship and the creative economy. Born between the mid-1990s and early 2010s, Generation Z is the first generation to grow up entirely in the digital era, making them highly familiar with technology, social media, and digital communication platforms from an early age. This digital fluency has created new entrepreneurial opportunities by enabling young people to leverage online platforms to establish businesses, promote products, and connect directly with consumers (Vițelar, 2019). Compared with previous generations, Generation Z is more likely to pursue entrepreneurship as a career because they value independence, creativity, flexibility, and meaningful work. Their entrepreneurial mindset is also strongly influenced by sustainability, authenticity, and social responsibility rather than purely financial success. Nevertheless, despite these advantages, many young entrepreneurs continue to face considerable challenges, including limited business knowledge, intense market competition, and the need to continuously adapt to rapidly evolving digital technologies (Moffett et al., 2023). The rapid expansion of the digital economy has simultaneously accelerated the growth of the creative economy, where creative skills are increasingly recognized as valuable economic assets. Among various creative industries, photography has become one of the most dynamic sectors due to the growing demand for visual content across social media, e-commerce, digital marketing, tourism, and personal branding. Photography is no longer limited to traditional studio services but has evolved into a diverse entrepreneurial field involving commercial photography, product photography, content creation, digital products, workshops, online courses, and creative collaborations. This transformation has created numerous opportunities for Generation Z to monetize their creativity while establishing sustainable entrepreneurial careers (Wang et al., 2025).

The importance of photography entrepreneurship is further reflected in the contribution of the creative economy to national development. In Indonesia, the creative economy accounted for approximately 7.44% of GDP in 2023, with photography recognized as one of the strategic creative subsectors alongside fashion, crafts, culinary arts, music, film, architecture, advertising, and product design (Azeez et al., 2024). Millennials and Generation Z possess considerable potential to drive this sector because of their creativity, technological adaptability, and active engagement with digital platforms. However, many young people still struggle to transform creative ideas into sustainable business opportunities due to inadequate creative economy literacy, particularly in business planning, digital marketing, branding, financial management, and technology utilization. Creative economy literacy remains relatively low among creative entrepreneurs. Only 23% of creative economy actors possess comprehensive knowledge of creative business management, while approximately 67% continue to encounter challenges in digital marketing and financial management, highlighting a substantial gap in entrepreneurial capabilities (Badar, 2025). . These findings indicate that entrepreneurial potential alone is insufficient without appropriate knowledge

and support systems. Similar issues are evident among micro, small and medium enterprises (MSMEs), which remain the backbone of local economic development and employment creation. Despite their important economic contribution, many MSMEs continue to experience limited market access, weak branding capabilities, and insufficient adoption of digital marketing practices (Obun-Andy 2025). Previous studies have consistently demonstrated that product photography, branding design, and visual storytelling significantly influence perceived product quality, brand credibility, consumer trust, and purchase intention, particularly in highly competitive digital marketplaces (Palaniappan et al., 2025). Consequently, photography has become not only a creative profession but also a strategic entrepreneurial capability that creates value across multiple industries.

Previous research has emphasized the importance of digital literacy, entrepreneurship education, branding capability, and digital marketing training in improving entrepreneurial performance (Aldrees et al., 2025). Other studies have highlighted the effectiveness of smartphone-based photography and branding training in enhancing entrepreneurial competencies and empowering local communities. However, existing studies primarily examine these factors independently, focusing on education, digital skills, or technology adoption rather than investigating how multiple support mechanisms interact to foster sustainable entrepreneurship. For photography entrepreneurs, long-term success depends not only on technical photography skills but also on access to entrepreneurial products, continuous education, mentoring opportunities, networking, and active participation in creative communities (De Klerk, 2015). These interconnected elements enable individuals to develop business competencies, expand professional networks, exchange knowledge, and continuously innovate in response to changing market demands. Nevertheless, limited research has examined these components as an integrated entrepreneurship ecosystem specifically designed for Generation Z within the photography industry. Therefore, a significant research gap remains regarding the development of a comprehensive photography entrepreneurship ecosystem that combines entrepreneurial products, educational support, and community engagement into a unified framework. Addressing this gap, the present study proposes an integrated photography entrepreneurship ecosystem for Generation Z, where products create commercial opportunities, education enhances entrepreneurial competencies, and communities facilitate collaboration, mentorship, and knowledge sharing. By examining the interaction of these three ecosystem components, this study aims to contribute to the literature on creative entrepreneurship and entrepreneurial ecosystems while providing practical insights for educators, policymakers, creative organizations, and young entrepreneurs seeking to promote sustainable photography entrepreneurship in the digital creative economy. The study is constructed by 5 parts including (1) Introduction; (2) Theoretical framework and hypothesis development; (3) Methodology; (4) Findings and discussion; and (5) Implications and conclusion.

2.0 THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

2.1 Human capital theory and theory of planned behavior

Human Capital Theory provides an important theoretical foundation for explaining the role of education, knowledge, training, and experience in developing the capabilities required for entrepreneurship. Human Capital Theory conceptualizes education, training, and experience as investments that accumulate human capital., enhancing individuals' knowledge, competencies,

productivity, and economic performance (Marginson, 2019). Since its development, Human Capital Theory has become one of the dominant theories explaining the relationship between education, labor markets, and economic development. Entrepreneurship scholars have widely adopted this perspective to explain why individuals with greater knowledge, work experience, and entrepreneurial competencies are more likely to recognize business opportunities and establish new ventures (Saad et al., 2021). Human capital has been described as the knowledge, competence, attitudes, and behaviors embedded within individuals that influence entrepreneurial behavior and venture creation. Although Human Capital Theory has been criticized for emphasizing individual productivity while underestimating social influences and institutional contexts (Zerrad et al., 2025), it remains one of the most influential theoretical perspectives in entrepreneurship research because it effectively explains how investments in education and skill development contribute to entrepreneurial capability. In the context of building a photography entrepreneurship ecosystem for Generation Z, the education component plays a central role in developing human capital. Human capital extends beyond technical photography skills to include digital marketing, branding, business management, financial literacy, content creation, and technological competencies. These capabilities can be developed through entrepreneurship education, practical training, mentoring, and experiential learning, enabling Generation Z to transform creative ideas into sustainable photography-related entrepreneurial ventures. Therefore, Human Capital Theory explains how the education component of the photography entrepreneurship ecosystem contributes to the development of entrepreneurial capabilities among Generation Z.

However, possessing knowledge and competencies alone does not necessarily result in entrepreneurial action. The Theory of Planned Behavior complements Human Capital Theory by explaining how entrepreneurial capabilities are translated into entrepreneurial intentions. The Theory of Planned Behavior proposes that entrepreneurial intention is the immediate antecedent of entrepreneurial behavior and is determined by three factors: attitude toward entrepreneurship, subjective norms, and perceived behavioral control. Entrepreneurial intention reflects an individual's willingness and commitment to establish a new business in the future, and numerous studies have confirmed that it is one of the strongest predictors of entrepreneurial behavior (Frese et al., 2023). According to the Theory of Planned Behavior, individuals are more likely to pursue entrepreneurship when they hold favorable attitudes toward entrepreneurial careers, receive encouragement from important social groups, and believe they possess sufficient abilities and resources to succeed (Maheshwari et al., 2023). The theory has been extensively validated across entrepreneurship research and is regarded as one of the most robust frameworks for predicting entrepreneurial intention because entrepreneurial decision-making involves multiple psychological and environmental factors rather than a single determinant. In the proposed photography entrepreneurship ecosystem, the integration of products, education, and community creates conditions that support the development of entrepreneurial intention among Generation Z. Enhanced competencies developed through education can improve perceived behavioral control, while participation in photography and entrepreneurial communities can strengthen subjective norms through mentoring, networking, and peer support. At the same time, opportunities associated with photography-related products and services can enhance positive attitudes toward entrepreneurship by increasing its perceived desirability and feasibility. Therefore, the Theory of Planned Behavior explains how the integrated components of products, education, and community

can contribute to the psychological readiness and entrepreneurial intention of Generation Z to engage in photography-related entrepreneurship.

2.2 Photography entrepreneurship ecosystem and its determinants

The rapid expansion of the digital economy has transformed photography from a traditional creative profession into a dynamic entrepreneurial sector. Advances in smartphone technology, affordable digital equipment, and social media platforms have significantly reduced entry barriers, enabling young entrepreneurs to commercialize photography-related products and services with relatively low start-up costs (Obun-Andy et al., 2025). Photography entrepreneurship has expanded beyond conventional studio businesses to include commercial photography, event photography, product photography, digital content creation, stock photography, online education, preset sales, creative consulting, and social media content production. These developments have created diverse entrepreneurial opportunities, particularly for Generation Z, whose digital competencies and familiarity with online platforms facilitate business creation and innovation (Miah et al., 2025).

Photography entrepreneurship has increasingly become an attractive alternative career pathway for young people facing uncertain labor market conditions. Similar to findings among Mass Communication graduates in Nigeria, entrepreneurship in photography enables young individuals to transform creative and communication skills into sustainable business opportunities through digital platforms and visual content production (Ezeilo & Ike, 2025). The growing demand for visual communication across e-commerce, digital marketing, tourism, branding, and influencer marketing has further strengthened the commercial value of photography services while creating new income-generating opportunities for young entrepreneurs. Consequently, photography entrepreneurship not only promotes self-employment but also contributes to local economic development, innovation, and the broader creative economy. Rather than depending solely on individual talent, successful photography entrepreneurship increasingly relies on the development of a supportive entrepreneurial ecosystem. Entrepreneurial ecosystem theory suggests that entrepreneurship flourishes when individuals have access to complementary resources, knowledge, market opportunities, collaborative networks, and institutional support (Wurth et al., 2023). Within the photography industry, these resources extend beyond technical photography skills to include entrepreneurial education, business mentoring, networking opportunities, digital technologies, product commercialization, and community participation. Such an ecosystem enables aspiring entrepreneurs to continuously develop competencies, access new markets, exchange knowledge, and adapt to rapidly changing digital environments.

Education represents the human capital component of the ecosystem. Entrepreneurship education, technical photography training, business management knowledge, digital marketing skills, branding capability, and financial literacy collectively strengthen entrepreneurial competencies required for venture creation. Previous studies consistently demonstrate that education and skill development enhance entrepreneurial capability, opportunity recognition, and business performance by increasing individuals' knowledge and confidence in managing entrepreneurial activities (Syed et al., 2024). Continuous learning is particularly important within photography entrepreneurship because digital technologies, consumer preferences, and creative trends evolve rapidly. Besides, community represents the social dimension of the entrepreneurship ecosystem. Entrepreneurial

communities provide networking opportunities, peer learning, mentoring, collaboration, knowledge sharing, and emotional support that facilitate business development. Through both online and offline communities, photography entrepreneurs gain access to industry information, potential clients, collaborative projects, and professional guidance that reduce uncertainty during business creation (Cavallo et al., 2019). Community participation also strengthens entrepreneurial confidence and fosters innovation through continuous interaction with other creative practitioners. The integration of products, education and community creates a comprehensive entrepreneurship ecosystem capable of supporting Generation Z throughout the entrepreneurial process. Products provide commercial opportunities, education develops entrepreneurial competencies, and community strengthens collaboration and social support. Together, these determinants create an environment that encourages entrepreneurial intention and facilitates the sustainable development of photography-related ventures. Therefore, this study proposes that the photography entrepreneurship ecosystem is a multidimensional construct in which products, education, and community function as the primary determinants influencing entrepreneurial intention among Generation Z.

2.3 Entrepreneurial capability

Entrepreneurial capability has emerged as an important concept in entrepreneurship literature for explaining why some individuals are better able to identify opportunities, mobilize resources, and establish successful ventures than others. Unlike entrepreneurial skills or competencies, which generally refer to specific knowledge or technical abilities, entrepreneurial capability emphasizes an individual's capacity to integrate and apply various resources to recognize, develop, and exploit entrepreneurial opportunities in dynamic business environments. From a resource-based perspective, entrepreneurial capability represents the ability to identify and acquire the resources necessary to pursue existing market opportunities or create new ones (Paul et al., 2019). The concept has gradually evolved beyond individual resource acquisition toward a broader capability perspective. Lee et al. (2024) conceptualized entrepreneurial capability as comprising four major dimensions: autonomy, innovativeness, risk-taking, and proactiveness, all of which are regarded as essential characteristics for entrepreneurial success. Similarly, Wu et al. (2025) defined entrepreneurial capability as the capacity of entrepreneurs, entrepreneurial teams, or organizations to identify, develop, and exploit business opportunities by effectively reconfiguring human, social, and financial resources across different industrial contexts. These perspectives highlight that entrepreneurial capability extends beyond technical expertise and involves continuous adaptation, strategic decision-making, and opportunity exploitation.

Entrepreneurial capability is also closely associated with the concept of dynamic capabilities. Dynamic Capability Theory argues that organizations and entrepreneurs achieve sustainable competitive advantage through their ability to continuously sense opportunities, seize valuable resources, and transform existing capabilities in response to rapidly changing environments (Gong et al., 2025). Dynamic capabilities therefore provide the foundation upon which entrepreneurial capability is developed. Entrepreneurs who continuously acquire new knowledge, adapt to technological changes, and reconfigure available resources are more capable of responding to evolving customer demands and market conditions. Entrepreneurial capability consequently functions as a dynamic capability that enables entrepreneurs to remain competitive in uncertain

business environments. Innovation capability has likewise been recognized as an important antecedent of entrepreneurial capability. Montero Guerra et al. (2024) define innovation capability as an organization's ability to integrate multiple resources and competencies to generate and implement innovation successfully. Previous studies suggest that entrepreneurial capability develops through the interaction between dynamic capability and innovation capability, enabling entrepreneurs to recognize emerging opportunities, create innovative products and services, and achieve sustainable business performance (Afzal et al., 2018). Moreover, entrepreneurial capability requires continuous renewal because maintaining competitiveness depends on entrepreneurs' ability to update their knowledge, coordinate resources, and exploit new market opportunities).

Recent entrepreneurship research further suggests that entrepreneurial capability is not an innate characteristic but can be developed through education and experiential learning. Thomas et al. (2020) demonstrate that entrepreneurial capability can be cultivated through university education, practical training, and entrepreneurial learning experiences. Similarly, entrepreneurial capability consists of accumulated experience, learning ability, networking capability, marketing capability, innovativeness, and risk-taking behavior, while psychological adaptation, cultural learning, language proficiency, and flexibility also strengthen entrepreneurial capability among entrepreneurs operating in diverse environments. In the context of photography entrepreneurship ecosystem, entrepreneurial capability refers to the ability of young entrepreneurs to identify photography-related business opportunities, develop innovative products and services, mobilize available resources, build professional networks, and adapt to the rapidly evolving digital creative economy. Photography entrepreneurship requires much more than technical photography skills; entrepreneurs must also possess capabilities in digital marketing, branding, business management, customer relationship management, networking, innovation, and opportunity recognition. These capabilities enable Generation Z entrepreneurs to commercialize creative ideas and sustain competitive photography ventures. The proposed photography entrepreneurship ecosystem is expected to strengthen entrepreneurial capability through the integration of products, education, and community. Educational activities enhance entrepreneurial knowledge and business competencies, entrepreneurial products provide opportunities for commercial value creation, while communities facilitate networking, mentorship, collaboration, and knowledge sharing. The interaction of these ecosystem components enables Generation Z to continuously develop entrepreneurial capability, thereby improving their readiness to establish and sustain photography-related businesses within the digital creative economy.

2.4 Entrepreneurial intention

Entrepreneurial intention has become one of the most extensively studied constructs in entrepreneurship research because it represents the most immediate antecedent of entrepreneurial behavior. Entrepreneurship is widely recognized as a planned and intentional process rather than a spontaneous action; therefore, individuals typically develop the intention to establish a business before engaging in entrepreneurial activities (Adeel et al., 2023). Entrepreneurial intention refers to an individual's commitment, willingness, and conscious plan to create a new venture in the future. As a result, understanding the factors that shape entrepreneurial intention has become a central issue in entrepreneurship research and policy because new venture creation contributes significantly to innovation, employment generation, and economic development (Akter et al., 2023).

Entrepreneurship plays an important role in promoting economic growth by creating employment opportunities, stimulating innovation, and facilitating the commercialization of new ideas (Gazi et al., 2024). Entrepreneurs are widely regarded as individuals who identify opportunities, mobilize resources, assume risks, and introduce innovations that generate value for both society and the economy. Consequently, governments and policymakers have increasingly emphasized entrepreneurship as a strategic mechanism for improving national competitiveness and addressing labor market challenges through self-employment and new venture creation. Research on entrepreneurial intention has expanded considerably during the past three decades following the pioneering works of Al Halbusi et al. (2024). The integration of entrepreneurship research with social psychology has substantially strengthened the theoretical foundation of entrepreneurial intention studies, particularly through the application of intention-based models that explain how attitudes, beliefs, and perceptions influence entrepreneurial behavior. Since the early 1990s, entrepreneurial intention has become one of the dominant research frameworks because it provides a reliable predictor of entrepreneurial behavior across different cultural, educational, and institutional contexts (Rizzor et al., 2024). Numerous empirical studies have subsequently confirmed the applicability of entrepreneurial intention models in explaining venture creation and entrepreneurial decision-making.

Entrepreneurial intention is also influenced by broader contextual factors beyond individual psychological characteristics. Previous studies indicate that entrepreneurial intention varies across countries due to differences in national culture, institutional environments, social values, and entrepreneurial ecosystems (Stephan et al., 2023). Cultural values influence individuals' perceptions of entrepreneurship, risk-taking, innovation, and self-employment, thereby affecting entrepreneurial decision-making. Consequently, entrepreneurship research increasingly recognizes that entrepreneurial intention results from the interaction between individual capabilities and supportive environmental conditions. Within this research context, entrepreneurial intention refers to Generation Z's willingness and commitment to establish photography-related businesses, including photography services, digital content creation, creative products, educational services, and other commercial activities within the creative economy. Given the rapid expansion of digital technologies and social media platforms, photography entrepreneurship has become an increasingly attractive career option for young people seeking flexible, creative, and technology-driven employment opportunities. However, developing entrepreneurial intention requires more than creative talent alone (Maheshwari et al., 2023). It also depends on access to entrepreneurial education, commercial opportunities, professional networks, mentoring, and supportive communities that enhance entrepreneurial confidence and opportunity recognition.

2.5 Hypothesis development

2.5.1. Availability of photography products and services and entrepreneurial capability

The availability of photography products and services represents an important component of the photography entrepreneurship ecosystem, as it provides aspiring entrepreneurs with opportunities to transform creative ideas into commercial value. Access to photography-related products and services, including photography equipment, editing software, digital presets, printing services, stock photography platforms, and commercial photography projects, enables Generation Z individuals to gain practical experience and explore photography-related business opportunities. The accessibility

of these resources can facilitate experimentation with innovative ideas, the application of technical knowledge in practical contexts, and the continuous development of competencies required for photography entrepreneurship (Schaffer et al., 2022). From an entrepreneurial perspective, entrepreneurial capability can be strengthened through continuous interaction with relevant resources, practical activities, and market opportunities. Engagement in product development and service delivery may enhance individuals' creativity, opportunity recognition, problem-solving ability, customer orientation, and business management capability. Such experiences can improve their understanding of market demands and strengthen their ability to develop and commercialize photography-related products and services. Empirical evidence further supports the relationship between practical photography resources and entrepreneurial capability. Hasdiani & Arbarini (2024) found that project-based learning in product photography contributed to the development of students' digital entrepreneurial competence by strengthening practical skills, creativity, and the ability to develop market-oriented photography products. These findings suggest that access to photography-related resources and opportunities for practical engagement can contribute to the development of competencies relevant to entrepreneurial activities. Accordingly, the following hypothesis is proposed:

H1: Availability of photography products and services positively influences entrepreneurial capability.

2.5.2. Photography knowledge and entrepreneurial capability

Photography knowledge constitutes an important form of domain-specific human capital that can contribute to the development of entrepreneurial capability (Walden, 2012). In the context of photography entrepreneurship, such knowledge extends beyond technical competencies in camera operation and composition to encompass visual storytelling, image editing, digital content production, branding, and the application of emerging digital technologies. As photography becomes increasingly integrated with live streaming, short-video platforms, and social media, comprehensive photography knowledge enables individuals to create market-oriented content, adapt to evolving consumer preferences, and generate competitive value within the creative economy. Photography knowledge may further enhance individuals' ability to recognize entrepreneurial opportunities, develop innovative products and services, address practical challenges, and adapt to technological changes. Individuals with greater photography knowledge are better positioned to transform creative ideas into commercially viable offerings, improve service quality, and respond effectively to customer demands (Obun-Andy et al., 2025). Consequently, photography knowledge is expected to contribute to entrepreneurial capability by strengthening both technical expertise and the competencies required to identify and pursue photography-related business opportunities. Empirical evidence also supports this relationship. Wang et al. (2025) argued that contemporary photography education should extend beyond traditional technical instruction by incorporating digital content creation, live streaming, and short-video production to prepare students for emerging entrepreneurial opportunities. Their findings indicate that comprehensive photography knowledge can enhance practical competencies, creativity, digital adaptability, and readiness to participate in photography-related entrepreneurial activities. Accordingly, the following hypothesis is proposed:

H2: Photography knowledge positively influences entrepreneurial capability.

2.5.3. Photography community support and entrepreneurial capability

Photography community support represents an important component of the photography entrepreneurship ecosystem by providing individuals with opportunities for networking, collaboration, mentoring, knowledge sharing, and access to relevant entrepreneurial resources. Through interactions with experienced photographers, educators, industry professionals, and peers, Generation Z individuals can exchange creative ideas, receive constructive feedback, develop professional relationships, and gain practical experience. Such community engagement facilitates continuous learning and may enable aspiring photography entrepreneurs to identify business opportunities, address practical challenges, and adapt to the rapidly evolving creative industry (Saidah et al., 2026). Participation in photography communities can further contribute to the development of entrepreneurial capability by enhancing individuals' technical knowledge, innovative capacity, resource integration, and opportunity recognition. Supportive communities can facilitate collaboration, provide access to market information and professional networks, and create an environment conducive to entrepreneurial learning and capability development. Through these interactions, individuals may acquire the knowledge, experience, and connections necessary to pursue photography-related entrepreneurial opportunities. Empirical evidence supports the importance of social support in entrepreneurial development. Neneh (2022) found that social support positively contributes to entrepreneurial development by strengthening individuals' confidence and entrepreneurial engagement. Moreover, entrepreneurial capability can be developed through continuous learning, innovation, resource integration, and adaptation to dynamic business environments. In the context of photography entrepreneurship, these findings suggest that support derived from photography communities can contribute to the development of entrepreneurial capability among Generation Z by providing access to knowledge, networks, and practical learning opportunities. Accordingly, the following hypothesis is proposed:

H3: Photography community support positively influences entrepreneurial capability.

2.5.4. Entrepreneurial capability and entrepreneurial intention

Entrepreneurial capability represents an individual's capacity to identify and evaluate entrepreneurial opportunities, mobilize relevant resources, solve business-related problems, and undertake activities necessary to establish and develop a venture. Such capabilities are particularly important in the context of photography entrepreneurship, where individuals must combine creative expertise with the ability to recognize market opportunities, respond to customer needs, and transform photography-related knowledge and resources into commercially viable activities. Individuals with stronger entrepreneurial capabilities are generally better positioned to perceive entrepreneurship as feasible and achievable. The ability to recognize opportunities, make informed decisions, manage resources, and address entrepreneurial challenges can strengthen individuals' confidence in their capacity to pursue entrepreneurial activities. According to the Theory of Planned Behavior, individuals are more likely to develop intentions to perform a particular behavior when they perceive that they possess sufficient control and capability to undertake that behavior successfully. In the context of the photography entrepreneurship ecosystem, Generation Z individuals with stronger entrepreneurial capabilities are therefore expected to demonstrate a greater willingness to transform their photography knowledge, resources, and community connections into entrepreneurial activities. Accordingly, the following hypothesis is proposed:

H4: Entrepreneurial capability positively influences entrepreneurial intention.

2.5.5. The mediating role of entrepreneurial capability

Entrepreneurial capability plays a pivotal role in transforming entrepreneurial resources into entrepreneurial intention. While the availability of photography products and services, photography knowledge, and photography community support provide valuable resources within the photography entrepreneurship ecosystem, these components may not directly motivate Generation Z to pursue entrepreneurial activities. Instead, they can enhance individuals' entrepreneurial capability by improving their ability to recognize opportunities, integrate resources, innovate, and manage entrepreneurial activities. As entrepreneurial capability develops, individuals may become more confident in their ability to establish and sustain photography related ventures, thereby strengthening their entrepreneurial intention (Poli, 2024). From a capability perspective, entrepreneurial capability functions as a mechanism through which entrepreneurial resources are translated into entrepreneurial outcomes. Access to photography products and services can provide practical experience and commercial exposure, photography knowledge can strengthen technical and creative competencies, and photography community support can offer opportunities for networking, mentoring, and collaborative learning (Salamzadeh et al., 2023). These components of the photography entrepreneurship ecosystem can collectively contribute to the development of entrepreneurial capability, which may subsequently increase individuals' intention to engage in entrepreneurship. Empirical evidence further supports this mediating mechanism. Vu (2020) argued that entrepreneurial capability is developed through the integration of dynamic capabilities, innovation capabilities, and continuous resource reconfiguration, enabling individuals to achieve superior entrepreneurial outcomes. Similarly, Utomo et al. (2026) demonstrated that entrepreneurial capability related constructs can function as important mediating mechanisms between educational support and entrepreneurial intention among Generation Z. These findings suggest that entrepreneurial resources may influence entrepreneurial intention through their contribution to the development of individuals' entrepreneurial capability. Based on these theoretical arguments and empirical evidence, this study proposes that entrepreneurial capability mediates the relationships between the three dimensions of the photography entrepreneurship ecosystem and entrepreneurial intention. Accordingly, the following hypotheses are proposed:

H5a: Entrepreneurial capability mediates the relationship between availability of photography products and services and entrepreneurial intention.

H5b: Entrepreneurial capability mediates the relationship between photography knowledge and entrepreneurial intention.

H5c: Entrepreneurial capability mediates the relationship between photography community support and entrepreneurial intention.

Based on the above hypotheses, the authors proposes the following research model:

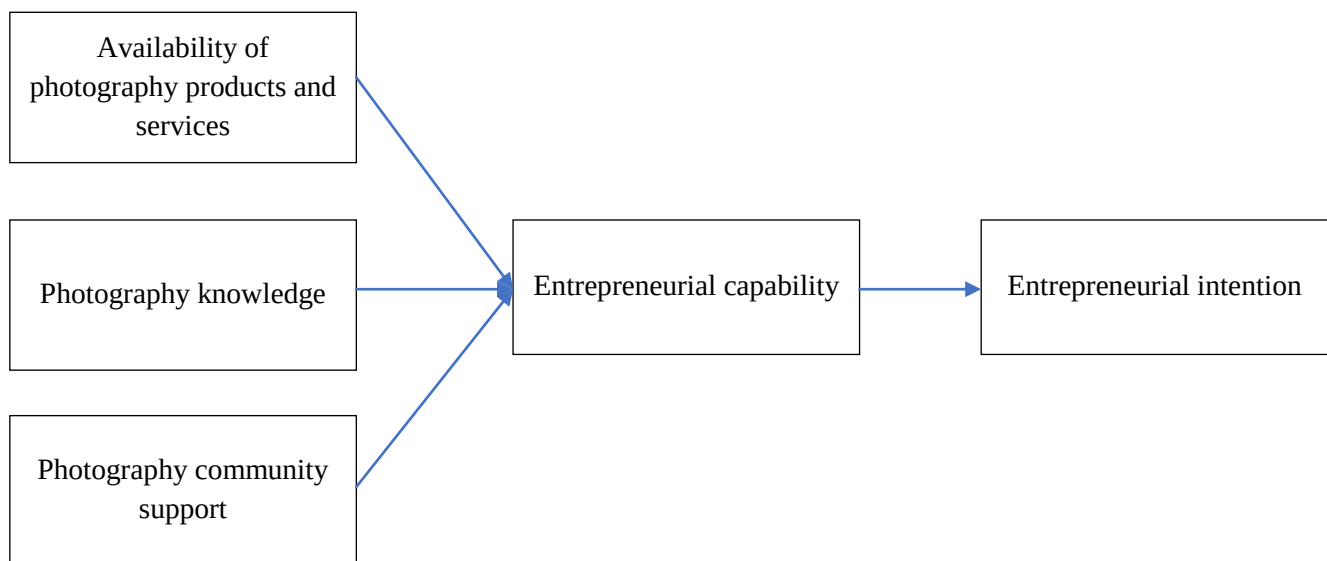


Figure 1: Proposed research model

3.0 METHODOLOGY

3.1 Research design and measures

The measurement instrument was designed to examine the relationships among the components of the photography entrepreneurship ecosystem, entrepreneurial capability, and entrepreneurial intention among Generation Z. All constructs were operationalized using measurement items adapted from established and previously validated studies in the literature. Responses were collected using a five point Likert scale, ranging from 1 = “strongly disagree” to 5 = “strongly agree”. Availability of Photography Products and Services (APPS) was measured using 4 items adapted from Hasdiani and Arbarini (2024). Photography Knowledge (PK) was measured using 4 items adapted from Wang et al. (2025). Photography Community Support (PCS) was measured using 4 items adapted from Neneh (2022). Entrepreneurial Capability (EC) was measured using 4 items adapted from Vu (2020). Finally, Entrepreneurial Intention (EI) was measured using 5 items adapted from Utomo et al. (2026) and Nguyen & Nguyen (2024). All measurement items were contextualized to reflect the specific characteristics of photography related entrepreneurship and the photography entrepreneurship ecosystem among Generation Z. The questionnaire was designed to ensure that the measurement items were relevant, clear, and appropriate for the research context.

3.2 Sample population and data collection

The data for this study were collected through a structured questionnaire designed to examine the development of a photography entrepreneurship ecosystem for Generation Z through the integration of products, education, and community. The survey targeted individuals in Vietnam with experience, interest, or involvement in photography related activities and was distributed through online channels, including social media platforms, photography communities, university networks, and photography related online groups. After data screening, the final sample consisted of 311 valid respondents. The sample captured diversity in demographic characteristics, including gender (male and female), age (18–22 years, 23–30 years, and over 30 years), occupation (student, employed, freelancer, and others), and monthly income (less than 500 USD, 500–1,000 USD, and more than

1,000 USD). Photography related characteristics included photography experience (less than one year, one to three years, and more than three years), frequency of photography activities (less than once a week, one to two times per week, three to five times per week, and more than five times per week), primary photography equipment (smartphone, digital camera, both smartphone and digital camera, and others), photography education experience (no formal training, online courses or tutorials, photography courses or workshops, and formal photography education), and primary purpose of photography (career or entrepreneurship, business or commercial purposes, freelance work, social media content creation, personal interest or hobby, and others). These characteristics provided a diverse and relevant dataset for examining how the integration of photography products and services, photography education, and photography community support contributes to entrepreneurial capability and entrepreneurial intention among Generation Z.

3.3 Data analysis

This study employed the partial least squares structural equation modeling (PLS-SEM) approach to test the proposed hypotheses. PLS-SEM was selected due to its suitability for complex models involving direct, mediating, and moderating effects, as well as its robustness with relatively small to medium sample sizes. Data analysis was conducted using SmartPLS software. The analysis followed a two-step procedure. First, the measurement model was assessed in terms of reliability and validity, including internal consistency, convergent validity, and discriminant validity. Second, the structural model was evaluated using a bootstrapping procedure with 5,000 resamples to test the significance of path coefficients, indirect effects, and interaction effects.

4.0 FINDINGS AND DISCUSSION

4.1 Descriptive statistics result

Table 1 presents the demographic and photography related characteristics of the 311 valid respondents. The sample included 147 male respondents (47.3%) and 164 female respondents (52.7%). Most respondents were aged 18–22 years (53.1%), followed by those aged 23–30 years (44.0%), while only a small proportion were over 30 years old (2.9%). This distribution indicates that the sample was primarily concentrated among younger individuals, consistent with the study's focus on Generation Z. Regarding occupation, students represented the largest group (48.6%), followed by employed respondents (34.7%), freelancers (11.9%), and respondents in other occupations (4.8%). In terms of monthly income, 44.7% earned less than 500 USD, 40.5% earned between 500 and 1,000 USD, and 14.8% earned more than 1,000 USD.

Table 1: Demographics of respondents (n = 311)

<i>Demographics</i>		<i>Frequency</i>	<i>Percentage (%)</i>
Gender	Male	147	47.3
	Female	164	52.7
Age	18–22	165	53.1
	23–30	137	44.0
	> 30	9	2.9

Occupation	Student	151	48.6
	Employed	108	34.7
	Freelancer	37	11.9
	Others	15	4.8
Monthly Income	< 500 USD	139	44.7
	500–1,000 USD	126	40.5
	> 1,000 USD	46	14.8
Photography Experience	< 1 year	89	28.6
	1–3 years	141	45.4
	> 3 years	81	26
Frequency of Photography Activities	Less than once a week	57	18.3
	1–2 times per week	109	35
	3–5 times per week	96	30.9
	More than 5 times per week	49	15.8
Primary Photography Equipment	Smartphone	172	55.3
	Digital camera	34	10.9
	Both smartphone and digital camera	91	29.3
	Others	14	4.5
Photography Education Experience	No formal training	91	29.3
	Online courses/tutorials	133	42.7
	Photography courses or workshops	61	19.6
	Formal photography education	26	8.4
Primary Purpose of Photography	Career or entrepreneurship	49	15.8
	Business or commercial purposes	46	14.8
	Freelance work	38	12.2
	Social media content creation	86	27.6
	Personal interest or hobby	79	25.4
	Others	13	4.2

Source: Authors' analysis

The respondents demonstrated varying levels of photography experience. Those with one to three years of experience represented the largest group (45.4%), followed by respondents with less than one year of experience (28.6%) and more than three years of experience (26.0%). Regarding the frequency of photography activities, most respondents engaged in photography one to two times per week (35.0%) or three to five times per week (30.9%), while 18.3% participated less than once a

week and 15.8% engaged in photography more than five times per week. Smartphones were the most commonly used photography equipment (55.3%), followed by the use of both smartphones and digital cameras (29.3%). Only 10.9% primarily used digital cameras, while 4.5% used other equipment. Regarding photography education experience, online courses and tutorials represented the most common form of learning (42.7%), followed by no formal training (29.3%), photography courses or workshops (19.6%), and formal photography education (8.4%). Finally, the primary purposes of photography were diverse. Social media content creation represented the largest category (27.6%), followed by personal interest or hobby (25.4%). Other purposes included career or entrepreneurship (15.8%), business or commercial purposes (14.8%), freelance work (12.2%), and other purposes (4.2%). Overall, the diversity of respondents in terms of demographic backgrounds and photography related experiences provides an appropriate basis for examining the development of a photography entrepreneurship ecosystem for Generation Z through the integration of products, education, and community.

4.2 Scale reliability and validity assessment

Table 2 presents the results of the reliability and convergent validity assessment.

Table 2: Construct reliability and convergent validity

	<i>Cronbach's Alpha</i>	<i>rho_A</i>	<i>Composite Reliability</i>	<i>Average Variance Extracted (AVE)</i>
APPS	0.914	0.915	0.939	0.795
EC	0.952	0.954	0.965	0.874
EI	0.944	0.945	0.957	0.817
PCS	0.941	0.944	0.957	0.849
PK	0.946	0.955	0.961	0.861

Source: Data analysis by SmartPLS3

All constructs demonstrated satisfactory reliability, with Cronbach's Alpha values ranging from 0.914 to 0.952, rho_A values from 0.915 to 0.955, and Composite Reliability values from 0.939 to 0.965. In addition, the Average Variance Extracted values ranged from 0.795 to 0.874, exceeding the recommended threshold of 0.50. The results confirm that all constructs achieved satisfactory internal consistency reliability and convergent validity. Therefore, the measurement model was considered appropriate for subsequent structural model analysis and hypothesis testing.

Table 3 presents the results of the discriminant validity assessment using the Fornell-Larcker Criterion and the Heterotrait-Monotrait Ratio. According to the Fornell-Larcker Criterion, the square roots of the Average Variance Extracted for all constructs, ranging from 0.892 to 0.935, were higher than their corresponding correlations with other constructs. This result indicates that each construct shared more variance with its own measurement items than with other constructs in the model, thereby supporting satisfactory discriminant validity. In addition, the Heterotrait-Monotrait Ratio values ranged from 0.274 to 0.709, all remaining below the recommended threshold of 0.85. These findings further confirm that the constructs were empirically distinct and did not exhibit problematic overlap. Overall, the results demonstrate satisfactory discriminant

validity and support the appropriateness of the measurement model for subsequent structural model analysis and hypothesis testing.

Table 3: Discriminant validity assessment

	Fornell-Larcker Criterion					Heterotrait-Monotrait Ratio (HTMT)				
	APPS	EC	EI	PCS	PK	APPS	EC	EI	PCS	PK
APPS	0.892									
EC	0.611	0.935				0.654				
EI	0.361	0.567	0.904			0.388	0.596			
PCS	0.294	0.350	0.301	0.921		0.315	0.369	0.319		
PK	0.613	0.678	0.422	0.263	0.928	0.654	0.709	0.443	0.274	

Source: Data analysis by SmartPLS3

4.3 Model assessment and discussions

Table 4 presents the results of the structural model assessment and hypothesis testing. The adjusted R^2 values show that the proposed model explained 53.5% of the variance in Entrepreneurial Capability and 31.9% of the variance in Entrepreneurial Intention. These findings indicate that the availability of photography products and services, photography knowledge, and photography community support provide meaningful explanatory power for the development of Entrepreneurial Capability. Entrepreneurial Capability, in turn, plays an important role in explaining Entrepreneurial Intention among Generation Z.

Table 4: Structural equation modelling results estimates

<i>Paths</i>	<i>Original Sample (O)</i>	<i>Sample Mean (M)</i>	<i>Standard Deviation (STDEV)</i>	<i>T Statistics (O/STDEV)</i>	<i>P Values</i>	<i>Adjusted R²</i>
APPS -> EC	0.283	0.284	0.080	3.533	0.000	EC = 0.535; EI = 0.319
EC -> EI	0.567	0.565	0.041	13.869	0.000	
PCS -> EC	0.144	0.146	0.056	2.584	0.010	
PK -> EC	0.467	0.467	0.074	6.281	0.000	
APPS -> EC -> EI	0.160	0.160	0.046	3.509	0.000	
PCS -> EC -> EI	0.082	0.083	0.034	2.433	0.015	
PK -> EC -> EI	0.265	0.264	0.047	5.583	0.000	

Source: Data analysis by SmartPLS3

Availability of Photography Products and Services positively influenced Entrepreneurial Capability ($\beta = 0.283$, $t = 3.533$, $p < 0.001$), supporting H1. This finding suggests that access to photography related products, services, equipment, and commercial opportunities enables Generation Z to gain practical experience and develop relevant entrepreneurial competencies. Such access may allow individuals to experiment with photography related business ideas, understand market demands, and explore potential commercial opportunities. This finding is consistent with Hasdiani and

Arbarini (2024), who emphasized the importance of practical product photography learning in improving digital entrepreneurial competence. The result therefore highlights that access to photography related resources and practical opportunities can contribute to the development of capabilities required for photography entrepreneurship.

Photography Knowledge demonstrated the strongest positive effect on Entrepreneurial Capability ($\beta = 0.467$, $t = 6.281$, $p < 0.001$), supporting H2. This result highlights the important role of photography education and knowledge development in building Entrepreneurial Capability among Generation Z. Technical photography knowledge, creative skills, digital content capabilities, and familiarity with emerging technologies may enable individuals to identify entrepreneurial opportunities and develop innovative photography related products or services. This finding is consistent with Wang et al. (2025), who argued that contemporary photography education should extend beyond traditional technical instruction by incorporating digital content creation, live streaming, and short video production. The strong effect found in this study further emphasizes that photography education can provide an essential foundation for developing the creative and practical capabilities required for entrepreneurship.

Photography Community Support positively influenced Entrepreneurial Capability ($\beta = 0.144$, $t = 2.584$, $p = 0.010$), supporting H3. Although this relationship represented the weakest direct effect among the three ecosystem dimensions, it remained statistically significant. This finding indicates that photography communities can contribute to entrepreneurial development through networking, mentoring, collaboration, and knowledge sharing. The result is consistent with Neneh (2022), who demonstrated the important role of social support in strengthening entrepreneurial development and engagement. Through interactions with peers and experienced professionals, Generation Z may gain access to professional relationships, knowledge, and practical resources that contribute to the development of Entrepreneurial Capability. Therefore, photography communities represent an important supporting component of the proposed entrepreneurship ecosystem.

Entrepreneurial Capability demonstrated a strong positive effect on Entrepreneurial Intention ($\beta = 0.567$, $t = 13.869$, $p < 0.001$), supporting H4. This was the strongest direct relationship in the structural model, emphasizing the central role of Entrepreneurial Capability in encouraging Generation Z to pursue photography related entrepreneurship. Individuals with stronger capabilities in opportunity recognition, innovation, resource integration, and entrepreneurial management are more likely to feel prepared to establish and develop photography related ventures. This finding is consistent with the perspective of Vu (2020), who emphasized the importance of entrepreneurial capabilities in enabling individuals and organizations to integrate resources, innovate, and respond effectively to changing environments. The result suggests that the development of practical Entrepreneurial Capability is essential for transforming photography related knowledge and resources into stronger Entrepreneurial Intention.

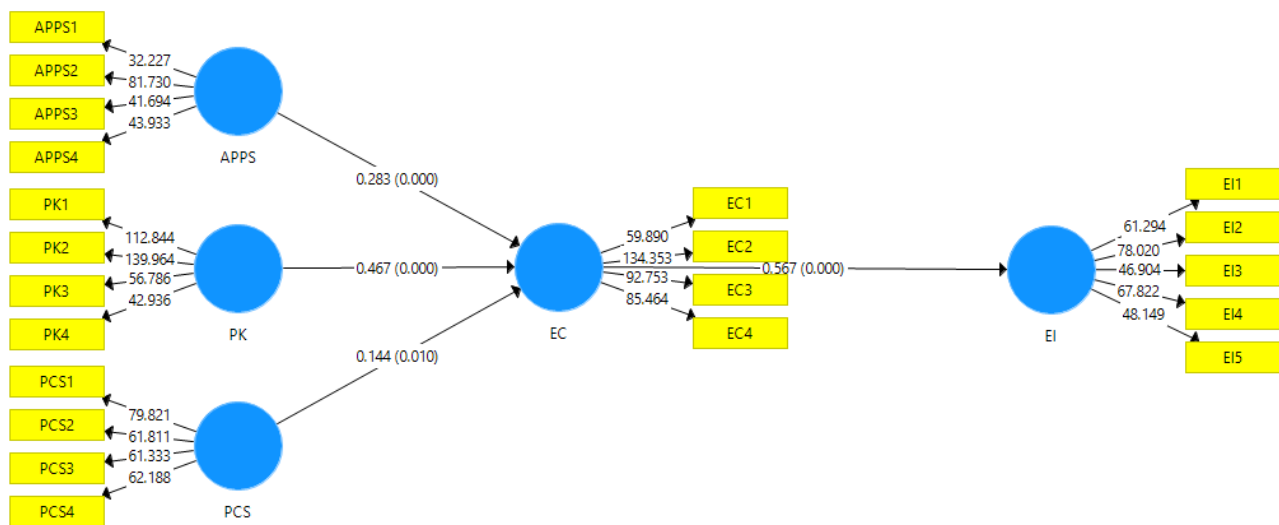


Figure 2: PLS bootstrapping model
Source: Data analysis by SmartPLS3

Entrepreneurial Capability significantly mediated the relationship between Availability of Photography Products and Services and Entrepreneurial Intention ($\beta = 0.160$, $t = 3.509$, $p < 0.001$), supporting H5a. This finding indicates that access to photography products and services contributes to Entrepreneurial Intention through its role in strengthening individuals' Entrepreneurial Capability. Practical exposure to photography resources and commercial activities may improve individuals' ability to recognize opportunities, apply their skills, and manage entrepreneurial activities. This finding is consistent with the arguments of Hasdiani and Arbarini (2024) regarding the contribution of practical photography based learning to digital entrepreneurial competence. The result suggests that resource accessibility becomes more effective in promoting entrepreneurship when individuals are able to transform these resources into practical entrepreneurial capabilities.

Entrepreneurial Capability significantly mediated the relationship between Photography Knowledge and Entrepreneurial Intention ($\beta = 0.265$, $t = 5.583$, $p < 0.001$), supporting H5b. This was the strongest indirect effect among the three mediation relationships, further emphasizing the importance of Photography Knowledge within the proposed entrepreneurship ecosystem. Photography education and knowledge strengthen the technical, creative, and business related capabilities required for entrepreneurial activities, which subsequently increase individuals' confidence and readiness to develop photography related ventures. This finding is consistent with Wang et al. (2025), who emphasized the need for photography education to develop competencies relevant to emerging digital and commercial opportunities. The result suggests that Photography Knowledge becomes particularly influential when it is translated into practical Entrepreneurial Capability, which subsequently encourages stronger Entrepreneurial Intention.

Entrepreneurial Capability significantly mediated the relationship between Photography Community Support and Entrepreneurial Intention ($\beta = 0.082$, $t = 2.433$, $p = 0.015$), supporting H5c. This result suggests that the contribution of Photography Community Support to Entrepreneurial Intention operates through its role in developing Entrepreneurial Capability.

Supportive communities provide opportunities for networking, mentoring, collaboration, and access to professional knowledge and resources, which can strengthen individuals' entrepreneurial competencies. This finding is consistent with Neneh (2022), who highlighted the contribution of social support to entrepreneurial development and engagement. Although this indirect effect was smaller than those associated with photography resources and knowledge, the result confirms that community support remains an important component of the ecosystem by facilitating the development of capabilities that encourage entrepreneurial participation.

Overall, all proposed hypotheses were supported. The findings demonstrate that the integration of photography products and services, photography education and knowledge, and photography community support contributes to the development of Entrepreneurial Capability, which subsequently strengthens Entrepreneurial Intention. The results are broadly consistent with previous studies emphasizing the importance of practical learning, knowledge development, social support, and capability building in entrepreneurship. In the specific context of photography entrepreneurship, the findings provide empirical support for building a photography entrepreneurship ecosystem for Generation Z, which integrates products, education and community functions with entrepreneurial capability serving as the central mechanism through which ecosystem resources are translated into entrepreneurial outcomes.

5.0 IMPLICATIONS AND CONCLUSION

This study examined how the availability of photography products and services, photography knowledge, and photography community support contribute to entrepreneurial capability and entrepreneurial intention among Generation Z. The findings showed that all three dimensions of the proposed photography entrepreneurship ecosystem positively influenced entrepreneurial capability, with photography knowledge demonstrating the strongest effect. Entrepreneurial capability subsequently had a strong positive influence on entrepreneurial intention and significantly mediated the relationships between the three ecosystem dimensions and entrepreneurial intention. These findings provide theoretical support for integrating Human Capital Theory and the Theory of Planned Behavior, suggesting that products, education, and community resources contribute to entrepreneurship by developing individuals' capabilities and strengthening their readiness to pursue entrepreneurial activities. The study therefore contributes to the literature by proposing entrepreneurial capability as a central mechanism connecting the photography entrepreneurship ecosystem with entrepreneurial intention among Generation Z.

The findings of this study also provide several important practical implications for educational institutions, universities, and photography training providers seeking to foster entrepreneurial development among Generation Z. Since photography knowledge demonstrated the strongest influence on entrepreneurial capability, greater emphasis should be placed on developing comprehensive knowledge that goes beyond conventional technical photography skills. Photography-related curricula and training programs should incorporate digital content creation, personal branding, social media marketing, customer relationship management, pricing strategies, financial planning, business model development, and project management. In addition, educational institutions could adopt more experiential and practice-oriented approaches, including client-based projects, internships, photography business simulations, entrepreneurial competitions, portfolio

development, and collaborations with creative businesses. These activities would enable Generation Z participants to apply their photography knowledge in realistic business contexts and develop the capabilities needed to identify opportunities, communicate with clients, manage projects, and commercialize their creative skills. In this way, photography education can serve not only as a means of developing technical competence but also as a foundation for entrepreneurial capability and subsequent entrepreneurial intention.

The findings further highlight the importance of photography communities and creative industry stakeholders in supporting the development of entrepreneurial capability. Photography communities should move beyond their traditional role as platforms for sharing photographs and technical knowledge by providing more structured opportunities for networking, mentoring, collaboration, and professional development. Experienced photographers and photography entrepreneurs could act as mentors, sharing practical knowledge related to pricing, client management, marketing, portfolio development, and business development. Peer-to-peer learning and collaborative projects could also enable Generation Z participants to combine photography with complementary skills such as graphic design, videography, copywriting, and digital marketing. At the industry level, photography equipment retailers, rental providers, studios, creative agencies, and other relevant organizations could improve access to photography products, services, and commercial opportunities through equipment rental programs, workshops, internships, shared facilities, and project-based collaborations. Providing emerging photographers with opportunities to work with real clients and industry professionals would allow them to strengthen their practical capabilities, build professional networks, gain market experience, and better understand the commercial potential of photography. In a broader perspective, the study suggest that photography entrepreneurship among Generation Z should be supported through an integrated ecosystem rather than through isolated educational or industry interventions. Photography products and services, photography knowledge, and community support can complement one another in helping individuals progress from acquiring knowledge to developing entrepreneurial capability and, subsequently, forming entrepreneurial intentions. Therefore, universities, photography training providers, photography communities, creative industry organizations, and policymakers could collaborate to establish integrated photography entrepreneurship programs that combine technical and business education, access to equipment and digital resources, mentoring, networking, and exposure to real-market opportunities. Such programs could also provide pathways for participants to move beyond entrepreneurial intention toward actual entrepreneurial activities, for example through freelance projects, commissioned work, creative collaborations, exhibitions, or small business development. By creating stronger connections between education, community support, industry resources, and market opportunities, stakeholders can help Generation Z transform their photography interests and creative competencies into viable and potentially sustainable entrepreneurial opportunities.

Despite its contributions, this study has several limitations. The cross sectional design does not allow strong causal conclusions, while the use of self reported data and the focus on Generation Z may limit the generalizability of the findings and introduce potential common method bias. Future research could adopt longitudinal approaches, expand the sample across different regions and groups of photography participants, and examine professional photographers or established photography entrepreneurs. Further studies could also move beyond entrepreneurial intention to

investigate actual business creation and entrepreneurial performance, while incorporating additional factors such as entrepreneurial self efficacy, digital competence, financial resources, market opportunities, and institutional support to provide a broader understanding of photography entrepreneurship ecosystems.

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