

Analysis of Professional Competence and Product Innovation on Business Performance Mediated by Digital Marketing in the Photography Industry

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Abstract

This study investigates the influence of professional competence and product innovation on business performance, with digital marketing acting as a mediating variable. The research focuses on photography entrepreneurs registered with HIPDI (Himpunan Pengusaha Dokumentasi Indonesia) in Jakarta. Using a quantitative approach, data were collected through questionnaires distributed to 180 respondents and analyzed using Structural Equation Modeling (SEM) with the Partial Least Squares (PLS) technique. The results reveal that professional competence has a significant and positive effect on both digital marketing and business performance. Product innovation also significantly influences business performance and digital marketing, though its impact is comparatively smaller. Moreover, digital marketing is proven to mediate the relationship between both professional competence and product innovation toward business performance, acting as a complementary mediator. These findings highlight the critical role of digital marketing in enhancing the effects of competence and innovation on business outcomes. Therefore, strengthening digital marketing strategies, along with improving professional skills and continuous product innovation, is essential to improve competitiveness and ensure sustainable growth in the photography business sector.

Keywords: Professional Competence, Product Innovation, Digital Marketing, Business Performance.



INTRODUCTION

The photography industry in Indonesia has been significantly driven by technological advancement and the growing public interest in visual content. This trend is reflected in the increasing number of professional and amateur photographers offering their services through various digital platforms. Events such as the Industrial Festival 2024, organized by the Ministry of Industry, further demonstrate the enthusiasm of the younger generation toward creative industries, including photography. The event attracted approximately 2,500 visitors, mostly university students and community members, who participated in talk shows, workshops, and mini exhibitions (Kompas.com, 2024).

Maintaining strong business performance is crucial for photographers to ensure the sustainability and growth of their enterprises in an increasingly competitive market. Optimal business performance enables photographers to meet customer needs effectively, leading to higher levels of customer satisfaction and loyalty. Furthermore, strong performance helps photographers remain adaptive to shifting trends and technological changes within the creative industry. Research by Nabhani et al. (2024) emphasizes the importance of service quality improvement among photography-based SMEs in enhancing competitiveness and customer satisfaction. Likewise, Fiernaningsih et al. (2018) highlight the need for structured business planning and clear marketing strategies, especially for novice entrepreneurs in photography and videography, to achieve their business objectives. As such, it is essential for photographers to continuously develop their professional competencies, innovate their service offerings, and implement effective marketing strategies to improve their business performance.

One key factor that influences business performance is professional competence. The photographer's ability to master technical, creative, and managerial skills plays a vital role in determining the quality and competitiveness of their services. A study by Ubaidillah et al. (2020) found that competence-based human resource development at Merahdelima Photography Studio led to improved employee performance, positively impacting the business. Similarly, Laitupa & Sukesu (2022) revealed that professional competence and entrepreneurial orientation significantly influence the business performance of micro-enterprises. These findings suggest that photographers who continuously hone both technical and managerial skills are more capable of responding to market demands and sustaining competitive advantage.

Another important factor is product innovation. In the context of photography services, innovation may involve the development of new techniques, the introduction of



unique service packages, or the integration of the latest technologies. Persada & Kusumawardhani (2021) found that product innovation has a significant effect on competitive advantage and business performance in the photography service sector. Continuous innovation enables photographers to meet diverse customer needs, stay ahead of market trends, and enhance business sustainability. Rachmasari & Suprapti (2022) further demonstrated that product innovation mediates the effect of market orientation on SME business performance, including in photography. Therefore, photographers who proactively identify market trends and develop innovative services are more likely to achieve superior business outcomes.

In addition to technical skills, digital marketing has become an essential strategy for increasing visibility and attracting clients. Through the use of social media, websites, and e-commerce platforms, photographers can reach a wider audience and enhance their competitiveness. Yanti et al. (2024) emphasized the importance of digital marketing in improving SME performance. The growing number of photographers promoting their services through digital channels has led to intensified competition, prompting many photography businesses to adopt digital marketing techniques such as social media engagement, search engine optimization (SEO), and content-based marketing. However, not all photographers possess sufficient human resource competencies or the ability to deliver innovative products. This raises the question of whether digital marketing can mediate the relationship between professional competence, product innovation, and business performance in the photography industry (Dewantoro et al., 2023).

The rise of digital technology and the internet has fundamentally changed the way photographers operate—from production to marketing. In this evolving landscape, professional competence and product innovation emerge as key drivers of business competitiveness, particularly in an increasingly digital market. Dewantoro et al. (2023) confirmed that both factors have a positive impact on SME performance. At the same time, digital marketing has become a powerful tool for reaching broader markets and improving marketing efficiency. Yanti et al. (2024) found that digital marketing significantly affects SME performance and can mediate the effects of digital literacy and product innovation. Therefore, it is crucial to examine how professional competence and product innovation influence business performance, with digital marketing acting as a mediating variable.



LITERATURE REVIEW

The Influence of Professional Competence on Business Performance

Professional competence, which encompasses technical knowledge, managerial skills, and creativity, has a direct and substantial impact on business performance. These competencies enable entrepreneurs to deliver high-quality services and products while remaining agile in responding to technological and market changes. According to Ng et al. (2020), professional competence significantly and positively influences the business performance of enterprises. Similarly, a study by Wahyuni & Sara (2020) found that professional competence directly affects business performance in a positive and statistically significant manner. Based on this theoretical and empirical foundation, the following hypothesis is proposed:

H1: Professional competence has a positive and significant effect on business performance.

The Influence of Product Innovation on Business Performance

Innovation is one of the most critical factors in driving superior business performance. A study by Auken et al. (2021) emphasized that innovation serves as a key driver for the long-term sustainability of small and medium-sized enterprises (SMEs), fostering both growth and competitive advantage. Innovation also encourages firms to engage in inter-organizational collaboration, strengthening their strategic capabilities. This is supported by Thomas et al. (2017), who found that well-managed product innovation can enhance the quality of goods and services, create sustainable competitive advantages, and ultimately improve business performance. Based on this rationale, the following hypothesis is proposed:

H2: Product innovation has a positive and significant effect on business performance.

The Influence of Digital Marketing on Business Performance

The transformation brought by digital marketing has revolutionized the way companies operate, fostering connections with consumers, suppliers, and stakeholders, and ultimately enhancing business performance (Scuotto et al., 2017). This is supported by the findings of Kumar et al. (2016), who stated that digital marketing plays a vital role in promoting and distributing photography products. It enables businesses to reach broader and more targeted markets, thereby increasing operational effectiveness and



driving improved business outcomes. Based on the above discussion, the following hypothesis is proposed:

H3: Digital marketing has a positive and significant effect on business performance.

The Influence of Professional Competence on Digital Marketing

Professional competence plays a vital role in the effective implementation of digital marketing strategies. A competent professional possesses a deep understanding of the target market, is capable of analyzing data to optimize marketing strategies, and demonstrates creativity in producing engaging and relevant content. Consequently, a high level of professional competence in the digital marketing domain can significantly contribute to business growth. Previous studies have shown that entrepreneurial competence and digital marketing are strongly linked in enhancing business performance (Chusumastuti et al., 2023). Based on this explanation, the following hypothesis is proposed:

H4: Professional competence has a positive and significant effect on digital marketing.

The Influence of Product Innovation on Digital Marketing

Product innovation is closely linked to digital marketing, as innovative products tend to generate higher consumer interest and strengthen digital marketing strategies. Unique and competitively advantageous products are more easily promoted through various digital platforms such as social media, online marketplaces, and websites. As innovation continues to evolve, digital marketing strategies become more effective in capturing market attention, thereby increasing sales conversions and contributing to improved business performance. Product innovation has been found to significantly influence the effectiveness of digital marketing. Innovative and distinctive products are more likely to attract consumer attention, making it easier for digital marketing strategies to engage and reach broader audiences (Wibawa et al., 2024). Based on this explanation, the following hypothesis is proposed:

H5: Product innovation has a positive and significant effect on digital marketing.



The Influence of Professional Competence on Business Performance Mediated by Digital Marketing

The study by Wahyuni and Sara (2020) revealed that professional competence positively and significantly influences business performance through digital marketing as a mediating factor. Similarly, research conducted by Ng et al. (2020) supports the finding that professional competence has a significant positive effect on business performance when facilitated by the use of digital marketing strategies. These findings suggest that digital marketing strengthens the impact of professional competence on business outcomes by enhancing outreach, engagement, and brand visibility. Based on this rationale, the following hypothesis is proposed:

H6: Professional competence has a positive and significant effect on business performance through digital marketing.

The Influence of Product Innovation on Business Performance Mediated by Digital Marketing

The study conducted by Setya et al. (2021) revealed that innovation does not have a direct impact on business sustainability, but rather exerts an indirect effect mediated through social media. Similarly, research by Al Mamun et al. (2022) found that digital marketing significantly mediates the relationship between innovation and strategic orientations (market, customer, and entrepreneurial orientation) as well as the business performance of SMEs. These findings suggest that product innovation becomes more impactful when supported by effective digital marketing strategies, which help in communicating the value of innovation and reaching a broader audience. Based on this explanation, the following hypothesis is proposed:

H7: Product innovation has a positive and significant effect on business performance through digital marketing.

RESEARCH METHOD

This study employed a quantitative approach. According to Sekaran (2017), quantitative research is a scientific method in which the data are in the form of numbers that can be processed and analyzed using mathematical or statistical calculations. The sampling technique used in this study was probability sampling with a simple random sampling method. The sample consisted of 180 individuals who are registered entrepreneurs under HIPDI (Indonesian Photography Entrepreneurs Association) operating in the photography sector in Jakarta. Data were collected through a structured

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questionnaire using a 5-point Likert scale. The analytical technique applied in this study was Structural Equation Modeling (SEM) based on variance, implemented through Partial Least Squares (PLS) analysis using a reflective measurement model. The SEM-PLS method was selected due to its capability to maximize the explained variance of endogenous latent variables, making it suitable for predictive and exploratory modeling in complex relationships.

RESULT

Demography Profile of Respondents

Table 1: Demography

Gender	Total
Male	142
Female	38
Total	180
Age	Total
< 25 Years	63
26 - 35 Years	63
36 - 45 Years	40
> 45 Years	14
Total	180
Education Level	Total
High School/Equivalent	25
Diploma	23
Bachelor's Degree	125
Postgraduate	7
Total	180
Length of Experience	Total
< 1 Year	61
> 10 Years	29
1 - 5 Years	68
5 - 10 Years	22
Total	180

The respondents involved in this study from the photography industry were predominantly male. Out of a total of 180 participants, 142 (78.88%) were male, while only 38 (21.12%) were female. This proportion suggests that the photography profession

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in Indonesia is still largely male-dominated. The respondents represented a diverse range of age groups. The majority belonged to two key age categories: under 25 years old and between 26 to 35 years old, with 63 individuals in each group. This indicates that the photography business is primarily driven by younger generations who are dynamic and actively engaged in business development. In terms of educational background, most respondents held a Bachelor's degree (S1), with a total of 125 individuals. This highlights that the majority of photography entrepreneurs possess a relatively high level of formal education. Work experience within the photography industry also varied among respondents. The majority, consisting of 68 individuals, had 1 to 5 years of professional experience. This suggests that many photography entrepreneurs are still in the early stages of developing their businesses, focusing on building portfolios and expanding customer networks.

Measurement Model Evaluation

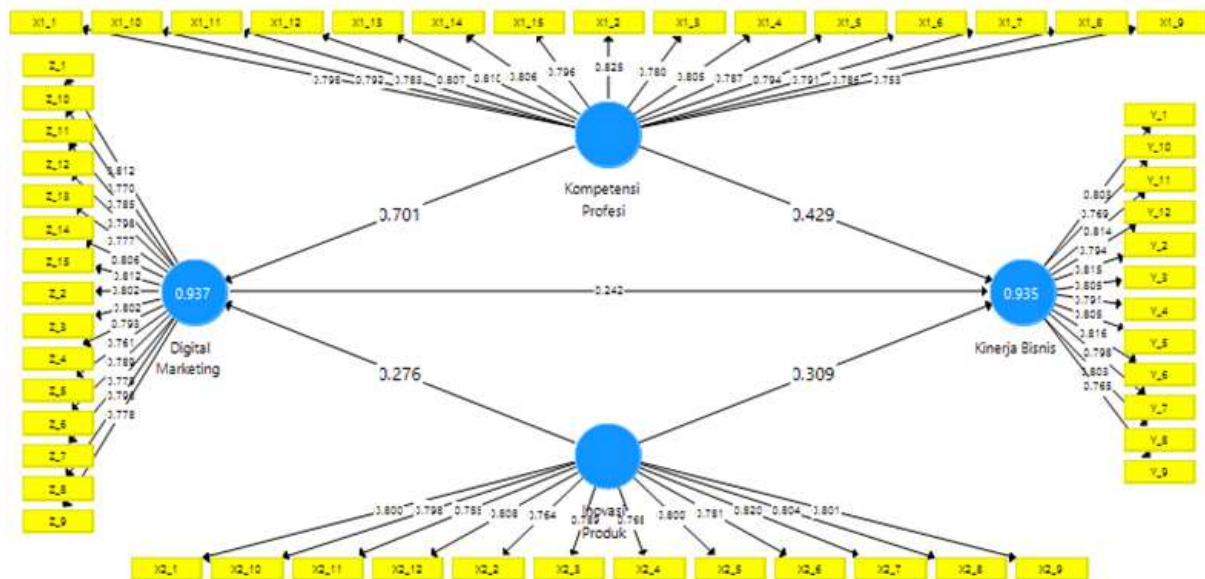


Figure 1: PLS Algorithm

The results presented in the table above indicate that the outer model values, or the correlations between constructs and their respective latent variables, have satisfied the criteria for convergent validity. All factor loading values exceed the minimum threshold

of 0.70, indicating that each indicator reliably measures its intended construct. Therefore, the constructs can be considered to exhibit good convergent validity and are suitable for further analysis.

Table 2: Reliability Test Result

Construct	Cronbach's Alpha	Composite Reliability	Conclusion
Professional Competence	0.958	0.962	Reliable
Product Innovation	0.946	0.953	Reliable
Digital Marketing	0.957	0.962	Reliable
Business Performance	0.948	0.955	Reliable

Furthermore, based on the table, all constructs demonstrate Composite Reliability and Cronbach's Alpha values greater than 0.60. These results confirm that the measurement items for each variable possess acceptable levels of internal consistency. Accordingly, the constructs can be deemed reliable and appropriate for use in this study.

Structural Model Evaluation

Table 3: R-Square

Construct	R Square
Digital Marketing	0.937
Business Performance	0.935

Based on the calculations presented in the table above, the R Square value of 0.937 indicates that 93.7% of the variance in Digital Marketing is explained by the independent variables in the model. Similarly, an R Square value of 0.935 demonstrates that 93.5% of the variance in Business Performance is accounted for by the independent variables. Both R Square values exceed 0.75, which suggests that the model possesses strong predictive power. Therefore, the model can be considered highly reliable for research purposes, as the majority of the variance in the dependent variables is explained by the model's predictors.



Table 4: F-Square

Construct	Digital Marketing	Business Performance
Professional Competence	0.679	0.146
Product Innovation	0.105	0.115
Digital Marketing		0.057

The effect size analysis further reveals varying degrees of influence among the variables studied. Professional competence exhibits the strongest impact on digital marketing, with an effect size of 0.679, categorized as large. It also has a moderate effect on business performance, with a value of 0.146. In contrast, product innovation shows relatively small effects on both digital marketing (0.105) and business performance (0.115). Additionally, the effect of digital marketing on business performance is also small, with an effect size of 0.057.

Hypothesis Testing

Table 5: Hypothesis Testing Result

Hypothesis	Original Sample	T Statistic	P Values	Conclusion
Direct Effect				
H1	0.429	4.379	0.000	Accepted
H2	0.309	3.778	0.000	Accepted
H3	0.242	2.805	0.005	Accepted
H4	0.701	8.506	0.000	Accepted
H5	0.276	3.291	0.001	Accepted
Indirect Effect				
H6	0.170	2.609	0.009	Accepted
H7	0.067	2.130	0.034	Accepted

Based on the hypothesis testing results using the SEM-PLS method with t-test and p-value analysis, all proposed hypotheses in this study show statistically significant relationships.

1. Hypothesis 1 (H1) yielded an original sample value of 0.429, a t-statistic of 4.379, and a p-value of 0.000, indicating a positive and significant effect between the tested variables.



2. Hypothesis 2 (H2) reported an original sample value of 0.309, a t-statistic of 3.778, and a p-value of 0.000, further confirming a significant relationship.
3. Hypothesis 3 (H3) showed an original sample value of 0.242, with a t-statistic of 2.805 and a p-value of 0.005. Although the effect size is smaller compared to other hypotheses, the relationship remains statistically significant.
4. Hypothesis 4 (H4) revealed the highest original sample value of 0.701, a t-statistic of 8.506, and a p-value of 0.000, suggesting a very strong and significant impact of the tested variable.
5. Hypothesis 5 (H5) also indicated a significant effect, with an original sample value of 0.276, a t-statistic of 3.291, and a p-value of 0.001.

Regarding indirect effects, the SEM-PLS analysis confirmed that Digital Marketing functions as a mediating variable in the relationship between both Professional Competence and Product Innovation with Business Performance. The mediation effect in both cases is classified as Complementary Mediation.

1. For Hypothesis 6 (H6), the mediation pathway from Professional Competence → Digital Marketing → Business Performance yielded an original sample value of 0.170, a t-statistic of 2.609, and a p-value of 0.009. Since the t-statistic exceeds 1.96 and the p-value is below 0.05, the indirect effect is considered statistically significant.
2. For Hypothesis 7 (H7), the mediation pathway from Product Innovation → Digital Marketing → Business Performance showed an original sample value of 0.067, a t-statistic of 2.130, and a p-value of 0.034, indicating a statistically significant indirect effect as well.

DISCUSSION

A professional equipped with a strong understanding of the industry, relevant skills, and the ability to adapt to change is more capable of managing their business efficiently. This directly contributes to enhanced productivity, improved service quality, and increased customer satisfaction, all of which ultimately lead to better overall business performance. Furthermore, businesses that actively pursue innovation tend to possess greater competitiveness, as they can offer more relevant and appealing solutions to their customers. The positive impact of product innovation on business performance is evident in several areas, such as increased customer loyalty, expansion into broader markets, and enhanced profitability. Innovative products not only attract new customers but also help retain existing ones, leading to sustainable revenue growth. Additionally, effective

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digital marketing strategies enhance brand exposure and accelerate customers' decision-making processes regarding purchases.

Professional competencies—including an understanding of marketing strategies, communication skills, and proficiency in managing digital technologies—can improve the effectiveness of digital marketing campaigns. When digital marketing is utilized optimally, businesses are better positioned to reach a wider target audience, strengthen customer engagement, and accelerate business growth. The analysis also indicates that innovative products tend to be more appealing to consumers and offer unique value propositions compared to competitors. However, without effective digital marketing strategies, such innovations may struggle to reach a broader market. Digital marketing facilitates the adoption of innovations by increasing product visibility, delivering more compelling information, and enabling smoother interactions with customers.

CONCLUSION

This study aimed to examine the influence of professional competence and product innovation on business performance, with digital marketing as a mediating variable, among photography entrepreneurs registered with HIPDI in Jakarta. The findings demonstrate that all proposed hypotheses are supported, indicating significant and positive relationships among the variables studied. Professional competence has the strongest direct impact on digital marketing and also significantly affects business performance, both directly and indirectly through digital marketing. This highlights the critical role of professional capabilities in optimizing digital strategies and enhancing overall business outcomes. Product innovation also positively influences business performance, though its impact is more moderate compared to professional competence. Importantly, digital marketing mediates the relationship between product innovation and business performance, suggesting that the success of innovative products is highly dependent on how effectively they are marketed through digital platforms. In summary, professional competence, product innovation, and digital marketing each play a crucial role in driving business performance. Digital marketing serves as a key strategic tool that amplifies the effects of both professional competence and innovation. These findings underscore the importance of investing in professional development and continuous innovation, supported by robust digital marketing practices, to ensure sustainable business growth in the photography industry.



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