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Digital Skills and Transformational Leadership as Drivers of Business Performance in SMEs

Asraf, Astil Harli Roslan, Arfin Bagea

STIE Enam Enam Kendari

asrafyunus23@gmail.com

Abstract

This study aims to analyze the influence of Digital Skills and Transformational Leadership on Business Performance, as well as test the role of Transformational Leadership as a moderation variable in the relationship between Digital Skills and Business Performance. The study used a quantitative approach with an explanatory design, involving 150 owners of Small and Medium-sized Enterprises (SMEs) in Kendari City as respondents. Data collection was carried out through a survey using a closed questionnaire with a five-point Likert scale. Data analysis was carried out using the Structural Equation Modeling method based on Partial Least Squares (SEM-PLS) to test the direct relationship and moderation effect between variables. The results of the study show that Digital Skills have a positive and significant effect on Business Performance, which shows that digital skills are an important factor in increasing operational effectiveness and business competitiveness. Transformational Leadership has also been proven to have a positive and significant influence on Business Performance, even with a stronger contribution in driving business performance. In addition, Transformational Leadership acts as a moderation variable that strengthens the relationship between Digital Skills and Business Performance. These findings confirm the importance of synergy between digital capabilities and transformational leadership in improving business performance. This research provides the implication that digital skills development and transformational leadership need to be a strategic priority for SMEs in dealing with business dynamics in the digital era.

Keywords: Digital Skills, Business Performance, Transformational Leadership, SMEs

1. Introduction

The development of digital technology has significantly changed the business landscape, especially for small and medium-sized enterprises (SMEs) who are required to be more adaptive to changing environments. Digital transformation is not only related to the adoption of technology, but also the ability of individuals to effectively utilize those technologies to improve business performance. Digital skills are an important factor because they determine the extent to which technology can be integrated in business processes to create added value and competitive advantage [1, 2]. Recent research shows that organizations with high levels of digital skills tend to be better able to improve operational efficiency, innovation, and overall business performance [3, 4].

In addition to digital skills, the leadership factor also plays an important role in determining the success of the organization. Transformational leadership is a leadership style that is able to inspire, motivate, and encourage change in the organization. In the context of modern business, transformational leadership not only plays a role in increasing work motivation, but also in supporting the implementation of digital technology and organizational innovation [5, 6]. Therefore, the combination of digital skills and transformational leadership is a strategic factor in improving business performance, especially in SMEs that have limited resources.

Digital skills have a significant contribution to improving business performance. The ability to use digital technology allows business actors to optimize business processes, improve service quality, and expand market access through digital platforms [7]. The literature shows that digital skills not only have a direct impact on business performance, but also through improving the organization's ability to adapt to changing environments and take advantage of digital opportunities [8, 9]. In addition, digital skills also play a role in improving data-driven decision-making capabilities and strengthening product and service innovation [10-12].

Transformational leadership has also been proven to have a strong influence on business performance. Transformational leaders are able to create a clear vision, increase employee commitment, and encourage organizational innovation and learning. Research shows that transformational leadership affects business performance through various mechanisms such as increasing organizational learning, employee engagement, and innovative behavior [13, 14]. Thus, transformational leadership not only has a direct effect on business performance, but also through increasing organizational capacity in dealing with changes and uncertainties in the business environment.

Although many studies have examined the influence of digital skills on business performance, most still focus on direct relationships without considering contextual factors such as leadership. In fact, some studies show that digital skills do not always produce optimal performance without effective leadership support [15]. This shows that there is a research gap related to how leadership factors, especially transformational leadership, can strengthen or weaken the relationship between digital skills and business performance.

In terms of theoretical gap, there are inconsistencies in research results related to the relationship between digital skills and business performance. Some studies have found significant influences, while others have shown that they depend on moderation factors such as organizational readiness, culture, and leadership [16, 17]. Transformational leadership is thought to have an important role as a moderation variable, but studies on this role are still limited, especially in the context of SMEs in developing regions. Therefore, this study tries to fill the gap by testing transformational leadership as a moderation variable.

This research proposes that digital skills have a positive effect on business performance through increasing operational efficiency, innovation, and organizational adaptability. Digital skills allow business actors to utilize technology in various business activities such as digital marketing, financial management, and communication with customers. Based on the perspective of Resource-Based View (RBV) and Dynamic Capabilities Theory (DCT), digital skills are strategic resources that can create a competitive advantage if managed properly [18].

Transformational leadership plays a role as a moderation variable that strengthens the relationship between digital skills and business performance. Transformational leaders are able to encourage optimal use of technology by creating a clear vision, providing support, and building a culture of innovation in the organization. Research shows that effective leadership can increase the success of digital transformation implementation and strengthen its impact on business performance [19]. Thus, the existence of transformational leadership can magnify the influence of digital skills on business performance.

This research was conducted among owners of small and medium-sized enterprises (SMEs) in Kendari City. Kendari City is one of the regions experiencing relatively rapid SME growth, but it still faces challenges in adopting digital technology and improving business performance. Many business owners have not yet fully utilized digital technology in managing their businesses, so the potential to enhance business performance has not been fully realized. The selection of SMEs owners as respondents is based on their role as key decision-makers in the organization. In SMEs, business owners not only play the role of managers, but also as leaders who determine the direction of business strategies. Therefore, digital skills and transformational leadership owned by business owners are important factors that affect business performance.

This study aims to analyze the influence of digital skills on business performance, analyze the influence of transformational leadership on business performance, and test the role of transformational leadership as a moderation variable in the relationship between digital skills and business performance in SMEs in Kendari City.

The contribution of this research is to provide the development of a conceptual model that integrates digital skills and transformational leadership in improving business performance. In addition, this research also provides practical contributions for SMEs in improving business performance through strengthening digital capabilities and implementing transformational leadership styles.

2. Research Methods

This study uses a quantitative approach with an explanatory design to test and analyze the causal relationship between variables in the research model, namely the influence of Digital Skills on Business Performance, the influence of Transformational Leadership on Business Performance, and the role of Transformational Leadership

Table 1. Outer Model Evaluation based on Loading, AVE, and CR

Variables	Items	Loading	Cronbach's alpha	Composite Reliability	Average variance extracted
Digital Skills (DS)	DS.1	0,94	0,94	0,94	0,85
	DS.2	0,92			
	DS.3	0,92			
	DS.4	0,92			
Business Performance (BP)	BP.1	0,94	0,96	0,96	0,89
	BP.2	0,93			
	BP.3	0,95			
	BP.4	0,95			
Transformational Leadership (TL)	TL.1	0,92	0,95	0,96	0,82
	TL.2	0,90			
	TL.3	0,92			
	TL.4	0,88			
	TL.5	0,91			

The results of the external model evaluation in Table 1 show that all indicators in the Digital Skills, Business Performance, and Transformational Leadership variables have a high loading factor value, which is above 0.70. The loading value for the Digital Skills variable was in the range of 0.92–0.94, Business Performance in the range of 0.93–0.95, and Transformational Leadership in the range of 0.88–0.92. This shows that all indicators have excellent convergent validity and are able to strongly reflect the measured constructs. In addition, the Average Variance Extracted (AVE) value for each variable is also above 0.50, which is 0.85 for Digital Skills, 0.89 for Business Performance, and 0.82 for Transformational Leadership, so it can be concluded that each construct has an adequate level of convergent validity.

Furthermore, the results of the reliability test showed that all variables had Cronbach's Alpha and Composite Reliability values that exceeded the minimum limit of 0.70. Cronbach's Alpha scores are 0.94 (Digital Skills), 0.96 (Business Performance), and 0.95 (Transformational Leadership), respectively, while the Composite Reliability scores are 0.94, 0.96, and 0.96, respectively. These values show that the research instrument has an excellent level of internal consistency. Thus, based on the results of the validity and reliability testing, it can be concluded that the measurement model (outer model) in this study has met the required criteria and is feasible to be used at the next stage of analysis.

Table 2. Testing Discriminant Validity

	1	2	3
Digital Skills (1)	0,898		
Business performance (2)	0,353	0,760	
Transformational Leadership (3)	0,411	0,648	0,883

The results of the discriminant validity test in Table 2 show that the square root value of AVE (shown diagonally) for each construct is greater than the correlation between other constructs. The scores for Digital Skills were 0.898, Business Performance was 0.760, and Transformational Leadership was 0.883, all of which were higher than the correlation values between variables, such as the correlation of Digital Skills with Business Performance (0.353) and Transformational Leadership (0.411), as well as the correlation of Transformational Leadership with Business Performance (0.648). This shows that each construct has good discriminating ability, so it can be clearly distinguished from other constructs. Thus, it can be concluded that the model has met the criteria of discriminant validity based on the Fornell-Larcker approach and is feasible to proceed to the next stage of analysis.

Table 3. R Square

	R-square
Business performance	0,674

The R-square value of the Business Performance variable of 0.674 indicates that the research model has a fairly strong explanatory ability, where 67.4% of the variation in Business Performance can be explained by independent variables included in the model, such as Digital Skills and Transformational Leadership, while the remaining 32.6% is explained by other factors outside this research model that are not directly analyzed. These findings indicate that the constructs used in the study have a substantive contribution in explaining changes in business performance, so that the model can be judged to have clear power and good predictive power. Thus, these results show that the relationships between variables in the structural model have been able to provide an adequate picture of the factors that affect Business Performance, and show that the model is feasible to continue at the next stage of analysis, including hypothesis testing and evaluation of the influence between constructs in more depth.

Table 5. Significant Test

	Original sample	P values
Digital Skills -> Business performance	0,115	0,026
Transformational leadership -> Business performance	0,405	0,000
Transformational leadership x Digital Skills -> Business performance	0,172	0,000

The results of the significance test presented in Table 5 indicate that the Digital Skills variable has a positive and statistically significant effect on Business Performance, with an original sample value of 0.115 and a p-value of 0.026 ($p < 0.05$). These findings suggest that a higher level of digital capability among SME owners in Kendari City tends to be associated with better business performance. In practical terms, this means that when business owners possess stronger digital competencies, they are more likely to manage business operations more efficiently, utilize digital marketing tools more effectively, and respond more adaptively to technological developments in the business environment. Although the magnitude of the coefficient is relatively modest, the significant relationship confirms that Digital Skills remain an important factor in enhancing the performance of SMEs, particularly in an era where business competitiveness is increasingly shaped by the ability to adopt and use digital technology effectively.

In addition, the Transformational Leadership variable demonstrates a stronger and highly significant effect on Business Performance, with an original sample value of 0.405 and a p-value of 0.000 ($p < 0.001$). This result indicates that transformational leadership practiced by SME owners makes a substantial contribution to improving business performance. Leaders who are visionary, inspiring, and capable of encouraging innovation and positive change are better positioned to create a productive and motivated work environment. Such leadership not only strengthens employee commitment and teamwork but also enhances organizational adaptability and competitiveness. As a result, transformational leadership exerts a direct and meaningful impact on overall business performance, making it one of the most influential factors in this study.

Furthermore, the results of the moderation effect test reveal that the interaction between Transformational Leadership and Digital Skills on Business Performance is also positive and statistically significant, with an original sample value of 0.172 and a p-value of 0.000 ($p < 0.001$). This finding indicates that Transformational Leadership acts as a moderating variable that strengthens the relationship between Digital Skills and Business Performance. In other words, the positive influence of Digital Skills on business performance becomes stronger when SME owners also demonstrate effective transformational leadership. This suggests the existence of an important synergy between technical capabilities and leadership style within the organization. Digital skills alone may improve performance to a certain extent, but when they are supported by leaders who can inspire, guide, and manage change effectively, their contribution to business performance becomes more substantial.

Overall, the findings of this study confirm that the combination of digital skills and transformational leadership is a key determinant of improved Business Performance among SMEs in Kendari City. Digital Skills provide the essential technical foundation needed to operate and compete in the digital era, while Transformational Leadership serves as a strategic driving force that amplifies the benefits of these skills. Therefore, SME owners are encouraged not only to enhance their digital literacy and technological competencies but also to develop their transformational leadership capacity. By strengthening both aspects simultaneously, SMEs can improve their business performance more sustainably and become better prepared to face increasingly dynamic and complex competitive challenges.

Discussions

The results of this study show that Digital Skills have a positive and significant influence on Business Performance for SME owners in Kendari City. These findings are in line with the literature that emphasizes that digital capabilities are a strategic resource that can improve operational efficiency, decision-making quality, and adaptability to changes in the technology-based business environment [20]. In the Resource-Based View (RBV) perspective, digital skills are seen as an intangible asset that can create a competitive advantage if managed effectively. Previous studies have also shown that digital literacy and digital competencies contribute directly to improving organizational performance, especially in the context of small and medium-sized enterprises that are transforming digitally [4, 21, 22]. Thus, despite its relatively moderate influence, Digital Skills remains an important foundation in improving business performance.

Furthermore, the results of the study revealed that Transformational Leadership has a stronger and more significant influence on Business Performance than Digital Skills [23]. This shows that the role of leadership is a key factor in mobilizing organizational resources to achieve optimal performance. Transformational leadership is able to increase employee motivation, commitment, and creativity, which ultimately impacts improved business performance. These findings are consistent with various studies that state that Transformational Leadership encourages innovation, organizational learning, and organizational citizenship behavior (OCB), which are important mediators in improving organizational performance [5, 6]. In the context of SMEs, business owners who are able to inspire and direct a clear business vision will be better able to face the dynamics of competition and technological change.

Furthermore, the results of this study confirm that Transformational Leadership plays a role as a moderation variable that strengthens the relationship between Digital Skills and Business Performance. This means that the influence of Digital Skills on business performance will be more optimal when supported by transformational leadership. These findings support the view in Dynamic Capabilities Theory (DCT) which states that an organization's ability to utilize resources (such as digital skills) is highly dependent on managerial and leadership capacity in integrating, building, and reconfiguring these competencies [24, 25]. A number of studies have also shown that strong leadership is able to strengthen the impact of digital capabilities on performance through increased digital readiness and organizational culture that supports innovation.

However, these findings also indicate that Digital Skills cannot stand alone in improving business performance to the maximum. Without effective leadership support, the potential of digital skills is less likely to be utilized optimally. This is in line with research that emphasizes that contextual factors such as organizational culture, technology readiness, and top management support are key determinants in converting digital capabilities into tangible performance [18]. Therefore, it is important for organizations, especially SMEs, to not only focus on improving technical skills, but also on building leadership capacity capable of strategically directing digital transformation.

Overall, the results of this study make an important contribution both theoretically and practically. Theoretically, this study strengthens the integration between RBV and DCT in explaining the relationship between Digital Skills, Transformational Leadership, and Business Performance. Practically, these findings imply that SME owners in Kendari City need to develop a holistic strategy, namely by improving digital competencies while strengthening transformational leadership styles. Efforts such as digital training, leadership development, and the creation of an adaptive and innovative organizational culture are key to increasing business competitiveness and sustainability in an increasingly complex digital era.

4. Conclusion

This study concludes that Digital Skills and Transformational Leadership are two important factors that contribute to improving Business Performance for SME owners in Kendari City. Digital Skills has been proven to support the ability of business actors to utilize technology to streamline business processes, increase the speed of response to market changes, and strengthen the effectiveness of business management. On the other hand, Transformational Leadership shows a more dominant role because it is able to direct, inspire, and encourage business owners to build a clear vision, create innovation, and develop a more adaptive work environment. In addition, transformational leadership also strengthens the influence of digital capabilities on business performance, so it can be understood that business success is not only determined by mastery of technology, but also by the ability of leaders to manage change and maximize the potential of their resources. The implications of these findings suggest that SME owners need to develop a balanced approach between improving digital skills and strengthening transformational leadership capacity in order to achieve better and sustainable business performance. However, this study still has limitations because its scope only focuses on the context of SMEs in Kendari City and uses a quantitative approach, so it has not fully captured the deeper dynamics related to organizational behavior and the subjective experiences of business actors. Therefore, further research is recommended to expand the scope of the research area, involve more diverse business characteristics, and use a more comprehensive methodological approach, such as a combination of quantitative and qualitative methods. Future research may also consider the addition of other variables, such as organizational culture, innovation, digital readiness, or organizational learning, in order to provide a more complete picture of the factors that affect Business Performance.

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