



DOI: <https://doi.org/10.38035/sjam.v4i2>
<https://creativecommons.org/licenses/by/4.0/>

Integrative Model of Employee Productivity Based on Digital Capability, Leadership, and Operational Excellence

Lia Agustianti Ghemy^{1*}, Aris Setiyani², Irving Ignatius Paul Luntungan³

¹Universitas Indonesia Membangun, Bandung, Indonesia, liaagustiantighemy@student.inaba.ac.id

²Universitas Indonesia Membangun, Bandung, Indonesia, aris.setiyani@inaba.ac.id

³Universitas Indonesia Membangun, Bandung, Indonesia, irving.ignatius@inaba.ac.id

*Corresponding Author: liaagustiantighemy@student.inaba.ac.id¹

Abstract: This study develops an integrative model of employee productivity by examining the roles of digital capability, leadership, and operational excellence in the context of digital transformation within Indonesia's food and beverage manufacturing industry. Although previous studies have investigated these constructs separately, limited research has integrated them into a comprehensive structural framework. A quantitative explanatory design was employed using survey data collected from 200 employees of PT Ultrajaya Milk Industry & Trading Company Tbk. The proposed relationships were analyzed using Structural Equation Modeling (SEM). The findings reveal that digital capability is the strongest determinant of employee productivity, followed by leadership, while operational excellence significantly enhances productivity and partially mediates the effects of both digital capability and leadership. The results indicate that organizations can achieve sustainable productivity by simultaneously strengthening employees' digital competencies, developing transformational leadership, and fostering operational excellence. The study contributes to the Resource-Based View and Human Capital Theory by demonstrating that technological capability, leadership quality, and organizational processes function as complementary strategic resources for improving workforce productivity. Practically, the findings provide managerial guidance for designing integrated digital transformation and human capital development strategies to enhance organizational competitiveness.

Keyword: Digital Capability, Leadership, Operational Excellence, Employee Productivity, Structural Equation Modelling (SEM).

INTRODUCTION

In the age of digital transformation, the shifts in the more dynamic business environment have driven firms to improve organizational capacities through technological integration, adaptive leadership, and the adoption of operational excellence to improve staff productivity (Verhoef et al., 2021);(Vial, 2019);(Kraus et al., 2021). The food and beverage sector is a crucial determinant for employee productivity, especially in FMCG-based manufacturing organizations that influence the company's performance in sustaining operational efficiency, product quality and market competitiveness. This requirement implies

that businesses should be directed not just to financial achievements, but also to the development of human capital able to adapt to technological changes and the complexity of firm operations.

This phenomena can be seen in the development of PT Ultrajaya Milk Industry & Trading Company Tbk's performance in the last three years. According to the company's annual report, net sales climbed from IDR 7.656 trillion in 2022 to IDR 8.302 trillion in 2023 and IDR 8.874 trillion in 2024. Furthermore, profit for the current year rose to IDR 1.186 trillion in 2023 from IDR 965 billion in 2022, but slightly adjusted to IDR 1.153 trillion in 2024. The company's total assets also climbed to IDR 8.461 trillion in 2024 from IDR 7.523 trillion in 2023. The better performance reflects the company's accomplishment in enhancing operational efficiency, manufacturing capacity and distribution efficacy amid the dynamics of the national food and beverage business.

In the Board of Commissioners' report the company said the Board of Directors has been successful in increasing the company's performance through plans to grow its distribution network, logistics effectiveness and boost production capacity. The company also continues to invest in new and digital production technology, increasing the company's efficiency and production capacity. This stage demonstrates that digital transformation and operational excellence are embedded in the core of the company's business plan to increase organizational efficiency in a sustainable way.

From a theoretical perspective, employee productivity means the maximum capacity of individuals and work groups to generate output by effectively and efficiently using organizational resources (Robbins & Judge, 2023);(Drucker, 1999);(Becker, 1993). Employee productivity is not only a function of individual competencies, but also of technical assistance, leadership patterns and organizational operational systems to support job effectiveness. In the framework of current industrial revolution, digital competence, leadership and operational excellence are viewed as crucial aspects that can greatly improve the job productivity of employees.

Digital capability is the capacity of companies and individuals to leverage digital technology to improve the efficacy of their work, decision-making, collaboration and organizational creativity (Warner & Wager, 2019);(Vial, 2019);(Bharadwaj et al., 2013). The research of Warner and Wäger suggests that digital capabilities are vital for creating organizational dynamic capabilities through a constant process of strategic renewal. Research has indicated that digital transformation can enhance organizational performance and operational agility of firms (Verhoef et al., 2021);(Kraus et al., 2021). Additionally, the research of Vial stresses the impact of digital transformation on the improvement of employee performance through technological integration, automation of business processes and changes in organizational work paradigms. And therefore, the better the digital capabilities of the business, the more potential for the corporation to boost the productivity of human resources.

Conversely, leadership is a key element in guiding organizational change and establishing a work culture that is flexible to digital transformation (Avolio & Bass, 1994);(Northouse, 2022);(Yukl & Gardner, n.d.). (Avolio & Bass, 1994) found that transformational leadership has a substantial effect on staff motivation, engagement and productivity through the use of inspiring motivation, intellectual stimulation, customized consideration, and idealized influence. Transformational leadership can foster a work atmosphere that promotes innovation, learning, and collaboration among people (Avolio & Bass, 1994) According to Northouse's study, strategic leadership has a key role in enhancing organizational success by creating an adaptive work culture, enhancing corporate communication, and enhancing employee engagement. In the framework of the modern firm,

the leader is not only an organizational director, but also a driver of transformation and boost work productivity.

Apart from digital competency and leadership, operational excellence is another key variable in enhancing employee productivity (Dahlgaard-Park, 2015);(Slack et al., 2022). Operational Excellence is a management philosophy that is focused on continuous improvement, efficiency of business processes, quality improvement and constant optimization of organizational resources. By minimizing waste, standardizing processes and increasing the quality of the company's operations, Dahlgaard-Park's research shows that operational excellence can boost organizational productivity (Shah & Ward, 2007). In a further study, Antony showed that implementation of operational excellence had a beneficial impact on employee productivity by improving the efficiency of work process, service quality, and operational efficiency of the business.

The phenomena of operational excellence is also shown by the performance of PT Ultrajaya Milk Industry & Trading Company Tbk. The company's performance of the ratio of operating income to total assets is relatively high, which is 17.66% in 2022, increases to 19.60% in 2023, and remains at a high level of 17.12% in 2024. As part of the firm's long-term plan, the company continues to improve the efficiency of logistics, distribution, warehouse development and distribution centres. The condition indicates that operational excellence is one of the major objectives of the corporation to sustain organizational efficiency and productivity.

However, earlier research still often looks at digital competence, leadership and operational excellence in part to explain employee productivity. Research on digital competence is more focused on organizational performance and innovation capability, whereas research on leadership is more prominent on employee engagement, job satisfaction and organizational commitment. Operational excellence research, on the other hand, is mostly limited to the efficiency of the manufacturing process and operational quality. The combination of these three factors into a structural model of employee productivity is still limited, particularly in the context of the Indonesian food and beverage manufacturing industry.

Moreover, the findings of past studies are inconsistent. Some studies have indicated a direct effect of digital capacity on staff productivity whereas others have found the effect to be indirect via organizational agility and operational effectiveness. Similarly, the impact of leadership on staff productivity leads to diverse results based on the organizational culture, industry features, and the degree of the company's digital preparedness. This condition indicates that there is a research gap that has to be tested further with a structural model approach that can explain the simultaneous relationship between digital capabilities, leadership, operational excellence, and workforce productivity.

Based on these empirical phenomena and research gaps, it is vital that this research be undertaken with the purpose of assessing the structural relationship between digital capabilities, leadership, operational excellence, and staff productivity at PT Ultrajaya Milk Industry & Trading Company Tbk. The research is expected to offer a theoretical contribution to the development of human capital, organizational behaviour and organizational performance and contribute to the development of human capital, organizational behaviour and organizational performance. viable way to make it practicable for firms to build strategies to improve employee productivity based on digital transformation and operational excellence.

METHOD

The study was conducted utilizing a quantitative research approach. The study adopted an explanatory research design to explain the structural links between Digital Capability,

Leadership, Operational Excellence, and Employees' Productivity. The study attempted to investigate the direct and indirect effect between variables through the approach of a structural model. Quantitative research was chosen because it allows for objective measurement of organizational phenomena via statistical analysis and hypothesis testing.

This study used a cross-sectional survey approach where data was collected at one point of time from employees of PT Ultrajaya Milk Industry & Trading Company Tbk. The structural relationships between variables were tested using Structural Equation Modelling (SEM) utilizing the Partial Least Squares (PLS-SEM) technique. PLS-SEM was selected because it is appropriate for predictive research models, latent variable analysis, mediation testing, and complicated structural interactions involving multidimensional dimensions (Hair et al., 2022);(Ringle & Sarstedt, 2022).

The population of this research was all personnel of PT Ultrajaya Milk Industry & Trading Company Tbk. who were directly involved in operational, managerial, administrative and production operations. The sample was selected by proportional random sampling because of the enormous size of the population and organizational complexity to ensure the sample is representative across organizational functions.

The sample size determination was according to the suggestion of (Hair et al., 2022) and (Kline, 2023) which recommends a minimum sample size of 5–10 times the number of indicators utilized in the study for SEM-PLS. The research had 40 indicators, hence the minimum sample necessary was between 200 and 400 respondents. Hence, a minimum of 200 respondents was used in this investigation.

RESULTS AND DISCUSSION

Respondent Behaviour Analysis

Table 1. TTB of Digital Capability Respondent Behaviour

Digital Capability (DC)	S(%)	TS(%)
I understand the use of digital systems in work	50,96	49,04
I am able to operate the company's digital applications well	50,32	49,68
I am able to adapt to new technologies in the company	52,20	47,80
I quickly learned the newly implemented digital system	51,55	48,45
I use digital data in my job decision-making	51,28	48,72
I understand the digital reports that companies use	52,26	47,74
Digital technology facilitates collaboration between employees	50,32	49,68
Work communication becomes more effective through digital platforms	50,94	49,06
I am driven to create digital-based innovations	51,28	48,72
I contribute to the development of the company's digital system	50,64	49,36

Source: Data by the researcher 2026

The results of the Top Two Boxes show that Digital Capability is in the moderate level category. the company has a fairly good foundation of digital capabilities, especially in terms of adapting to new technologies. However, the approval rate of only in the range of 50–52% indicates that digital capabilities are not yet the dominant competency among employees.

The strongest aspect is adaptability to new technologies, while the aspects that still need to be strengthened are the use of technology for collaboration, data-driven decision-making, and digital innovation. These findings indicate that the company's digital transformation is still at the stage of competency development and has not yet reached the stage of digital maturity that is able to create a full competitive advantage for the organization.

The company's strategic priorities need to be focused on improving digital literacy, strengthening data-based work culture, developing competencies in using digital applications,

and creating a work environment that encourages collaboration and technology-based innovation. Thus, a company's digital investment can result in increased productivity, innovation, and a more sustainable competitive advantage.

Table 2. TTB of Leadership Respondent Behaviour

Leadership (LD)	S (%)	TS (%)
The leadership clearly explains the company's vision	50,00	50,00
Leaders are able to inspire employees to achieve company goals	48,43	51,57
Leaders drive innovation at work	49,37	50,63
Leaders motivate employees to work better	48,74	51,26
Leaders provide clear communication to employees	49,04	50,96
Leaders provide constructive feedback	48,78	51,22
Leaders are able to make the right decisions	50,32	49,68
Leaders are able to solve organizational problems well	50,00	50,00
Leaders involve employees in decision-making	50,00	50,00
Leadership supports employee competency development	49,68	50,32

Source: Data by Researcher 2026

These findings show that employees rate their work productivity relatively better than the leadership qualities they feel. Organizations still need a transformation towards more participatory, inspiring, and human development-oriented leadership in order to be able to create sustainable organizational performance. Organizations need to prioritize the development of leadership competencies, especially in the aspects of inspiration, motivation, communication, coaching, and employee development. A leader development program should not only focus on technical decision-making skills, but also on strengthening transformational behaviours that can increase employee engagement and work motivation. Investment in leadership development has the potential to have a significant impact on increasing productivity, innovation, and digital readiness of organizations.

From the perspective of Human Capital Theory, this condition is quite interesting because productivity can still run even though the perception of leadership is not optimal. But in the long run, weak leadership has the potential to reduce motivation, employee engagement, innovation, and organizational commitment.

Table 3. TTB of Operational Excellence Respondent Behaviour

Operational Excellence (OE) Questions	S(%)	TS(%)
The company consistently improves its work processes	53,21	46,79
Employees are encouraged to provide operational improvement ideas	52,63	47,37
The work process in the company runs efficiently	53,85	46,15
Work procedures help reduce waste of time and cost	53,21	46,79
The company has clear standards of work quality	52,25	47,75
Employees maintain consistent quality of work results	51,92	48,08
The company's operational activities are oriented towards customer satisfaction	53,16	46,84
Customer feedback is used to improve operational processes	53,29	46,71
The company conducts periodic operational performance evaluations	53,85	46,15
Performance indicators (KPIs) are implemented effectively	53,29	46,71

Source: Data by The Researcher 2026

The average Top Two Boxes Operational Excellence was 53.06%, this result shows that the respondents' perception of Operational Excellence is in the moderately strong to strong category. The majority of respondents considered that the company's operational practices had been effective, although the approval rate still did not reach the superior category which is generally above 70%.

The most powerful dimensions are process efficiency and operational evaluation, while the areas that still need attention are consistency of work quality and employee participation in process improvement. These findings indicate that the organization has a good operational foundation, but has not yet reached a mature level of operational excellence. The company has successfully built the foundation of Operational Excellence through process efficiency, operational performance evaluation, customer onboarding, and implementation of KPIs.

However, organizations still need to strengthen a culture of continuous improvement, consistency of work quality, and employee involvement in process innovation. Strengthening transformational leadership and enhancing digital capabilities will be important factors to drive Operational Excellence to a higher level of maturity. The integration between leadership, digital technology, and a culture of continuous improvement will be a source of continuous competitive advantage for organizations.

Table 4. TTB of Employee Productivity Respondent Behaviour

Employee Productivity (EP)	S (%)	TS (%)
I was able to complete the work on target	55,41	44,59
I work with a high level of precision	55,28	44,72
I was able to use my work time efficiently	55,62	44,38
I am able to minimize errors in work	55,06	44,94
I produce good quality work	55,90	44,10
I maintain consistent standards of work quality	54,79	45,21
I have a high commitment to work	55,22	44,78
I am responsible for the results of my work	55,28	44,72
I was able to achieve the performance targets I set	55,90	44,10
I make a positive contribution to the company's performance	55,87	44,13

Source: Data by The Researcher 2026

Based on the data obtained, the average score of the Top Two Boxes (TTB) positive response reached 55.26%, while the negative response was 44.74%. These findings show that in general, employee productivity is in the category of quite high, but has not yet reached a high level of productivity (high-performing workforce). The difference between agreeing and disagreeing is relatively larger than the previous Digital Capability results, which indicates that work productivity is a stronger aspect than digital capabilities in organizations.

The results of the Top Two Boxes show that Employee Productivity is in the moderately high productivity category with an average approval of 55.26%. The organization has a fairly good productivity foundation, especially in terms of achieving targets, quality of work results, and contribution to the company. However, there is still room for improvement in terms of quality consistency, reduction of work errors, and optimization of process efficiency.

The main strength lies in the achievement of targets, the quality of work results, and contribution to the organization, while the areas that still need attention are quality consistency and reduction of work errors. These findings indicate that employee productivity has been well established, but it still has significant potential for improvement through strengthening digital competencies, human resource development, and the implementation of more effective performance management practices. Companies need to strengthen competency development programs, performance management systems, and integrated digital transformation so that work productivity can increase sustainably. The integration between digital capability and work productivity will be a key factor in creating a more adaptive, efficient, and competitive organization in the digital era.

Analysis of Construct Reliability

Reliability is an important index that reflects the degree to which an instrument is consistent in measuring the construct under investigation (Hair et al., 2022);(Henseler et al., 2015). In human resource management research, high dependability means that each indicator is able to produce stable and reasonably consistent measurement findings when it is employed to represent the same occurrence. Thus, reliability assessment is aimed not only to assure the statistical quality of the instrument, but also to give assurance that the study findings have an appropriate level of confidence to be utilized as a basis for academic and practical decision making.

Reliability was assessed in terms of Construct Reliability (CR) and Average Variance Extracted (AVE) in this study (Hair et al., 2022). (Hair et al., 2022) stated that a CR value greater than 0.70 indicates strong reliability and an AVE value greater than 0.50 suggests that the construct is able to explain more than half of the variance of the indicators that compose it.

Digital Capability Reliability

Table 5. Construct Reliability of Digital Capability

Konstruk	X1		
Indikator	Estimate	Kuadrat Estimate	1 - Kuadrat Estimate
DC1	0,991	0,982081	0,017919
DC2	0,989	0,978121	0,021879
DC3	0,991	0,982081	0,017919
DC4	0,984	0,968256	0,031744
DC5	0,993	0,986049	0,013951
DC6	0,989	0,978121	0,021879
DC7	0,988	0,976144	0,023856
DC8	0,987	0,974169	0,025831
DC9	0,982	0,964324	0,035676
DC10	0,986	0,972196	0,027804
Total Konstruk	9,88		
Jumlah Kesalahan Pengukuran			0,238458
Reliabilitas konstruk	$9,88^2 / (9,88^2 + 0,238458)$		0,997563096
Total Kuadrat Konstruk		9,761542	
AVE	$9,761542 / (9,761542 + 0,238458)$		0,9761542

Source: Data by Researcher 2026

The findings of the test demonstrate that the construct Digital Capability (DC) has a Construct Reliability value of 0.9976 and an AVE value of 0.9762. Both numbers are significantly over the minimum suggested in the literature

The high dependability rating suggests that all Digital Capability indicators have a very good consistency to explain the concept of digital competence. In other words, the respondents' impression of the ability to use digital technology, access to knowledge, adaptation to digital systems and usage of technology in work constitutes a fairly stable and integrated construct.

The value of AVE is 97.6%, which means that the Digital Capability construct can explain virtually all the variance of the indicators, and the number of measurement mistakes is quite modest. Results reveal that the instruments utilized were able to capture the essence of digital competence extremely well.

Construct Leadership Reliability

Table 6. Construct Reliability of Leadership

Konstruk	X1		
Indikator	Estimate	Kuadrat Estimate	1 - Kuadrat Estimate
LD10	0,995	0,990025	0,009975
LD9	0,991	0,982081	0,017919
LD8	0,994	0,988036	0,011964
LD7	0,988	0,976144	0,023856
LD6	0,989	0,978121	0,021879
LD5	0,989	0,978121	0,021879
LD4	0,991	0,982081	0,017919
LD3	0,991	0,982081	0,017919
LD2	0,991	0,982081	0,017919
LD1	0,99	0,9801	0,0199
Total Konstruk	9,909		
Jumlah Kesalahan Pengukuran			0,181129
Reliabilitas konstruk	$9,909^2/(9,909^2+0,181129)$		0,998158686
Total Kuadrat Konstruk		9,818871	
AVE	$9,818871/(9,818871+0,181129)$		0,9818871

Source: Data by Researcher 2026

The Construct Reliability rating of Construct Leadership (LD) is 0.9982 while the value of AVE is 0.9819. These results are an indication that the leadership construct has a very high level of internal consistence.

The results substantially suggest that the respondents consider the many qualities of leadership as one idea as measured in this study. Ability to provide direction, Leadership support, Decision making, development of subordinate competency and ability to motivate employees together provide strong perception of leadership traits in the organization.

A value of AVE near to one means that most of the variance of the indicator is explained by the concept Leadership itself and not by any external factor outside the model. This adds confidence to the fact that the leadership construct in this study has a great quality of measurement.

Reliability of Organizational Excellence Construct

Table 7. Construct Reliability of Organizational Excellence

Konstruk	X1		
Indikator	Estimate	Kuadrat Estimate	1 - Kuadrat Estimate
OE1	0,99	0,9801	0,0199
OE2	0,987	0,974169	0,025831
OE3	0,989	0,978121	0,021879
OE4	0,993	0,986049	0,013951
OE5	0,99	0,9801	0,0199
OE6	0,992	0,984064	0,015936
OE7	0,993	0,986049	0,013951
OE8	0,993	0,986049	0,013951
OE9	0,99	0,9801	0,0199
OE10	0,988	0,976144	0,023856
Total Konstruk	9,905		
Jumlah Kesalahan Pengukuran			0,189055
Reliabilitas konstruk	$9,905^2/(9,905^2+0,189055)$		0,998076717
Total Kuadrat Konstruk		9,810945	
AVE	$9,810945/(9,810945+0,189055)$		0,9810945

Source: Data by Researcher 2026

The construct of Organizational Excellence (OE) had a Construct Reliability of 0.9981 and AVE of 0.9811. The findings demonstrate that all the indicators utilized to measure the quality of the organization exhibit a very high degree of consistency.

The results indicate that respondents perceive factors of operational efficiency, quality of work processes, culture of continuous improvement and organizational ability to achieve targets as factors of a linked concept and that they have a strong perception of organizational excellence.

The size of the AVE value suggests that more than 98% variance of the indicator is due to the construct it is measuring. Thus, the measurement error rate in this build is so minimal that the instrument can be deemed as very reliable.

Reliability of Employee Performance Construct

Table 8. Construct Reliability of Employee Performance

Konstruk Indikator	X1		
	Estimate	Kuadrat Estimate	1 - Kuadrat Estimate
EP1	0,991	0,982081	0,017919
EP2	0,995	0,990025	0,009975
EP3	0,992	0,984064	0,015936
EP4	0,992	0,984064	0,015936
EP5	0,992	0,984064	0,015936
EP6	0,987	0,974169	0,025831
EP7	0,99	0,9801	0,0199
EP8	0,991	0,982081	0,017919
EP9	0,993	0,986049	0,013951
EP10	0,992	0,984064	0,015936
Total Konstruk	9,915		
Jumlah Kesalahan Pengukuran			0,169239
Reliabilitas konstruk	$9,915^2 / (9,915^2 + 0,169239)$		0,998281427
Total Kuadrat Konstruk	9,830761		
AVE	$9,830761 / (9,830761 + 0,169239)$		0,9830761

Source: Data by Researcher 2026

The construct reliability assessment indicates that the measurement model of the Employee Productivity (EP) has an excellent psychometric quality and is suitable for the investigation of the structural model. The result of the Composite Reliability (CR) was 0.9983, which deviated from the required value of 0.70, indicating a high internal consistency of the 10 indicators. The standardized factor loadings ranged from 0.987 to 0.995 indicating that each indicator firmly supports the Employee Productivity construct.

The indicator reliability values (0.9742-0.9900) and the minimal measurement error (0.0100-0.0258) further indicate the instrument's precision. In addition, the Average Variance Extracted (AVE) of 0.9831 also exceeds the required criteria of 0.50, which indicates strong convergent validity as almost all of the indicator variance is explained by the latent construct.

The results show that the respondents consistently rated employee productivity, which provides evidence for the stability and robustness of the measuring approach. However, the very high CR score should be treated with caution as it could imply possible item redundancy. Future research is therefore encouraged to study inter-item correlations, Variance Inflation Factor (VIF), exploratory factor analysis or item purification processes in order to improve measurement parsimony while still maintaining reliability and conceptual comprehensiveness.

Reliability Overall Evaluation

All constructs generally have a construct reliability of 0.997 to 0.998, and AVE values vary from 0.976 to 0.982. The results of the analysis showed clearly that the overall construct had met and even exceeded the dependability standards indicated in the SEM.

Methodologically, these data demonstrate that the study instrument has a very great level of internal consistency. The probability of measurement discrepancy is relatively limited as each indication can function in unison to represent the latent construct tested.

Construct validity

The construct validity is one of the most crucial steps in SEM model testing, as it determines to what extent the indicators utilized are genuinely capable of representing the theoretical notion to be tested (Fornell & Larcker, 2012);(Hair et al., 2022);(Henseler et al., 2015). In human resource research, validity is not just a statistical problem, but also evidence that research tools have successfully captured organizational phenomena that actually occur in the field. Therefore, the validity test was carried out by examining the value of the standardized loading factor of each indicator to its latent construct.

Based on the test findings, the loading factor for all indicators were quite high from 0.982 to 0.995. The value is significantly over the minimum indicated in the SEM literature, i.e., 0.50 for basic validity and 0.70 for strong validity. Hence, all indicators can be considered as legitimate and able to explain effectively the constructions they represent.

Validity of the Digital Capability Constructs

Table 9. Validity of Digital Capability

Variabel	Indikator	Pertanyaan	Hubungan	Loading Faktor
Digital Capability (DC)	DC1	Saya memahami penggunaan sistem digital dalam pekerjaan	DC1 <--- DC	0,991
	DC2	Saya mampu mengoperasikan aplikasi digital perusahaan dengan baik	DC2 <--- DC	0,989
	DC3	Saya mampu beradaptasi dengan teknologi baru di perusahaan	DC3 <--- DC	0,991
	DC4	Saya cepat mempelajari sistem digital yang baru diterapkan	DC4 <--- DC	0,984
	DC5	Saya menggunakan data digital dalam pengambilan keputusan kerja	DC5 <--- DC	0,993
	DC 6	Saya memahami laporan digital yang digunakan perusahaan	DC6 <--- DC	0,989
	DC 7	Teknologi digital memudahkan kolaborasi antar karyawan	DC7 <--- DC	0,988
	DC 8	Komunikasi kerja menjadi lebih efektif melalui platform digital	DC8 <--- DC	0,987
	DC 9	Saya terdorong untuk menciptakan inovasi berbasis digital	DC9 <--- DC	0,982
	DC 10	Saya berkontribusi dalam pengembangan sistem digital perusahaan	DC10 <--- DC	0,986

Source: Data by Researcher 2026

Digital Capability (DC) Construct has ten indications, the value of the loading factor between 0.982 and 0.993. The most significant contributing indicator was the utilization of digital data in work decision-making (DC5; $\lambda = 0.993$) and the least was the motivation to generate digital-based innovations (DC9; $\lambda = 0.982$). However, all signs are still in the very strong group.

These results demonstrate that digital competence in an organization is not only regarded as the technical capacity to use technology but also as the ability to use digital information to support work processes and decision-making. The high value of the loading factor for all variables reflects a uniform understanding of the respondents about the importance of digital capabilities as part of the competencies of modern work.

Leadership Construct Validity

Table 10. Validity of Leadership

Variabel	Indikator	Pertanyaan	Hubungan	Loading Faktor
Leadership (LD)	LD1	Pimpinan menjelaskan visi perusahaan dengan jelas	LD1 <--- LD	0,990
	LD2	Pimpinan mampu menginspirasi karyawan mencapai tujuan perusahaan	LD2 <--- LD	0,991
	LD3	Pimpinan mendorong inovasi dalam pekerjaan	LD3 <--- LD	0,991
	LD4	Pimpinan memotivasi karyawan untuk bekerja lebih baik	LD4 <--- LD	0,991
	LD5	Pimpinan memberikan komunikasi yang jelas kepada karyawan	LD5 <--- LD	0,989
	LD6	Pimpinan memberikan umpan balik secara konstruktif	LD6 <--- LD	0,989
	LD7	Pimpinan mampu mengambil keputusan secara tepat	LD7 <--- LD	0,988
	LD8	Pimpinan mampu menyelesaikan masalah organisasi dengan baik	LD8 <--- LD	0,994
	LD9	Pimpinan melibatkan karyawan dalam pengambilan keputusan	LD9 <--- LD	0,991
	LD10	Pimpinan mendukung pengembangan kompetensi karyawan	LD10 <--- LD	0,995

Source: Data by Researcher 2026

Construct Leadership (LD) has strong validity with loading factor value from 0.988 to 0.995. The signal that the leader supports staff competency growth (LD10; $\lambda = 0.995$) received the highest score, whereas the indicator that the leader can make appropriate judgments (LD7; $\lambda = 0.988$) received the lowest score.

These results present an interesting image that in the organizational setting today, leadership is not anymore seen only as the ability to guide or control subordinates. On the contrary, respondents thought that the function of leaders in improving human resource capacity and competency best characterizes leadership quality. These results are consistent with a modern view of leadership, in which leaders are agents of development of individuals and the organization.

Operational Excellence Construction Validity

Table 11. Validity of Operational Excellence

Variabel	Indikator	Pertanyaan	Hubungan	Loading Faktor
Operational Excellence (OE)	OE1	Perusahaan secara konsisten melakukan perbaikan proses kerja	OE1 <--- OE	0,991
	OE2	Karyawan didorong untuk memberikan ide perbaikan operasional	OE2 <--- OE	0,995
	OE3	Proses kerja di perusahaan berjalan secara efisien	OE3 <--- OE	0,992
	OE4	Prosedur kerja membantu mengurangi pemborosan waktu dan biaya	OE4 <--- OE	0,992
	OE5	Perusahaan memiliki standar kualitas kerja yang jelas	OE5 <--- OE	0,992
	OE6	Karyawan menjaga kualitas hasil kerja secara konsisten	OE6 <--- OE	0,987
	OE7	Aktivitas operasional perusahaan berorientasi pada kepuasan pelanggan	OE7 <--- OE	0,990
	OE8	Masukan pelanggan digunakan untuk	OE8 <--- OE	0,991

	memperbaiki proses operasional		
OE9	Perusahaan melakukan evaluasi kinerja operasional secara berkala	OE9 <--- OE	0,993
OE10	Indikator kinerja (KPI) diterapkan secara efektif	OE10 <--- OE	0,992

Source: Data by Researcher 2026

All of the indicators in the construct of Operational Excellence (OE) are showing the value of loading factor between 0.987 to 0.995. The highest contribution indication is the company's support of employees to give ideas for operational development (OE2; $\lambda = 0.995$). While the lowest contribution indicator is the employee's constancy in maintaining the quality of work outcomes (OE6; $\lambda = 0.987$).

The results reveal that operational excellence is not only perceived as process excellence or achieving operational standards. In addition, the culture of continuous improvement appears to be the dominant factor that impacts the respondents' impression of operational excellence. Put simply, firms that foster innovation and employee involvement in the development of work processes can more readily attain a high level of operational excellence.

Constructs of Employee Productivity Validity

Table 12. Validity of Employee Productivity

Variabel	Indikator	Pertanyaan	Hubungan	Loading Faktor
Employee Productivity (EP)	EP1	Saya mampu menyelesaikan pekerjaan sesuai target	EP1 <--- EP	0,991
	EP2	Saya bekerja dengan tingkat ketelitian yang tinggi	EP2 <--- EP	0,995
	EP3	Saya mampu menggunakan waktu kerja secara efisien	EP3 <--- EP	0,992
	EP4	Saya mampu meminimalkan kesalahan dalam pekerjaan	EP4 <--- EP	0,992
	EP5	Saya menghasilkan pekerjaan dengan kualitas yang baik	EP5 <--- EP	0,992
	EP6	Saya menjaga standar kualitas kerja secara konsisten	EP6 <--- EP	0,987
	EP7	Saya memiliki komitmen tinggi terhadap pekerjaan	EP7 <--- EP	0,990
	EP8	Saya bertanggung jawab terhadap hasil pekerjaan saya	EP8 <--- EP	0,991
	EP9	Saya mampu mencapai target kinerja yang ditetapkan	EP9 <--- EP	0,993
	EP10	Saya memberikan kontribusi positif terhadap kinerja perusahaan	EP10 <--- EP	0,992

Source: Data by Researcher 2026

Construct Employee Productivity (EP) also has very strong validity with a loading factor value from 0.987 to 0.995. The largest contribution was given by the indicator ability to work with a high level of precision (EP2; $\lambda = 0.995$), while the lowest contribution was given by the indicator ability to maintain the standards of work quality (EP6; $\lambda = 0.987$).

The results of this study demonstrate that employee productivity is not only related to the amount of output but also substantially affected by the quality of job results. The large contribution of accuracy indicators indicates that respondents understand productivity as the ability to generate correct, quality, and value added to the organization.

General Evaluation of Construct Validity

The findings of the overall validity test demonstrate that all indicators have a very strong association with their respective latent components. The loading factor of any indication is not less than the minimum limit set. In this way, the whole item can be kept in the study model without deleting the indicators.

From a methodological point of view, these results demonstrate the accomplishment of outstanding convergent validity. All indicators are found to consistently represent the same construct, and are highly relevant to the theoretical construct they are supposed to measure. This condition gives us the assurance that the study instrument has been successful in effectively collecting the characteristics of Digital Capability, Leadership, Operational Excellence, and Employee Productivity.

Analyst of Model Fit

Tabel 13. Goodness of Fit (GoF) Model

Indeks Kelayakan	Nilai Batas (Cut-off Value)	Hasil Estimasi Model	Evaluasi Model
Absolute Fit Indices			
Chi-Square (χ^2)	Diharapkan kecil ($p \geq 0,05$)	13465,658 ($p = 0,000$)	<i>Marginal Fit</i>
CMIN/DF	$\leq 2,00$ atau $\leq 3,00$	18,346	<i>Marginal Fit</i>
Incremental Fit Indices			
TLI (<i>Tucker-Lewis Index</i>)	$\geq 0,90$	0,940	Good Fit
CFI (<i>Comparative Fit Index</i>)	$\geq 0,90$	0,948	Good Fit
Parsimony Fit Indices			
RMSEA	$\leq 0,08$	0,165	<i>Marginal Fit</i>

Source: Data by Researcher 2026

In order to confirm the degree of good consistency between the conceptual model generated and the empirical data collected from the respondents, the feasibility study of the model was carried out. The test results showed that the model produced a Chi-Square value of 13,465,658 with a significance value of 0.000. Statistically, these results show that the model has not reached a perfect fit condition because the probability value is less than the acceptable level ($p \geq 0.05$). However, careful interpretation of Chi-Square index is required, because the huge sample size and complexity of SEM models sometimes make this index so sensitive that it tends to reject the model even when the model has good explanatory powers.

Similar condition is also found in the CMIN/DF ratio of 18.346 which is over the optimal limit indicated in the literature. This result indicates that there is still a discrepancy between the empirical covariance matrix and the covariance matrix that is predicted by the model. Thus, the model might be classified as not yet reaching the optimal level of appropriateness according to the absolute fit criterion.

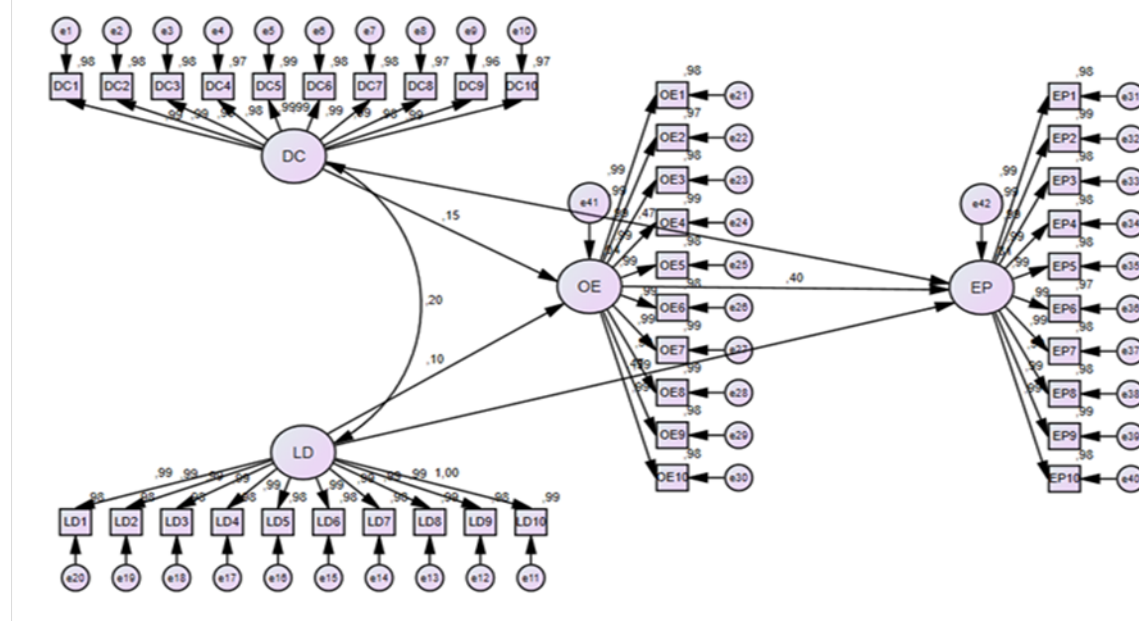
However, the assessment of model feasibility in Structural Equation Modelling is not determined by a single group of indices. Among the incremental fit indices, the model performed excellently. The value of the Tucker-Lewis Index (TLI) of 0.940 and the Comparative Fit Index (CFI) of 0.948 were better than the minimum limit of 0.90 proposed by Hair et al., and Kline. The results suggest that the developed model can describe the relationship between constructs well, compared to the null model. In other words, the structural link of Digital Competency, Leadership Development, Organizational Effectiveness, and Employee Performance is able to describe well the patterns of relationship that occur in the data.

On the other hand, the RMSEA value of 0.165 suggests that the model still has a pretty high residual error rate. This result is over the common acceptability limit of 0.08, which means that there is still potential for improvement in the model, either by developing indicators or by tightening the specification of the relationship between constructs. But a high RMSEA score can also be affected by the parameters of the model that has numerous indicators with very high correlation so that it enhances the sensitivity of measurement to approximation mistakes.

The overall evaluation results demonstrated that the model has the feature of a partial fit or marginal fit, where some indices meet the feasibility criteria of the model, while others are still outside the ideal limit. Such scenarios are quite common in social science research and human resource management since human behaviour and organization are complicated and impacted by many aspects that cannot be adequately explained by statistical models. Thus, the existence of high values of TLI and CFI is an essential indication that the model still has enough theoretical validity and predictive potential to be employed in evaluating research hypotheses.

Taking into account the adequacy of the incremental fit index and the strong theoretical support for the relationship between constructs, this model can be said to be feasible for usage at the stage of further structural analysis. The results also reveal that the relationship between digital competence, leadership development, organizational effectiveness, and employee performance is an empirically relevant relationship that can explain the dynamics of human resource management in the context of modern organizations.

Measurement Model Evaluation



Source: Figure by Researcher 2026

Figure 1. Measurement Model

The measurement model evaluation phase is conducted to ensure that all the indicators utilized in the study can represent the latent components tested accurately and consistently (Hair et al., 2022);(Henseler et al., 2015). The quality of the measurement model is the basic basis of the causal relationship between constructs in the research based on Structural Equation Modelling (SEM) before continuing to evaluate the causal relationship between constructs. Thus, the interpretation of the loading factor not only has a statistical meaning,

but it is also a reflection of the degree to which the research instrument is capable of capturing the empirical reality that happens in the field.

The results of the measurement model estimation indicate that all indicators of the Digital Competency (DC) construct have very high standardized loading factor value, from 0.97 to 0.99. The contribution of DC1 to DC10 indicators in the formation of Digital Competency constructs is generally even. This requirement shows that each indicator employed may strongly and consistently represent the dimension of digital competence. The high loading number indicates that the respondents have a highly uniform impression of the dimensions of digital competence that were measured, such that this construct may be deemed to have a very good level of convergent validity.

Similar results were also obtained in the construct of Leadership Development (LD). All indicators from LD1 to LD10 show a loading factor value in the range of 0.98 – 1.00. In fact, some of the indicators are close to the perfect values showing that these indicators have a very significant link with the leadership development concept. The results suggest that the notion of leadership development, as utilized in the study, has been unambiguously operationalised, so that it is understood consistently by the respondents. The results of the study reveal that the dimensions of leadership development measured in the context of human resource management are able to comprehensively characterize the phenomena of organizational leadership.

In the Organizational Effectiveness (OE) construct, all indicators from OE1 to OE10 likewise exhibit outstanding measurement performance with loading factor values ranging from 0.98 to 0.99. The substantial contribution of each indicator shows that organizational performance is seen as an interconnected and comprehensive concept. This implies that the many dimensions of effectiveness examined in this study are not separate but rather complement each other in the respondents' minds when they are evaluating the overall effectiveness of the organization.

The pattern for the Employee Performance (EP) construct, meanwhile, is not really different. Loading factor value of all indicators EP1 to EP10 is 0.97-0.99. The results indicate that the metrics used can describe the concept of employee performance significantly. The significant correlation of the indicators and constructs indicates the research instrument has successfully captured many elements of performance as perceived by the respondents in terms of job quality, productivity and contribution towards the attainment of organizational goals.

In all, the resultant measurement model reaches a very high quality. The value of the loading factor which is practically >0.90 implies that all indicators have a very high representational ability of the latent construct concerned. These results in terms of convergent validity suggest that the indicators utilized do assess the same notion and are moving in the same direction.

But, also the methodological importance of a uniformly high loading factor has to be thoroughly considered. In social and organizational behaviour research, near-perfect loading values on practically all variables are rather rare due to the overall complexity and heterogeneity of human behaviour. Thus, researchers should check that the high loading factor is not due to indication redundancy or excessive item similarity. However, as long as the findings of composite reliability, Average Variance Extracted (AVE), and discriminant validity test reveal the value that meets the standards, these conditions are still accepted as strong proof that the research instrument has outstanding measurement quality.

Substantively, these results support the adequacy of the measurement of the constructs of Digital Competency, Leadership Development, Organizational Effectiveness and Employee Performance. Thus, the measurement model has fulfilled the preconditions for a further test on the structural model, so that the causal linkages between the constructs can be

understood with a greater degree of confidence. These results further emphasize that the instruments utilized are capable of effectively capturing the dynamics of human resource and organizational management such that the empirical findings obtained have a strong measurement basis and can be accounted for academically.

Structural Models Interpretation

The overall pattern of relationships in the structural model is noteworthy. Not just organizational characteristics but also individual capabilities and the leadership employees receive directly influence their effectiveness. The findings indicate that contemporary firms need to balance their investment in technology, human development and the building of effective organizational systems.

From a theoretical standpoint, the results of this study reinforce the Resource-Based View (RBV) which suggests that the organization's internal resources are the primary determinants of competitive advantage (Barney, 1991);(Wernerfelt, 1984). Digital skills and growth of leadership might be looked at as strategic resources which cannot be readily copied by competitors. When embedded in an effective organizational system, the effects of the two resources are even more pronounced.

From a practical point of view, these data have a clear message for human resource managers. Efforts to increase employee performance cannot be done through technology investment or leadership training independently. Organizations need to provide a working environment where the digital capabilities, the leadership attributes and the organizational effectiveness may be integrated at the same time. When these three factors come together, companies have a better chance of attaining sustained performance amid the constant pressures of digital transformation.

Direct Effect Analysis

The results of the estimation showed that all the hypothesized association routes were in a positive and significant direction at the significance level $p < 0.001$. These results suggest that the conceptual model established is strongly supported by the research data.

The association between Digital Competency (DC) and Organizational Effectiveness (OE) was the standard coefficient of 0.147 and a Critical Ratio (CR) value of 74.101. The findings indicate that boosting the digital skills of employees has a considerable effect on improving organizational effectiveness, albeit the level of impact is somewhat mild. Practically, digital competences enable firms to accelerate decision making, enhance coordination of work and boost the ability to respond to changes in the increasingly digitized corporate environment (Teece et al., 2007);(Warner & Wager, 2019).

Meanwhile, the association between Leadership Development (LD) and Organizational Effectiveness (OE) resulted in a standard coefficient of 0.098 with CR value of 76.800. The findings indicate that leadership development has a beneficial impact on organizational effectiveness but its contribution is lower than digital competence. The findings reveal that while good leadership continues to be a significant element in generating a productive work environment, within the context of businesses experiencing digital transformation, the role of digital capabilities appears to be more dominating in influencing organizational effectiveness.

The most interesting direct effect is the link between Digital Competency and Employee Performance (EP). The standard coefficient of 0.471 indicates that digital competence has a significant contribution to increasing employee performance. The size of this effect shows that the command of technology, the use of digital information and the adaptation to work methods based on technology have become strategic resources that boost the productivity of individuals directly.

Similar findings were obtained in the link between Leadership Development and Employee Performance with a standard coefficient of 0.471. The results reveal that leadership development has the same explanatory power for variation in employee performance as digital competence. From the standpoint of Human Resource Management, these results convey a very important message that it is not enough for firms to invest in technology, but also to enhance leadership capacity simultaneously in order to enable human resources to work optimally.

Likewise, the link of Organizational Effectiveness and Employee Performance have a conventional correlation of 0.403. These findings demonstrate that the organizational effectiveness is an extremely significant aspect for the success of employee performance. Organizations that are able to develop a well-defined work system, a positive work culture, and effective operational processes usually lead to greater levels of individual performance.

Indirect Effects Analysis

The presence of the variable Organizational Effectiveness in the model makes the indirect effect of Digital Competency and Leadership Development on Employee Performance possible. The size of the indirect effect is computed by multiplying the coefficient of the path that makes up the mediation process.

For the line: DC → OE → EP

Influence indirectly: $0.147 \times 0.403 = 0.059$

This value means that the effect of digital competences on employee performance is partially mediated by the enhancement of organizational effectiveness. Although the magnitude of the indirect effect is relatively small compared with the direct effect, the results show that firms that can translate digital competencies into efficient organizational practices will get extra benefits of enhanced employee performance.

On the track: LD → OE → EP

Indirect effect: $0.098 \times 0.403 = 0.039$

The results imply that leadership development also increases employee performance through organizational effectiveness mechanisms. However, the size of the mediating effect is lesser than the digital competency pathway. Findings reveal that the primary effect of leadership development on employee performance is more direct than organizational.

Total Effect Analysis

Table 14. Direct, Indirect, and Total Effect

Routes	Direct Effect	Indirect Effect	Total Effect
DC to EP	0.471	0.059	0.530
LD to EP	0.471	0.039	0.510

Source: Data by Researcher 2026

These findings indicate that Digital Competency has the largest total effect on Employee Performance, followed by Leadership Development. Thus, digital competence was the strongest aspect of our research model.

DISCUSSION

The results of this study contribute to the better understanding of the relationship between digital competence, leadership development and organizational efficiency in the evaluation of employee performance in companies undergoing digital transformation. The integration of the results of the structural model with the study of the responder perspective enriches our understanding of the processes whereby organizational resources are converted into performance results. The empirical evidence suggests that the perception of digital competence, leadership quality, operational excellence and staff productivity is at a

respectable level. All the structural correlations between variables are positive and statistically significant. This shows that focused investment in digital skills and leadership development could be a pathway to considerable gains in organizational effectiveness and employee performance for firms that are not yet fully digitally mature.

Among the most relevant outcomes, we highlight the relevance of digital competence as a strategic organizational resource. Structural research reveals that the total effect of digital competence on organizational effectiveness and employee performance is the largest and the effect is positive. The whole effect of digital competency to employee performance is 0.530 which is higher than the overall effect of leadership development. The result is very much in accordance with the Resource-Based View (RBV) that argues that organizational capabilities become sources of sustainable competitive advantage when they help enterprises to achieve efficiency, flexibility and productivity. In the current stage of digital transformation, digital competence is a significant intangible resource that allows humans to interact with technology in an effective way, to process information in a more efficient way and to adapt swiftly to the changing working environment (Verhoef et al., 2021);(Vial, 2019);(Warner & Wager, 2019).

Interestingly, the respondents' study demonstrates a limited sense of digital competency. Approval ratings are 50-52%. That means the company has not yet realized its digital potential. But digital competence has high explanatory power on the performance results. Employees are rather adept at embracing new technologies but they do poorer at technology-enabled collaboration, data-driven decision making and digital innovation. The gap between the strategic importance of digital competence and the current rate of growth of digital competence therefore represents a great potential for organizational change. The results imply that boosting digital literacy training, strengthening analytical abilities and creating systems that reward technology-driven innovation can make a big difference to corporate success.

The digital competency is also as important from the point of view of the Dynamic Capability Theory. Digital transformation means that organizations must acquire technology and build the capacity to integrate, reconfigure and employ technological resources efficiently. The more digital capacity a worker has the better he/she is in recognizing technological opportunities. They can revolutionize the way work is done and adapt to environmental changes. Hence, digital competence is an organizational tool to boost the flexibility and reactivity and, hence, the performance of employees. The positive and direct effect of digital competency on employee performance ($\beta = 0.471$) clearly indicates that the technical ability has surpassed the support competencies and now become a necessity to drive human productivity in modern organizations.

Another intriguing observation is that leadership development has a very strong direct effect on the performance of employees. The standardized coefficient of leadership development on employee performance is equal to digital competency ($\beta = .471$). This suggests that both aspects are equally important for the growth of the worker productivity. This finding is consistent with the Human Capital Theory that states that investment in employee development and leadership abilities provides value to the firm through the performance of the employees (Avolio & Bass, 1994);(Northouse, 2022);(Yukl & Gardner, n.d.). It seems that the development of leadership is critical in increasing staff motivation, direction and engagement and hence their ability to achieve performance goals.

But if you take a closer look at the research of the responses, there is an interesting trend. The employees believe in their own productivity more than they believe in the competence of the leadership. But the score for output was 55.26 per cent, with the grade for leadership far lower. This shows that the performance of the workforce is now underpinned by operational procedures, digital technologies or individual capabilities rather than excellent

leadership techniques. This situation may be sustainable in the short run, but not promising in the long run. The literature on leadership has repeatedly identified transformational leadership as an important factor for increasing employee engagement, innovation, organizational commitment, and adaptability. In a dynamic environment and during organizational transformation, it may be difficult for organizations to maintain productivity without developing leadership competencies.

Poor quality of leadership evaluation indicates a change from traditional management practices to transformational and developmental styles of leadership. “Employees tell us we need to improve, especially with motivation, communication, coaching and staff development. These are also under the paradigm of transformational leadership. Transformational leadership theory claims that leaders do not just manage tasks but motivate followers to exceed expectations, and to make a distinctive contribution to the organization toward the fulfilment of its goals. The results suggest that companies should concentrate on leadership development programs that promote emotional intelligence, coaching skills, communication and employee empowerment. These actions are expected to bring benefits in the performance of personnel and in the adaptability and possibility of innovation of firms.

Organizational effectiveness as a mediating variable gives an insight of how the organizational resources are transformed into performance results (Ringle & Sarstedt, 2022);(Dahlgaard-Park, 2015). Organizational Effectiveness has a substantial effect on Employee Performance ($\beta=0.403$). This means that businesses with good systems, clear processes, supportive cultures and effective coordination mechanisms are more likely to develop productive workers. This correlates with systems theory perspectives where organizations are considered as interconnected systems and the quality of interaction between the components of the organization affects performance outcomes. When operational procedures are flowing efficiently and organizational structures enable personnel to execute their responsibilities, people may perform better.

This is further buttressed by the analysis of the responses on operational excellence. The operational excellence was scored with a reasonable score of 53.06% approving the job of the management by the workforce. Organizational power: Process efficiency, operation evaluation. There are two areas to focus on that are the consistency of the quality of the job and the engagement of the employees in the improvement of the process. The results show that the organization has a good operational base but has not yet reached the level of mature operational excellence. Thus, organizational effectiveness is a vital instrument to transfer digital skills and leadership traits into performance enhancement.

The mediation analysis result indicates that organizational efficiency partially mediates the relationship between digital competency and employee performance and also between leadership development and employee performance. Indirect effect of digital competency through organizational performance is 0.059 and indirect effect of leadership development is 0.039. However, albeit these indirect affects are lesser than the direct effects, they are of theoretical and practical relevance. The results suggest that digital skills and leadership traits boost performance via two mutually reinforcing paths. First of all, skills, motivation and work capacity are strengthened and this effects immediately on the employee productivity. Secondly, they indirectly affect performance by improving the structure of the organisation, the way it operates and the efficacy of the workplace.

Digital skills have a greater mediating effect, meaning digital skills are more useful in driving a company ahead today than leadership development. This can be because technology has become more important in the working of enterprises. Digital skills have an impact on individual work behaviour as well as on larger organisational activities such as communication, coordination, information exchange and decision making. Digital

competence is thus embedded into the organisational structure that provides more organisational benefits and increases individual performance.

Strong structural and descriptive evidence of a substantial concern exists. The strongest driver of employee success was digital proficiency. But people's digital capability is only moderate. Organizational effectiveness is also an important part to employee performance but operational excellence has not reached a higher degree of Such data hint to a vast unexploited potential of businesses. This shows that little skill development is already paying off in terms of digital competency and operational success. This suggests that the boost in performance outcomes could be disproportionately greater at higher levels of digital maturity and operational excellence.

The findings support the strategic management view that competitive advantage is becoming more focused on the mix of leadership competencies, organizational procedures and digital assets. But it's not only technology or leadership that is needed to be successful at the top. But the effectiveness of the organization depends on the integration of these resources in the management system. But if companies spend on IT without developing leadership abilities, they may fail to engage staff and inspire a creative environment. On the other hand, firms that grow leadership skills but don't build their digital capabilities risk being left behind in more digital environments. These results thus indicate the usefulness of a socio-technical paradigm that acknowledges the link between technological systems and human capabilities.

The results also contribute to the present body of research on digital transformation, by pointing to the continuous relevance of human-centred issues. Digital transformation is driven primarily by technology. But the findings suggest leadership development has a nearly equally large direct effect on staff performance. This points to the need for a balanced strategy in effective digital transformation, investing in technology, but also in people. Employees need the skills to leverage technology, while leaders require the vision, support and incentive to sustain organizational change. This balance is important to acquire the consequences of the performance of digital transformation projects.

Another major impact has to do with organizational learning. The organization is evaluated as medium in terms of digital proficiency, leadership, operational excellence and productivity (Argyris & Schon, 2014). This means the organization is in a transitional phase of development. The maturity level of the organization is not advanced and employees have basic skills. This means that we can use learning strategies in companies. Ongoing training, information sharing systems, collaborative digital platforms and leadership coaching programs can further support the development of competencies and speed up the route to greater levels of corporate performance. The results indicate that organizational learning is not a standalone effort, but rather an integrating process that links digital transformation, leadership development and operational excellence.

Finally, the study shows that employee success in the digital age requires a complex mix of technological, leadership/organizational factors. Digital skills were the single most important predictor of employee performance, illustrating the increasing value of technical abilities in today's companies. Equally essential are the importance of leadership development at the individual level, as it highlights the need for management approaches based on human beings. Organizational effectiveness is an important facilitator that turns digital and leadership resources into performance outcomes. Our findings imply that corporate organisations should take a balanced approach in the concurrent development of digital capabilities, transformational leadership traits and organisational effectiveness to attain sustainable competitive advantage. This holistic strategy will boost the performance of the workforce in a long run and also the resilience, innovativeness and competitiveness of the organization in a digital business environment.

CONCLUSION

The findings of this study indicate that the integration of digital capabilities, leadership development, and operational excellence is what affects employee productivity in the digital transformation era. Based on the empirical context of PT Ultrajaya Milk Industry & Trading Company Tbk, the results show that the improvement of employee productivity cannot be explained by one organizational factor, but by the combined contribution of technological competence, leadership quality, and effective operational systems.

The data suggest that digital capacity has the most significant total effect on staff productivity, followed by leadership development. Digital capacity significantly impacts employee performance, since it allows people to leverage technology, digital data and digital work systems more effectively. Leadership development has a direct substantial impact on employee productivity also. This emphasizes the need of leaders to motivate, direct, and develop personnel during the organizational change. Operational excellence also plays a significant part in developing work practices that enhance efficiency and facilitate consistent performance results.

The study further reveals that operational excellence partially mediates the relationship between digital capabilities and employee productivity and between leadership development and employee productivity. This means that digital skills and leadership quality will result in better productivity outcomes when translated into effective organizational structures, efficient procedures, clear performance criteria and a culture of continuous development.

This research adds theoretically to human capital development, organizational behavior, and strategic management studies, by integrating digital capacity, leadership development, and operational excellence into one structural model of employee productivity. What does this mean in practice? The results show that businesses shouldn't be pursuing technology investment or leadership training in isolation. Instead, firms need to concurrently build digital literacy, a data-driven work culture, transformative leadership, employee engagement, and operational excellence.

In general, the study shows that sustainable employee productivity in manufacturing organizations depends on the synchronization of people, technology and operational systems. Strategic initiatives for creating a more flexible, productive, inventive and competitive company in the digital business environment include strengthening digital capacity, increasing leadership quality and promoting operational excellence.

REFERENCES

- Argyris, C., & Schon, D. A. (2014). *Organizational Learning II: Theory, Method, and Practice by Chris Argyris; Donald A. Schon* Review by: Davydd J. Greenwood *Industrial and Labor Relations Review*, Vol. 50, No. 4 (Jul., 1997), pp. 701-702. 50(4), 701–702.
- Avolio, B. J., & Bass, B. M. (1994). *Multifactor Leadership Questionnaire (MLQ)*. 1–6.
- Barney, J. (1991). *Firm Resources and Sustained Competitive Advantage*. <https://doi.org/10.1177/014920639101700108>
- Becker, G. S. (1993). *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education* (3rd ed.). Chicago: University of Chicago Press. <https://doi.org/10.7208/chicago/9780226041223.001.0001>
- Bharadwaj, A., El Sawy, O. A., Pavlou, P. A., & Venkatraman, N. V. (2013). *DIGITAL BUSINESS STRATEGY: TOWARD A NEXT*. 471–482.
- Dahlgaard-Park, S. M. (2015). *The SAGE Encyclopedia of Quality and the Service Economy Information Technologies and Management*.
- Drucker, P. F. (1999). *Knowledge-Worker Productivity: The Biggest Challenge*. 41(2). <https://doi.org/10.2307/41165987>

- Fornell, C., & Larcker, D. F. (2012). *Evaluating Structural Equation Models with Unobservable Variables and Measurement Error*. 18(1), 39–50. <https://doi.org/doi.org/10.2307/3151312>
- Hair, J. F., Hult, G. T. M., & Ringle, C. M. (2022). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). *A new criterion for assessing discriminant validity in variance-based structural equation modeling*. 115–135. <https://doi.org/10.1007/s11747-014-0403-8>
- Kline, R. B. (2023). *Principles and Practice of Structural Equation Modeling (5th ed.)*. Guilford Press.
- Kraus, S., Jones, P., Kailer, N., Weinmann, A., & Chaparro-banegas, N. (2021). *Digital Transformation: An Overview of the Current State of the Art of Research*. <https://doi.org/10.1177/21582440211047576>
- Northouse, P. G. (2022). *Leadership: Theory and Practice (9th ed.)*. Sage.
- Ringle, C. M., & Sarstedt, M. (2022). *Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R*.
- Robbins, S. P., & Judge, T. A. (2023). *Organizational Behavior (19th ed.)*. Pearson.
- Shah, R., & Ward, P. T. (2007). *Defining and developing measures of lean production*. 25, 785–805. <https://doi.org/10.1016/j.jom.2007.01.019>
- Slack, N., Jones, A. B., & Burgess, N. (2022). *Operations Management (10th ed.)*. Pearson.
- Teece, D. J., Pisano, G., & Shuen, A. (2007). *Dynamic capabilities and strategic management*. *Strategic Management Journal*. 18(7), 509–533.
- Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J. Q., Fabian, N., & Haenlein, M. (2021). *Digital transformation: A multidisciplinary reflection and research agenda* ☆. 122(July 2018), 889–901. <https://doi.org/10.1016/j.jbusres.2019.09.022>
- Vial, G. (2019). *JOURNAL OF STRATEGIC INFORMATION SYSTEMS*.
- Warner, K. S. R., & Wager, M. (2019). *Building Dynamic Capabilities for Digital Transformation: An Ongoing Process of Strategic Renewal*. <https://doi.org/10.1016/j.lrp.2018.12.001>
- Wernerfelt, B. (1984). *A Resource-based View of the Firm*. 5(2), 171–180. <https://doi.org/10.1002/smj.4250050207>
- Yukl, G., & Gardner, W. L. (n.d.). *Leadership in Organizations (9th ed.)*. Pearson Education.