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Digital Transformation in Financial Reporting: The Synergy of Digital Skills and Internal Audits in Bandung's Fashion Enterprises

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ABSTRACT

In the era of digital transformation, the quality of financial reporting in the fashion industry heavily relies on the adaptation of technological systems and human resource capabilities. This study aims to examine and analyze the effect of Digital Skill and Internal Digital Audit on Financial Report Quality in the fashion industry in Bandung City. This study uses a quantitative approach with a survey method. The respondents are employees working in the fashion sector in Bandung City, totaling 174 individuals who were willing to cooperate in this research. Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) and complemented by advanced analysis using Importance-Performance Map Analysis (IPMA) and Necessary Condition Analysis (NCA). The novelty of this study lies in the integration of a symmetrical causality approach (PLS-SEM) and an asymmetrical necessary condition logic (NCA) to unravel the digital transformation hierarchy, which is rarely explored in the creative industry sector. The results prove that all hypotheses are significantly accepted. Digital Skill has a massive positive effect on Internal Digital Audit and directly affects reporting quality. Internal Digital Audit is also proven to act as a partial mediator. The IPMA results show that Digital Skill is a top priority for management improvement because it has the highest importance but the lowest performance. Furthermore, NCA results reveal an original finding regarding the digital transformation hierarchy: Internal Digital Audit is a necessary condition to achieve medium-to-high reporting quality (60%-80%), while a maximum level of Digital Skill acts as a bottleneck or necessary condition to achieve perfect financial reporting quality (90%-100%). This study concludes that technological investment will not be optimal without improving employees' digital skills.

Keywords: Digital Skill, Internal Digital Audit, Financial Report Quality, Necessary Condition Analysis (NCA), Fashion Industry.

INTRODUCTION

Today, creativity and rapid expansion strongly drive business competition, yet companies often fail to match this fast-paced growth with robust governance and internal controls

(Wang, Wang, Deng & Wang, 2023; Oleiwi, 2023). Business owners frequently prioritize marketing and production, leaving their accounting and internal auditing to operate at minimal standards. However, they overlook the fact that high-quality financial reporting ultimately dictates a company's ability to secure funding, build strategic partnerships, and survive in a highly competitive market (Li, Zhao & Zhao, 2024; Grabowska & Saniuk, 2022; Fang, Yu & Xu, 2023). Digitizing the internal audit empowers organizations to establish a data-driven control mechanism. This technological shift allows business owners to accurately track financial performance and make informed decisions rather than relying on pure guesswork (Mo, 2023; Boubouh & Ghanim, 2025).

This situation clearly connects to the broader digital economy, an ecosystem that strictly demands transaction speed, transparency, and traceability (Wu & Zeng, 2022; Hajiani, Afshari & Rezaei, 2024). To run their operations, fashion enterprises in Bandung increasingly rely on digital payments, app-based logistics, digital advertising, and e-commerce platforms. Consequently, these daily activities generate massive and highly complex data trails. A digitized internal audit framework enables companies to actively utilize this data for continuous monitoring and evaluation, rather than letting it sit as passive archives (Liu & Kong, 2025; Alfartoosi & Jusoh, 2021). When internal auditors successfully manage and analyze these digital transaction records, businesses secure the reliability of their financial statements. At the same time, this data mastery significantly boosts the confidence of investors, customers, and digital platform partners (Pizzi, Venturelli, Variale & Macario, 2021; Fen, 2024).

Furthermore, the digital economy actively drives standardization and fosters an open competitive landscape. Digital marketplaces and payment gateways typically enforce specific regulations, service fees, and promotional schemes that directly impact how businesses recognize revenue and record expenses. Lacking a robust internal audit mechanism, companies can easily misclassify their gross and net incomes, improperly record financial discounts, or completely neglect the tax obligations arising from digital transactions. Digitizing the internal audit system effectively equips businesses to meet strict compliance demands. The automated system locks in standard operating procedures, neatly archives financial documentation, and highlights critical risk indicators that require immediate management action (Hertouch & Achibane, 2024; Leng & Zhang, 2024).

Several studies reveal that internal auditing has significantly evolved from manual, physical document inspections to advanced, data-driven system evaluations (Monteiro, Cepêda, Da Silva & Vale, 2023; Adiloglu & Gungor, 2019; Barr-Pulliam, Brown-Liburd & Munoko, 2022). Organizations now leverage digital frameworks such as e-working papers, automated audit trails, strict access controls, structured finding workflows, and software-assisted reconciliations. Consequently, this technological trend accelerates the auditing process, simplifies evidence tracking, and ensures consistent oversight. Additionally, Hung, Hoa, Hoai & Nguyen (2023) discovered that digital transformation and digital leadership actively enhance the effectiveness of cloud-based accounting, which in turn positively impacts corporate performance and decision-making quality. Within the internal audit context, implementing digital tools and technologies expedites data processing and analysis. This capability allows auditors to identify potential risks much faster and formulate highly accurate recommendations for the management (Nguyen, Kend & Le, 2024).

Moreover, Nguyen, Le-Anh, Nguyen Thi Hong, Huong Nguyen & Nguyen Xuan (2025) emphasize that digital transformation in accounting provides excellent opportunities for internal audit divisions, particularly within small and medium-sized enterprises, to innovate continuously. By integrating emerging technologies like sophisticated data analytics software and automated reporting systems, internal auditors successfully optimize their evaluation procedures. This technological adoption ultimately maximizes organizational transparency and enables companies to respond more effectively to dynamic market challenges and opportunities.

Auditing plays a pivotal role in enforcing accountability and transparency across organizational management. A meticulously executed audit helps companies identify and assess their current inventory systems, thereby strengthening internal controls over stock management (Mustofa, Suzanto, Nurdiansyah & Rusjiana, 2022). Furthermore, thoroughly audited inventory accounting information systems directly boost the company's operational efficiency (Aprilla, Rusjiana, Djuhara & Purana, 2025). Regarding the digitalization context, Ighoroje et al. (2025) firmly assert that possessing adequate digital skills serves as an absolute prerequisite for managing effective internal controls. Therefore, stemming from these identified issues, this research formulates its primary problem: to determine the precise extent

to which the Digitalization of the Internal Audit System and Digital Skills enhance Financial Report Quality among fashion enterprises in Bandung City.

METHOD

This study adopts a quantitative approach, utilizing a survey method to gather empirical data directly from the field. The target population comprises employees working within the fashion industry sector in Bandung City. To select the sample, the researchers applied a simple random sampling technique, which ensures that every member of the population has an equal opportunity for selection. Through this sampling procedure, the study successfully recruited 174 employees who agreed to cooperate and actively participate. Specifically, these respondents represent the workforce of three large-scale fashion enterprises operating in Bandung City.

The researchers collected primary data by distributing structured, self-administered questionnaires to the 174 selected participants. The survey instrument specifically measures three primary research variables: Digital Skill, Internal Digital Audit, and Financial Report Quality, using measurement scales that have passed rigorous validity and reliability tests. Fundamentally, this survey aims to evaluate the employees' actual perceptions and practical experiences regarding their digital proficiency and the effectiveness of the digital audit system implemented in their respective companies, which ultimately impacts financial reporting quality.

This research framework incorporates three main variables, consisting of independent, mediating, and dependent variables. Drawing from the literature review, the operational definitions for each variable are as follows:

Digital Skill (Independent Variable), Digital skill denotes an individual employee's proficiency in utilizing information and communication technology (ICT) effectively across various operational contexts. Within the accounting and auditing environment, these skills constitute an absolutely essential competency. They enable professionals to analyze massive volumes of data with high accuracy, proactively identify potential risks, and ultimately deliver superior strategic insights to corporate management (Betti & Sarens, 2021; Gilli, Lettner & Guettel, 2024; Allmann & Blank, 2021).

Digitalization of Internal Audit System (Mediating Variable), The digitalization of the internal audit system represents a strategic process where organizations seamlessly integrate digital technology into multiple operational facets. Rather than merely upgrading daily work tools, this technological integration drives a fundamental transformation in how an organization conducts its business, engages with customers and stakeholders, and manages its control and supervisory mechanisms to achieve higher efficiency and transparency (Kazan & Kocamış, 2023; Alawaqleh, 2021; Monteiro, Vale, Cepêda & de Almeida Leite, 2021).

Financial Report Quality (Dependent Variable), Financial report quality serves as the primary benchmark for the reliability of the financial information a company produces. This quality reflects the system's capacity to enhance data accuracy, guarantee timeliness in reporting procedures, and significantly mitigate the risks of material misstatements, human errors, and fraudulent activities in presenting corporate financial statements (Monteiro, Cepêda, Da Silva & Vale, 2023; Monteiro, Vale, Silva & Pereira, 2021).

For the data analysis phase, this study implements a comprehensive approach featuring three distinct testing methods, all executed via the SmartPLS software. First, the researchers analyzed the dataset using Partial Least Squares Structural Equation Modeling (PLS-SEM) to assess the overall model suitability (including outer model evaluation and model fit) and to test the hypothesis significance regarding causal relationships and mediation effects between the variables (Hair et al., 2024). Second, the study applies Importance-Performance Map Analysis (IPMA) to chart managerial strategic priorities by contrasting the importance level against the actual performance of each variable. Third, to inject methodological novelty and deliver a more profound analysis, this research employs Necessary Condition Analysis (NCA). This specific technique identifies which variables act as absolute prerequisites or critical bottlenecks that management must overcome to achieve maximum financial reporting quality.

RESULTS AND DISCUSSION

The respondent profile outlines the demographic characteristics of 174 employees currently working across three prominent large-scale fashion enterprises in Bandung City. The researchers categorized these demographic traits into three primary dimensions: gender, age, and employment tenure. The detailed breakdown of these characteristics is as follows.

The gathered data reveals a clear female majority, with women constituting 65.5% of the total participants, while male respondents make up the remaining 34.5%. This female predominance accurately mirrors the real-world conditions within the creative fashion sector. Traditionally, fashion companies absorb a higher volume of female workers, particularly to manage administrative duties, bookkeeping, corporate finance, and daily operational tasks. Examining the age distribution, a younger workforce heavily dominates the demographic structure. Employees under the age of 30 form an absolute majority, accounting for 89.1% of the sample. Individuals aged between 31 and 40 years follow at 9.1%, while senior staff members over 41 years old represent merely 1.8%. The compelling evidence that nearly 90% of the workforce is under 30 clearly indicates that Millennials and Generation Z actively drive the fashion industry in Bandung City. This demographic reality provides a significant strategic advantage for these enterprises, considering that younger generations naturally operate as digital natives. Consequently, this youthful age profile serves as a highly supportive foundation, enabling companies to rapidly cultivate their employees' digital skills and seamlessly navigate the transition toward a digitized internal audit system.

Regarding professional experience or employment tenure, the largest segment consists of employees who have worked at their respective companies for 2 to 4 years, comprising 48.6%. Furthermore, recent hires with less than one year of experience account for 26.3%, whereas senior staff members possessing over five years of tenure make up 25.1%. This tenure distribution demonstrates that nearly half of the respondents (48.6%) operate as mid-level employees who have successfully bypassed the initial adaptation phase. The researchers assess that this group possesses a mature understanding of the business cycle, standard operating procedures (SOPs), and the financial reporting workflows within their organizations. Additionally, the balanced proportion between newly recruited talent (26.3%) and seasoned professionals (25.1%) highlights a remarkably healthy rate of workforce regeneration and employee retention across these fashion enterprises. Overall, young female professionals with mid-level organizational experience distinctly dominate the workforce in this study. This specific demographic profile perfectly aligns with the research objectives, offering an ideal sample to address the core problem. Essentially, this specific group actively drives the companies' daily operations while directly engaging with the application of digital skills and the execution of the internal audit system to generate highly reliable financial reporting quality.

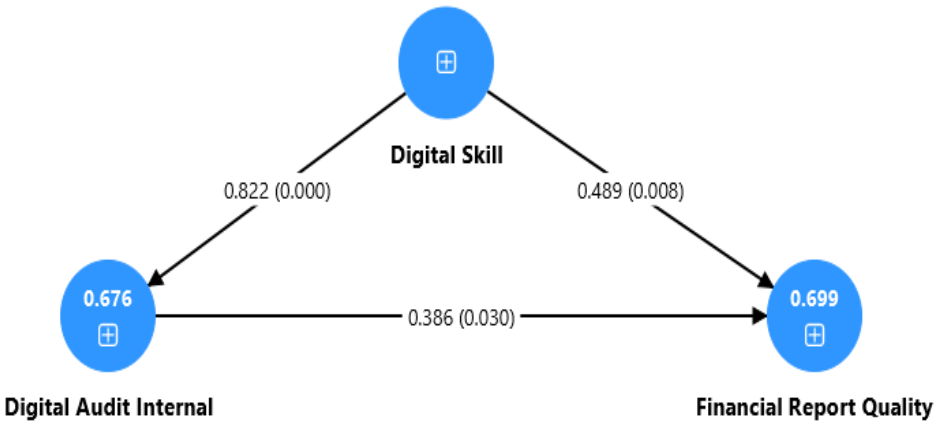


Figure 1. Path Model

Table 1. Validity and reliability

	Digital Audit Internal	Digital Skill	Financial Report Quality	VIF	Cronbach's alpha	Average variance extracted (AVE)
DS2	0.905			4.071		
DS3	0.926			4.985		
DS4	0.895			3.721	0.926	0.819
DS5	0.904			3.974		
DS6	0.887			3.472		
DS7	0.913			4.441		
S1		0.883		3.131		
S2		0.829		2.381		
S3		0.835		2.487	0.905	0.701
S5		0.872		3.119		
S6		0.793		1.990		
S7		0.810		2.178		
Fin1			0.881	3.622		
Fin2			0.832	3.425		
Fin3			0.865	3.570		
Fin4			0.875	3.826	0.914	0.759
Fin5			0.867	3.741		
Fin6			0.873	4.061		
Fin7			0.900	4.734		
Fin8			0.873	3.483		

Researchers use convergent validity to evaluate how accurately the questionnaire items capture their designated latent variables. This evaluation fundamentally relies on two primary metrics. First, the outer loading requires an ideal threshold above 0.70. Every specific indicator in this study (DS2-DS7, S1-S7, and Fin1-Fin8) successfully generated loading scores ranging from 0.793 to 0.926, confirming that all survey items possess exceptional validity. Second, the Average Variance Extracted (AVE) demands a minimum acceptable value of 0.50. The statistical analysis yielded AVE scores of 0.819 for Internal Digital Audit, 0.701 for Digital Skill, and 0.759 for Financial Report Quality. Because all constructs easily surpassed the 0.50 benchmark, these variables effectively explain more than half of their respective indicators' variance. Consequently, the measurement model fulfills the convergent validity requirements exceptionally well.

During the preliminary screening of the measurement model, we deliberately removed indicators DS1 (Internal Digital Audit) and S4 (Digital Skill). The initial outer loading analysis demonstrated that both items fell significantly short of the conservative 0.40 threshold, signaling substantial structural noise and weak indicator reliability. Guided by the psychometric optimization protocols established by Hair et al. (2024), we extracted these systematic errors from the dataset. This refinement procedure effectively validated the final construct configurations. By dropping these deficient items, we elevated the Average Variance Extracted (AVE) and composite reliability (CR) metrics well beyond their required academic benchmarks (AVE $\geq$ 0.50; CR $\geq$ 0.70), while strictly preserving the fundamental content validity of the associated latent variables.

Furthermore, reliability testing assesses the internal consistency of the survey instrument, determining whether repeated administrations would consistently produce stable responses. For Cronbach's Alpha, scholars generally accept a minimum threshold of 0.70. The test results demonstrate impressive scores of 0.926 for Internal Digital Audit, 0.905 for Digital Skill, and 0.914 for Financial Report Quality. Since every variable secured a score exceeding 0.90, researchers classify the measurement model as robust and highly reliable.

Finally, the Variance Inflation Factor (VIF) detects potential multicollinearity among the research indicators. An optimal VIF score must fall below 5.00, although some experts occasionally advocate for a stricter limit of less than 3.3. In this dataset, the indicator VIF values range from 1.990 to a maximum of 4.985, which occurred specifically in item DS3.

Since all documented values remain strictly below the 5.00 threshold, the research data confirms a complete absence of multicollinearity issues among the tested indicators.

Table 2. HTMT

	Digital Audit Internal	Digital Skill	Financial Report Quality
Digital Audit Internal			
Digital Skill	0.878		
Financial Report Quality	0.823	0.863	

To establish discriminant validity, researchers utilize the Heterotrait-Monotrait (HTMT) ratio criterion. This methodological approach dictates a maximum acceptable threshold of 0.90, although some strict academic guidelines suggest staying below 0.85. The statistical evaluation yielded an HTMT value of 0.878 for the correlation between Internal Digital Audit and Digital Skill. Similarly, Financial Report Quality demonstrated ratios of 0.823 when paired with Internal Digital Audit, and 0.863 when paired with Digital Skill.

Given that all calculated HTMT ratios successfully fall below the 0.90 ceiling, the findings conclusively confirm that the three constructs represent statistically distinct and independent concepts. Therefore, the measurement model fully satisfies all necessary requirements for discriminant validity.

Table 3. Path Coefficients, Total Indirect Effect, Specific indirect effect and Total Effect

	Coefficients	Bias	5.0%	95.0%	P values
Digital Audit Internal -> Financial Report Quality	0.386	-0.057	0.010	0.646	0.030
Digital Skill -> Digital Audit Internal	0.822	0.002	0.692	0.899	0.000
Digital Skill -> Financial Report Quality	0.489	0.058	0.240	0.861	0.008
Total Indirect Effect					
Digital Skill -> Financial Report Quality	0.317	-0.055	0.018	0.495	0.022
Specific indirect effect					
Digital Skill -> Digital Audit Internal -> Financial Report Quality	0.317	-0.055	0.018	0.495	0.022
Total Effect					
Digital Audit Internal -> Financial Report Quality	0.386	-0.057	0.010	0.646	0.030

Digital Skill -> Digital Audit Internal	0.822	0.002	0.692	0.899	0.000
Digital Skill -> Financial Report Quality	0.806	0.003	0.670	0.885	0.000

In this structural analysis, the researchers established a p-value threshold of < 0.05 (representing a 95% confidence level) to determine the statistical significance of each relationship. Furthermore, the 5% to 95% confidence intervals across all evaluated paths strictly exclude the value of zero, a condition that robustly reinforces the validity of the empirical findings.

Direct Effect Analysis, this section evaluates the direct, unmediated relationships connecting the primary research variables.

The Effect of Internal Digital Audit on Financial Report Quality, the structural model produced a positive coefficient of 0.386 alongside a significant p-value of 0.030 (< 0.05) for this path. This result confirms that Internal Digital Audit exerts a significant and positive influence on Financial Report Quality. Practically, as fashion enterprises in Bandung continuously improve their digital audit implementations, they consistently elevate the overall quality and reliability of their financial reports.

The Effect of Digital Skill on Internal Digital Audit, assessing the relationship between Digital Skill and Internal Digital Audit, the data generated a highly significant p-value of 0.000 (< 0.05) paired with a robust positive coefficient of 0.822. This demonstrates a massive positive impact. Consequently, the digital proficiency of the workforce serves as the primary determinant that actively drives the successful integration of a digital audit framework.

The Effect of Digital Skill on Financial Report Quality, for the unmediated path from Digital Skill to Financial Report Quality, the evaluation revealed a positive coefficient of 0.489 and a significant p-value of 0.008 (< 0.05). This evidence definitively proves that employees' digital competencies directly and significantly enhance financial reporting quality, operating independently of the formal audit mechanisms.

Specific Indirect Effect (Mediation Analysis), this section highlights one of the most compelling findings of the study by examining Internal Digital Audit's role as a mediating variable. Evaluating the specific structural path (Digital Skill -> Internal Digital Audit -> Financial Report Quality), the statistical test reveals a significant p-value of 0.022 (< 0.05)

with a positive coefficient of 0.317. Because both the direct effect (Digital Skill on Financial Report Quality) and the indirect effect demonstrate statistical significance, Internal Digital Audit functions as a partial mediator. While digital skills alone directly boost financial reporting standards, organizations maximize this positive impact by first utilizing these human capabilities to strengthen the internal digital audit framework, which ultimately secures superior financial reporting outcomes.

Total Effect Analysis, the total effect combines both the direct and indirect structural impacts to measure the overall influence of a variable. The data highlights that Digital Skill exerts a massive total effect of 0.806 (p-value 0.000) on Financial Report Quality. The researchers derived this figure by adding the direct effect (0.489) and the specific indirect effect (0.317). This combined coefficient proves that digital skills dictate an overwhelming 80.6% contribution toward securing a highly reliable financial reporting ecosystem within the fashion industry.

Table 4. R2 and f2

	Coefficients
R2	
Digital Audit Internal	0.676
Financial Report Quality	0.699
F2	
Digital Audit Internal -> Financial Report Quality	0.160
Digital Skill -> Digital Audit Internal	2.082
Digital Skill -> Financial Report Quality	0.258

Table 4. PLSpredict, CVPAT and Model Fit

PLSpredict	**Q^2predict**	**RMSE**	**MAE**
Digital Audit Internal	0.653	0.600	0.395
Financial Report Quality	0.624	0.625	0.421

CVPAT	**PLS loss**	**IA loss**	**Average loss difference**	**t value**	**p value**
Digital Audit Internal	0.770	1.624	-0.854	3.649	0.000
Financial Report Quality	0.724	1.359	-0.635	3.400	0.001

Overall	0.744	1.473	-0.729	3.679	0.000

Model Fit	**Saturated model**	**Estimated model**
SRMR	0.041	0.041
d_ULS	0.347	0.347
d_G	0.405	0.405
Chi-square	351.915	351.915
NFI	0.895	0.895

Explanatory Power and Predictive Relevance Analysis, R-Square (R^2) Analysis, Researchers evaluate the R-Square (R^2) coefficient to determine the exact percentage of variance in the dependent variables that the independent variables explain. Following the established guidelines by Hair et al., scholars categorize R^2 values into strong (0.75), moderate (0.50), and weak (0.25) explanatory power. The structural analysis produced an R^2 value of 0.676 for the Internal Digital Audit construct, placing it firmly in the moderate-to-strong category. This figure indicates that employees' Digital Skill levels account for 67.6% of the variance in the company's internal digital audit operations, leaving the remaining 32.4% to other external factors not examined in this study (such as IT infrastructure, corporate budget constraints, or management policies). Furthermore, Financial Report Quality achieved a robust R^2 of 0.699. This means that Digital Skill and Internal Digital Audit collectively explain nearly 70% of the variance in financial reporting quality. This moderate-to-strong result is highly satisfactory, confirming that unobserved external variables contribute only 30.1% to the reporting outcomes.

Effect Size (f-Square) Analysis, to measure the exact impact of omitting a specific independent variable from the structural model, the researchers calculated the f-Square (f^2) effect size. Based on the widely accepted benchmarks provided by Henseler, Ringle & Sarstedt (2015), academics classify effect sizes as small (0.02), medium (0.15), or large (0.35).

The data demonstrates a medium effect size (0.160) for the path connecting Internal Digital Audit to Financial Report Quality, and similarly, a medium effect (0.258) for Digital Skill directly influencing Financial Report Quality. Most notably, the impact of Digital Skill on Internal Digital Audit generated an astonishingly massive f^2 value of 2.082. Because this metric profoundly exceeds the 0.35 threshold for a large effect, it solidifies a crucial finding:

the successful existence and operation of an Internal Digital Audit system depends almost entirely on the workforce's digital competencies.

Predictive Relevance (PLSpredict), The researchers utilized the PLSpredict procedure to verify the model's out-of-sample predictive relevance, ensuring the framework accurately forecasts new data rather than merely fitting the current dataset. The primary statistical requirement dictates that the Q^2predict value must strictly exceed zero. The evaluation yielded remarkable Q^2predict scores of 0.653 for Internal Digital Audit and 0.624 for Financial Report Quality. Since both values position themselves well above zero—even exceeding 0.6—the structural model demonstrates exceptionally high predictive capabilities. Consequently, fashion enterprises in Bandung can confidently adopt this conceptual framework to formulate and guide their practical business strategies.

Cross-Validated Predictive Ability Test (CVPAT), To further substantiate these predictive findings, the study employed the Cross-Validated Predictive Ability Test (CVPAT). This advanced methodology compares the proposed PLS model's accuracy against a naive baseline (the Indicator Average or IA loss model). Evaluating the overall dataset, the test recorded a negative Average Loss Difference of -0.729 alongside a highly significant p-value of 0.000 (< 0.05). Statistically, the proposed research model significantly outperforms standard average predictions in delivering accurate forecasts. This outcome serves as the ultimate empirical validation, proving that the conceptual framework operates with remarkable success.

Model Fit Assessment, finally, the Model Fit evaluation strongly reinforces the overall credibility of this research. Within PLS-SEM analysis, the Standardized Root Mean Square Residual (SRMR) serves as the primary indicator for model suitability, requiring a value below 0.08 to declare a good fit. This study achieved an outstanding SRMR of 0.041, definitively confirming that the theoretical framework matches the empirical field data exceptionally well. Additionally, the analysis produced a Normed Fit Index (NFI) of 0.895. Because this figure closely approaches the ideal 0.90 standard, it further verifies the outstanding structural viability and robust quality of the proposed research model.

Table 5. IPMA

	LV performance
Digital Audit Internal	73.938

Digital Skill	71.703
Financial Report Quality	75.975

Importance-Performance Map Analysis (IPMA), current Performance Assessment, operating on a standardized 0 to 100 scale, the IPMA framework first evaluates the actual operational performance of each research variable. The empirical data reveals that Financial Report Quality currently achieves a satisfactory score of 75.975, indicating that reporting standards within the Bandung fashion industry are relatively robust. The Internal Digital Audit mechanisms also function adequately, securing a solid performance score of 73.938. Conversely, employees' Digital Skill recorded the lowest performance rating among all evaluated constructs, standing at merely 71.703.

Importance-Performance Mapping, Fundamentally, the IPMA technique contrasts an element's actual field performance against its structural importance, which researchers derive from the Total Effect coefficients calculated in the previous hypothesis testing. The preceding structural analysis firmly established that Digital Skill exerts a massive Total Effect (0.806) on Financial Report Quality, cementing its absolute importance. However, mapping this data exposes a critical operational paradox: despite carrying the highest structural importance, Digital Skill simultaneously registers the lowest actual performance (71.703) in the daily workplace environment.

Managerial Implications and Strategic Recommendations, Within the IPMA matrix, any variable demonstrating exceptionally high structural importance combined with relatively low empirical performance automatically falls into the Top Priority quadrant for immediate managerial intervention. Consequently, Digital Skill emerges as the most critical bottleneck. Although human digital capability dictates the largest impact on financial reporting outcomes, its current workplace execution ironically lags behind the technical implementation of the audit systems themselves. Therefore, this study strongly advises corporate management within the Bandung fashion industry to urgently redirect their strategic focus. Executives must prioritize budget allocations and dedicate substantial time to facilitate intensive employee training, professional certifications, and comprehensive human resource development programs.

The empirical evidence suggests that even a marginal enhancement in human digital competencies will trigger a far more significant leap in both Internal Digital Audit effectiveness and Financial Report Quality, far exceeding the benefits of merely purchasing newer audit software. Ultimately, these findings deliver a profound organizational truth for the modern digital era: regardless of how sophisticated an automated audit system becomes, it absolutely cannot operate at its maximum potential without equally proficient human operators. The IPMA definitively proves that the human element—specifically, Digital Skill—remains the most vulnerable link in the current operational chain, thereby demanding immediate and highly focused corporate attention.

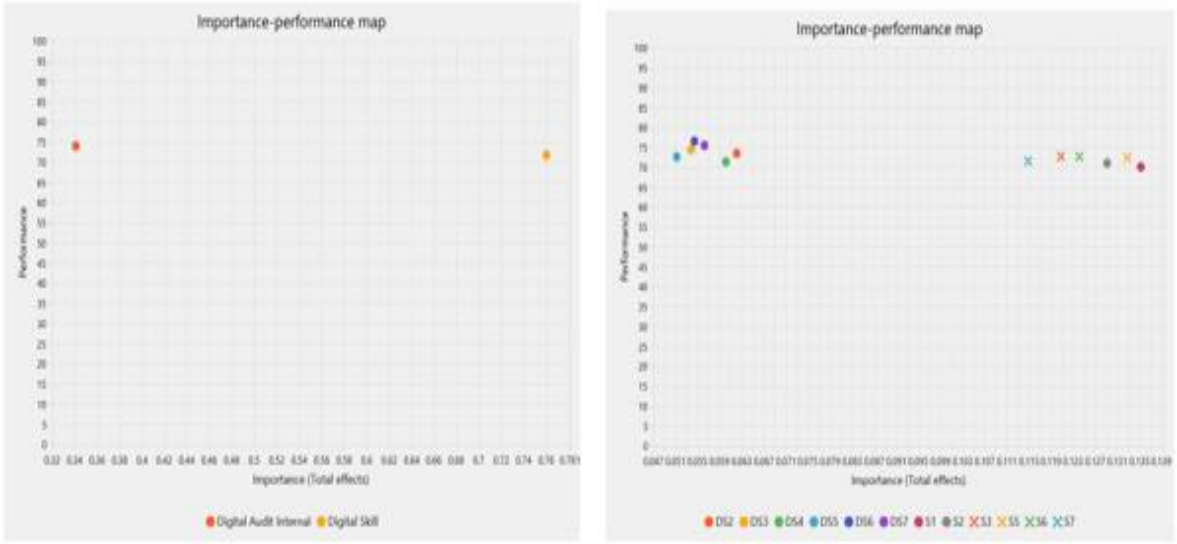


Figure 2. IPMA Analysis

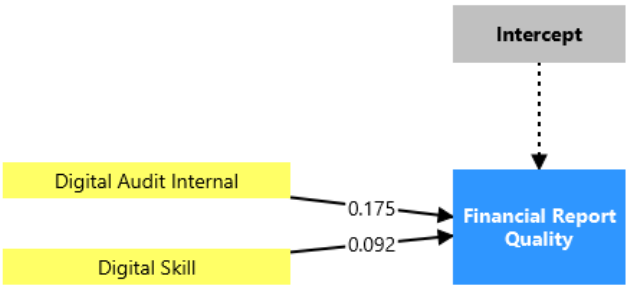


Figure 3. NCA Analysis

Necessary Condition Analysis (NCA), The Necessary Condition Analysis (NCA) framework delivers a vital complementary perspective to the preceding PLS-SEM findings. While traditional PLS-SEM evaluations—specifically the Inner Model and IPMA—focus on

identifying factors that stimulate quality enhancements (operating on the logic that "increasing X directly increases Y"), the NCA methodology adopts a fundamentally different approach. Instead of evaluating additive effects, NCA actively pinpoints the absolute prerequisites required for success. This advanced analytical technique operates on the strict principle of necessity, asserting a critical baseline: "Without first securing condition X, organizations will find it completely impossible to achieve their desired target Y."

Table 6. Ceiling line

	CE-FDH	CR-FDH
Digital Audit Internal	0.175	0.112
Digital Skill	0.092	0.077

Researchers evaluate the values presented in the Ceiling Line tables—specifically the Ceiling Envelopment (CE-FDH) and Ceiling Regression (CR-FDH) models—to measure the exact degree of "absolute necessity" for each examined variable. Following the methodological standards established by Dul (2024), scholars classify the necessary effect size (d) into three distinct categories: small ($d < 0.1$), medium ($0.1 \leq d < 0.3$), and large ($d \geq 0.3$). Analyzing the Internal Digital Audit construct, the test generated scores of 0.175 (CE-FDH) and 0.112 (CR-FDH). These figures firmly place the variable within the medium effect category. Consequently, this outcome indicates that deploying an operational digital audit system constitutes a moderately essential prerequisite; organizations must fulfill this condition to reach a specific baseline of financial reporting quality.

Conversely, the Digital Skill variable yielded values of 0.092 (CE-FDH) and 0.077 (CR-FDH). Broadly speaking, these statistical metrics fall into the small necessary effect category. However, one must not misinterpret this preliminary classification. The genuine, highly critical role of these human digital competencies will become strikingly apparent during the subsequent Bottleneck table analysis.

Table 7. Bottleneck CE and CR

CE	Financial Report Quality	Digital Audit	Digital Skill
0%	1.240	NN	NN
10%	1.816	NN	NN
20%	2.392	NN	NN
30%	2.968	NN	NN
40%	3.544	NN	NN
50%	4.120	NN	NN

60%	4.696	3.767	NN
70%	5.272	3.767	NN
80%	5.848	3.767	NN
90%	6.424	4.000	5.158
100%	7.000	4.000	5.480
CR	**Financial Report Quality**	**Digital Audit**	**Digital Skill**
0%	1.240	NN	NN
10%	1.816	NN	NN
20%	2.392	NN	NN
30%	2.968	NN	NN
40%	3.544	NN	NN
50%	4.120	NN	NN
60%	4.696	1.635	NN
70%	5.272	2.345	NN
80%	5.848	3.055	NN
90%	6.424	3.765	3.037
100%	7.000	4.475	7.000

Bottleneck Table Analysis, The Bottleneck table identifies the exact minimum threshold of variable X that an organization must fulfill to attain a specific target level of variable Y. Within this table, the "NN" (Not Necessary) notation indicates that, at a particular performance tier, the construct does not yet function as an absolute prerequisite.

Targeting 0% to 50% Financial Report Quality (Basic Level): Within this lower spectrum, both variables display the "NN" status. Practically, if fashion enterprises in Bandung only aim to produce mediocre or rudimentary financial reports (below 50%), they do not necessarily need to invest in digital audits or cultivate advanced digital skills. Conventional, manual accounting systems can still successfully fulfill this basic standard.

Targeting 60% to 80% Financial Report Quality (The Transition Phase): Once the organizational target reaches the 60% mark, Internal Digital Audit ceases to be "NN" and actively transforms into an absolute necessity. To achieve above-average reporting quality (60% and beyond), companies must secure a minimum Internal Digital Audit score of 1.635 in the CR model or 3.767 in the CE model. If management fails to implement a formalized digital audit framework, their financial reporting quality will inevitably stagnate, rendering it mathematically impossible to surpass the 60% threshold.

Targeting 90% to 100% Financial Report Quality (The Excellence Phase): The most critical revelation occurs at the 90% benchmark, where Digital Skill suddenly emerges as a

rigid prerequisite. To achieve flawless, highly precise financial reporting (100%), relying solely on automated digital audit systems proves entirely inadequate. At this elite tier, organizations must equip their workforce with maximized Digital Skills, demanding a minimum performance score of 7.000 (CR) or 5.480 (CE). Without cultivating exceptional human digital competencies, companies will find their reporting quality permanently trapped—or bottlenecked—in the 80% range.

The Hierarchy of Digital Transformation Needs, Ultimately, this research conclusively proves that a distinct "hierarchy of needs" dictates the digital transformation of financial reporting within the Bandung fashion industry. To secure a highly functional standard of financial reporting (the 60%–80% tier), companies are absolutely required to adopt an Internal Digital Audit system. However, to attain superior, completely error-free financial reporting quality (the 90%–100% tier), merely adopting advanced technology falls short. At this ultimate stage of development, Digital Skill actively operates as the final bottleneck. This empirical evidence perfectly corroborates the preceding IPMA findings, which highlighted that employee Digital Skill currently suffers from the lowest operational performance (71.7%). Consequently, this specific deficiency in human digital proficiency acts as the primary operational barrier—the literal bottleneck—that actively prevents fashion enterprises in Bandung from elevating their financial reporting quality into the coveted 90%–100% echelon.

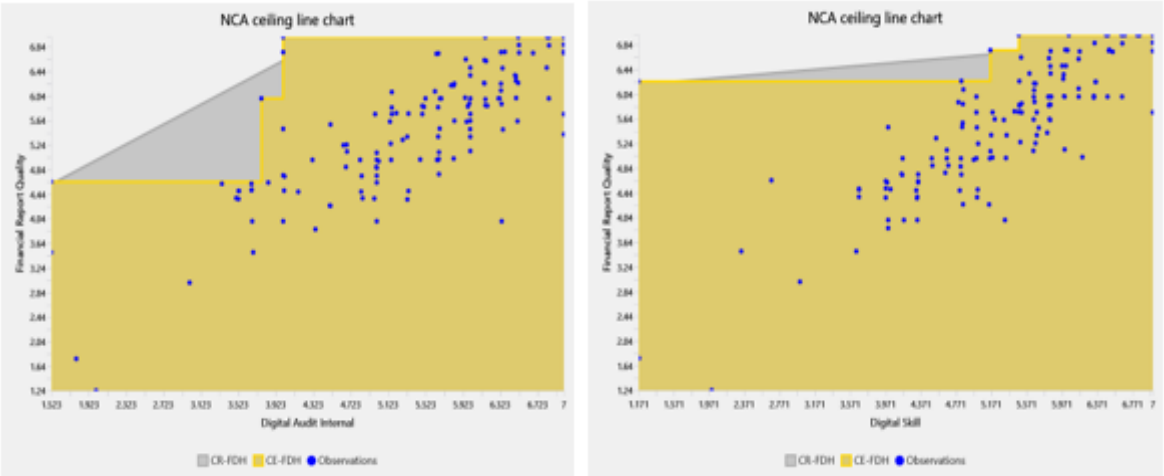


Figure 4. NCA Ceiling Line Chart Analysis

Following a rigorous evaluation of the measurement models, structural equations, and advanced analytical procedures—including Importance-Performance Map Analysis (IPMA)

and Necessary Condition Analysis (NCA)—this research empirically validates a fundamental premise: successful digital transformation within the financial reporting ecosystem critically depends on synergizing technological infrastructure with human capabilities. Furthermore, the structural framework demonstrates exceptional predictive accuracy and relevance (evidenced by a CVPAT p-value < 0.05 and a $Q^2 > 0.6$), confirming that these insights are highly robust and practically applicable for fashion enterprises operating in Bandung City.

The Influence of Digital Skill on Internal Digital Audit

The hypothesis testing conclusively demonstrates that Digital Skill exerts a positive and highly significant impact on Internal Digital Audit (Coefficient = 0.822, p-value = 0.000). The massive effect size ($f^2 = 2.082$) strongly corroborates this finding. Conceptually, this evidence establishes that regardless of how sophisticated a newly procured digital audit system may be, it cannot function optimally unless organizations back it with human resources possessing robust digital literacy. Within the specific context of the Bandung fashion industry—a sector characterized by high-volume transactions and rapid inventory turnover—financial staff and auditors must actively master data analytics, comprehend information systems, and operate digital tools proficiently. Ultimately, these human competencies form the foundational bedrock for successfully executing any internal digital audit framework.

The Influence of Internal Digital Audit on Financial Report Quality

This study confirms that Internal Digital Audit significantly and positively influences Financial Report Quality (Coefficient = 0.386, p-value = 0.030). Practically, implementing an effective, technology-driven internal audit actively suppresses the risk of material misstatements, enhances corporate transparency, and accelerates the financial reporting cycle within the fashion sector. Moreover, the Necessary Condition Analysis (NCA) injects a highly critical perspective into this relationship. The NCA results reveal that an Internal Digital Audit solidifies into an absolute prerequisite once a company targets a mid-to-high reporting quality threshold (exceeding 60%). This specific metric indicates that if fashion enterprises refuse to transition from manual procedures to digital auditing frameworks, they will inevitably hit a developmental bottleneck, rendering them completely unable to produce reliable and timely financial reports that surpass the 60% quality barrier.

The structural evaluation highlights two pivotal discoveries regarding how Digital Skill shapes Financial Report Quality: Direct Effect: Digital Skill directly and significantly elevates reporting quality (Coefficient = 0.489, p-value = 0.008). Indirect Effect (Mediation): Internal Digital Audit functions as a significant partial mediator (Coefficient = 0.317, p-value = 0.022), successfully bridging Digital Skill with Financial Report Quality. Combining these direct and indirect pathways generates a highly dominant Total Effect of 0.806. This powerful metric asserts that digitally proficient personnel can directly eradicate human errors during financial statement preparation. However, organizations radically amplify this positive impact when they strategically direct these human competencies to optimize the internal digital audit processes.

The NCA findings vigorously reinforce this dynamic at the extreme performance spectrum. Examining the Bottleneck table, researchers find that merely possessing a digital audit system completely fails to guarantee flawless financial reporting (the 90% to 100% tier). At this absolute peak, maximizing employees' Digital Skills emerges as a rigid, non-negotiable requirement. This empirical reality proves that while automated audit systems can push reporting quality to a standardized technical limit, human analytical capability ultimately serves as the definitive key to unlocking comprehensive and flawless financial reporting.

The Importance-Performance Map Analysis (IPMA) practically grounds the theoretical findings extracted from the structural and NCA tests. The IPMA matrix uncovers a critical operational gap that stakeholders in the Bandung fashion industry must urgently address: High Importance: Digital Skill commands the largest total effect in driving financial report quality. Low Performance: Ironically, the actual field execution of Digital Skill currently ranks the lowest (71.703) when contrasted against Internal Digital Audit (73.938) and Financial Report Quality (75.975). This distinct discrepancy strictly positions Digital Skill within the top priority quadrant for immediate organizational intervention. Consequently, fashion corporate management in Bandung City must fundamentally overhaul their investment strategies. Leaders can no longer exclusively fixate on Capital Expenditures (CapEx) aimed merely at purchasing the latest accounting and auditing software. Instead, executives must aggressively redirect their primary focus and financial budgets toward

human capital investments. Organizations should prioritize continuous learning initiatives, facilitate technological certifications, and actively recruit digitally literate talent.

Because Digital Skill operates simultaneously as the primary performance trigger in the PLS-SEM model and the ultimate operational bottleneck within the NCA framework, securing even a minor enhancement in employee digital proficiency will generate a massive multiplier effect. Cultivating these human capabilities will not only streamline internal audit execution but will also instantly and significantly skyrocket the overall accuracy, transparency, and quality of the company's financial reports.

CONCLUSION

The comprehensive empirical testing—encompassing the measurement and structural models, alongside advanced IPMA and NCA evaluations regarding the impact of Digital Skill and Internal Digital Audit on Financial Report Quality within the Bandung fashion industry—yields several definitive conclusions, digital Skill significantly and massively influences the Internal Digital Audit. Human digital competencies serve as the absolute foundational pillar for successfully implementing any digital audit framework. Without cultivating adequate digital skills, the digital audit system simply cannot operate at its optimal capacity. Deploying a digital-based internal audit directly elevates financial reporting quality. This technological integration actively minimizes the risk of human errors and substantially enhances the transparency of corporate financial data. Employees' digital proficiencies significantly improve Financial Report Quality through both direct and indirect channels. While digital skills directly boost reporting standards, the Internal Digital Audit actively functions as a partial mediator. Consequently, digital skills deliver a vastly superior impact on financial reporting when organizations simultaneously optimize their internal digital audit operations. The digital transformation of financial reporting follows a strict hierarchical progression. Establishing an Internal Digital Audit constitutes a non-negotiable prerequisite that companies must fulfill to achieve mid-to-high-tier reporting quality. However, to attain truly exceptional, flawless reporting standards, system sophistication alone proves insufficient. At this elite tier, maximizing employees' digital skills becomes the ultimate absolute requirement and the final operational bottleneck. Within the current financial reporting ecosystem, Digital Skill commands the highest structural importance, yet paradoxically, it suffers from the lowest actual workplace performance. This severe

discrepancy isolates human digital competency as the most critical area demanding immediate managerial intervention.

Despite Drawing from the empirical findings, this study offers several actionable recommendations for industry practitioners and future academics, management must fundamentally shift their digital investment strategies. Rather than exclusively focusing on purchasing expensive accounting software and auditing systems, companies must urgently prioritize budget allocations to upgrade their employees' Digital Skills. Organizations can achieve this by implementing targeted data analytics training, facilitating cloud accounting software certifications, and enhancing cybersecurity literacy. For fashion enterprises aiming to elevate their financial reporting quality from basic standards to an above-average tier, transitioning from manual audit procedures to a formalized Internal Digital Audit system represents an urgent imperative that management can no longer delay. Because the current level of Digital Skill empirically operates as the lowest-performing factor and the primary bottleneck preventing flawless financial reporting, companies must conduct periodic digital skills audits for their workforce. This proactive evaluation ensures that employee capabilities remain constantly aligned with the rapid advancements in the company's information technology infrastructure.

For subsequent researchers, this study recommends expanding the research scope to encompass manufacturing sectors or other service industries to test the framework's broader applicability. Additionally, future studies should incorporate other influential variables, such as Organizational Culture or Top Management Support, which may also significantly dictate the success and effectiveness of digital audit implementations.

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CONFLICTS OF INTEREST

The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.

USE OF ARTIFICIAL INTELLIGENCE (AI)

The authors transparently disclose the use of AI Tool exclusively for the purpose of linguistic editing and grammatical refinement of the original draft. The authors maintain full responsibility for the manuscript's substantive content, data integrity, and final scientific conclusions.

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