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Digital Performance Measurement Systems and the Transformation of Higher Education Governance

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Abstract

This study evaluates the effectiveness of a Digital Performance Measurement System (DPMS) and its implications for organizational performance, accountability, and digital governance at Universitas Pendidikan Indonesia (UPI). The study employed an explanatory sequential mixed-methods design by integrating longitudinal strategic performance data from UPI for 2025 with documentation of system implementation. The quantitative analysis involved longitudinal descriptive statistics, a difference-in-differences approach, and regression modeling to identify changes in performance before and after the system's implementation. The findings indicate that implementing DPMS at UPI improved the consistency of performance monitoring, the timeliness of reporting, and strategic alignment across organizational units. Empirically, UPI's performance measurement and reporting practices shifted significantly toward more mature performance measurement and reporting governance. Furthermore, the system strengthened accountability and transparency while supporting data-driven decision-making. This study contributes to the digital governance literature in higher education by providing empirical evidence from integrated strategic performance data in a university context. Accordingly, the study recommends strengthening system integration, enhancing human resource capacity, and developing data-driven policies to ensure the sustainability of digital transformation. Thus, DPMS can serve as a strategic instrument for establishing adaptive, accountable, and performance-oriented higher education governance.

Keywords: Digital Performance Measurement System (DPMS); Digital Governance; Organizational Performance; Accountability; Higher Education;

JEL Classification: H83; I23; O33

1. Introduction

Digital transformation has become a defining feature of governance reform in public sector organizations (Ferreira & Santos, 2025). In this context, higher education institutions are increasingly required to demonstrate measurable performance, efficient use of public resources, and transparent accountability mechanisms (Cheng, 2025). These expectations have intensified in recent years alongside heightened public scrutiny, regulatory demands, and competition among higher education institutions (El-Khawas, 2007). Therefore, digital transformation in higher education governance should not be understood merely as the adoption of technology, but rather as a strategic approach to strengthening data-driven performance management and accountability systems. Nevertheless, its implementation continues to face various challenges,

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including limited system integration and inadequate human resource capacity (Nababan et al., 2025). This situation highlights a gap between public accountability requirements and institutional readiness, underscoring the need for more in-depth research to optimize the role of digital transformation in improving higher education governance.

Traditionally, performance measurement in higher education institutions has relied on fragmented data systems, manual reporting procedures, and periodic evaluations (Sharvashidze et al., 2023). These approaches often result in reporting delays, inconsistent data quality, and weak integration among strategic planning, program implementation, and budget realization. Consequently, decision-making processes are frequently based on incomplete or outdated information.

2. Literature Review

2.1 Digital Transformation and Public Sector Governance

Digital transformation has emerged as one of the key drivers of public sector reform across countries. Advances in information and communication technologies have not only changed how public organizations operate but have also reshaped governance paradigms toward more open, responsive, and data-driven models. In this context, digitalization is no longer understood merely as a technical innovation but rather as a transformative strategy that enables sustained improvements in efficiency, transparency, and the quality of public services (Ferreira & Santos, 2025; Mergel et al., 2019).

The concept of digital governance has emerged in response to these demands, emphasizing the use of digital technologies to strengthen decision-making processes, enhance accountability, and improve the effectiveness of public organizations. Digital governance extends beyond the digitalization of services to encompass the integration of information systems that enable organizations to manage data comprehensively and in real time. Consequently, public organizations can move from procedure-oriented approaches toward evidence-based governance (Janssen & Estevez, 2013; Cordella & Tempini, 2015).

In higher education, digital transformation has more complex implications because of the multidimensional nature of higher education institutions. Universities perform not only administrative functions but also academic, research, and community engagement functions. Therefore, digital governance in higher education encompasses the integration of diverse information systems, ranging from academic administration and financial management to strategic planning and performance management. Such integration enables institutions to collect, manage, and analyze data more systematically, thereby supporting more accurate and strategically informed decision-making (Selwyn, 2021; Williamson, 2017).

Performance measurement systems constitute a critical component of digital governance. Traditionally, these systems have served to monitor organizational progress and evaluate the achievement of institutional objectives. However, conventional approaches often face several limitations, including reporting delays, restricted data accessibility, and insufficient integration across organizational units. Digital transformation enables performance measurement systems to become more dynamic and adaptive through digital technologies that support real-time monitoring, automated reporting, and cross-functional data integration (Melnyk et al., 2014; Bourne et al., 2014).

In this context, the Digital Performance Measurement System (DPMS) represents an important

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innovation for strengthening organizational governance. DPMS can improve data accuracy, accelerate reporting processes, and enhance alignment between strategic objectives and program implementation. Supported by digital infrastructure, organizations can identify performance achievements more promptly, conduct continuous evaluations, and make more informed data-driven decisions. These capabilities position DPMS as a strategic instrument for improving the effectiveness of public organizations, including higher education institutions (Neely, 2005; Franco-Santos et al., 2012).

Nevertheless, the implementation of DPMS cannot be separated from the institutional factors that influence its success. Clear and consistent regulations are essential to ensuring that performance measurement processes operate systematically and accountably. Leadership commitment also plays a pivotal role in promoting technology adoption and fostering an organizational culture conducive to digital transformation. The availability of resources, including technological infrastructure and human resource capacity, is another determining factor in ensuring that digitalization extends beyond administrative procedures and generates substantive improvements in organizational performance (Vial, 2021; Mergel et al., 2019).

Higher education performance is inherently multidimensional, encompassing academic, financial, and administrative dimensions. Performance measurement therefore requires indicators that are not only measurable but also relevant to institutional strategic objectives. Strategic performance indicators and program-level performance indicators serve as essential instruments for objectively assessing the extent to which organizational targets have been achieved. In public organizations, including higher education institutions, accountability requirements have become increasingly stringent, particularly regarding the utilization of public funds. Transparency in performance management and reporting is therefore an indispensable aspect of institutional governance.

Digital transformation through DPMS can significantly help address these demands. Digital systems facilitate broader access to performance data, reduce information asymmetry, and strengthen organizational transparency and accountability. Accordingly, DPMS functions not merely as a performance measurement tool but also as a governance instrument that supports the realization of good governance in the public sector. Furthermore, integrating digital transformation and performance measurement systems provides a critical foundation for developing public organizations that are adaptive, responsive, and performance-oriented in the digital era.

2.2 Digital Performance Measurement Systems from the Perspectives of Performance Management, Goal-Setting Theory, Institutional Theory, and Digital Governance

The development of Digital Performance Measurement Systems (DPMS) is closely associated with the evolution of performance management thinking and the digital transformation of public organizations. In higher education, DPMS serves as a strategic system that integrates performance measurement, monitoring, and evaluation processes through digital technologies. Such a system not only enhances operational efficiency but also strengthens accountability, transparency, and data-driven decision-making. To develop a comprehensive understanding of how DPMS operates and affects organizations, an integrative theoretical approach is needed, incorporating perspectives from performance management, goal-setting theory, institutional theory, and digital governance.

From a performance management perspective, organizations are viewed as entities that require

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structured measurement systems to achieve strategic objectives. Performance measurement systems serve as control mechanisms that link planning and implementation through measurable indicators, continuous monitoring, and systematic feedback. In practice, however, conventional systems frequently encounter challenges, including data fragmentation, reporting delays, and inadequate integration across organizational units. DPMS, as a digitally enabled performance measurement approach, enables real-time monitoring, cross-functional data integration, and faster evaluation cycles. Accordingly, DPMS reinforces a central premise of performance management theory: effective monitoring systems can improve overall organizational performance (Neely, 2005; Melnyk et al., 2014).

Furthermore, from the perspective of goal-setting theory, organizational performance is strongly influenced by the clarity and specificity of established goals. Specific, measurable goals accompanied by consistent monitoring mechanisms have been shown to enhance motivation and performance at both the individual and organizational levels (Locke & Latham, 2002). In this context, DPMS helps translate organizational strategic objectives into measurable performance indicators that can be monitored periodically. Through digital performance dashboards, organizational units can track their achievements in real time, thereby increasing performance awareness and strengthening commitment to target attainment. This integration of objectives and monitoring mechanisms positions DPMS as an important instrument for bridging the gap between planning and implementation.

Moreover, the implementation of DPMS can be understood through the lens of institutional theory, which emphasizes that organizations are shaped not only by internal factors but also by external pressures and environmental dynamics. The digitalization of performance systems introduces new institutional pressures in the form of demands for transparency, accountability, and data-informed decision-making. These pressures encourage organizations to adapt their structures, norms, and practices to align with more contemporary governance standards. In higher education, DPMS implementation can contribute to the development of a data-driven organizational culture, greater reporting discipline, and stronger leadership engagement in performance monitoring. These developments suggest that DPMS functions not merely as a technical tool but also as an agent of institutional change (DiMaggio & Powell, 1983; Scott, 2014).

Ultimately, these dynamics converge within the perspective of digital governance, which emphasizes the use of digital technologies to improve transparency, accountability, organizational effectiveness, and the quality of decision-making in public organizations. Within this framework, DPMS serves as a core infrastructure for supporting information system integration, expanding access to performance data, and reducing information asymmetry within organizations. The use of performance dashboards in strategic decision-making forums enables organizational leaders to make decisions that are more timely, accurate, and evidence-based. Consequently, DPMS not only improves operational efficiency but also strengthens the legitimacy of organizational governance through more transparent and accountable practices (Janssen & Estevez, 2013; Mergel et al., 2019).

Taken together, integrating these four perspectives shows that DPMS is a multidimensional conceptual framework. It functions not only as a performance measurement tool but also as a mechanism that connects organizational objectives, managerial processes, institutional change, and digital governance within a coherent framework. Therefore, the success of DPMS implementation should be assessed not solely in terms of improvements in performance

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indicators but also in terms of its capacity to transform organizational practices toward more adaptive, transparent, and data-driven systems. In higher education, this capacity provides an important foundation for establishing effective and performance-oriented governance in the digital era.

3. Research Methods

3.1 Research Design

This study adopts a mixed-methods approach using an explanatory case study design to evaluate the implementation of a Digital Performance Measurement System (DPMS) in higher education. This approach was selected because implementing a digital performance system is a complex, context-dependent organizational phenomenon involving interactions among technological, managerial, and institutional dimensions. Consequently, no single methodological approach can adequately explain it. Integrating quantitative and qualitative data enables a more comprehensive analysis of implementation dynamics and their implications for organizational governance (Creswell & Plano Clark, 2017; Yin, 2018). Unlike quasi-experimental designs based on before-and-after comparisons, this study does not employ such an approach because the e-performance system was effectively implemented only in 2025, leaving insufficient historical baseline data for a robust comparative assessment. Accordingly, the study adopts an intra-period evaluation approach to examine performance dynamics and organizational governance throughout the first year of implementation.

The study was conducted at Universitas Pendidikan Indonesia (UPI), which began implementing the e-performance application as its official institutional performance monitoring platform in 2025. The system was designed to integrate strategic planning, performance achievement monitoring, periodic reporting, and the monitoring of program and budget realization within a unified digital platform. All organizational units at the university, faculty, and supporting-unit levels are required to use the system for quarterly performance reporting. The resulting data serve not only administrative purposes but also directly support monitoring and evaluation mechanisms and strategic decision-making forums at the leadership level. These characteristics make UPI an empirically relevant setting for examining the role of DPMS in strengthening data-driven organizational governance.

The research draws on two complementary primary data sources. The first comprises quantitative data on strategic performance indicators and program-level performance indicators collected through the e-performance application throughout the implementation year. These data include indicator completion rates, performance achievement categories, organizational units' reporting compliance, and reporting consistency across quarterly periods. The second source consists of qualitative institutional documentation, including system user guidelines, monitoring and evaluation policies, performance meeting minutes, and reports on digital system implementation. Combining these data sources enables the analysis to extend beyond numerical performance outcomes to examine changes in governance practices occurring throughout the digitalization process.

Data analysis was conducted using a combination of quantitative and qualitative techniques. Quantitative analysis employed descriptive methods to characterize the distribution of performance indicator achievements, reporting compliance rates, and reporting timeliness across quarters. In addition, intra-year trend analysis was used to identify performance dynamics throughout the implementation period, particularly with respect to reporting

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consistency and timeliness. Qualitative analysis, meanwhile, employed content analysis of institutional documentation to identify changes in organizational governance practices, including leadership engagement in performance monitoring, the use of dashboards in strategic decision-making forums, and the integration of performance management systems with planning and budgeting processes (Krippendorff, 2018). Findings from both approaches were subsequently integrated through triangulation to enhance the validity and consistency of the research results.

Research validity and reliability were ensured through several strategies, including the use of objective official institutional data, intra-period longitudinal analysis to capture performance dynamics, and triangulation between quantitative and qualitative evidence. Furthermore, transparency in the analytical procedures was maintained through systematic documentation of data processing and interpretation. These measures were intended to ensure that the findings achieved a level of credibility and reliability consistent with academic standards (Creswell & Plano Clark, 2017).

4. Findings and Discussions

4.1 System Performance and the Effectiveness of Digital Monitoring

The analysis of the first year of Digital Performance Measurement System (DPMS) implementation indicates that the e-performance system recorded a predominantly positive distribution of strategic performance achievements. Of the 49 strategic performance indicators, 38 were classified as either Exceeded or Achieved. Data on Universitas Pendidikan Indonesia's strategic performance indicators for 2025 show that 29 indicators (59.18%) were classified as Exceeded, 9 (18.37%) as Achieved, and 11 (22.45%) as Not Achieved.

This distribution provides an initial overview of institutional performance during the early phase of digital system implementation. The absence of indicators classified in a low-performance category suggests that overall institutional performance remained within a relatively manageable range. However, this finding should be interpreted cautiously, as 11 indicators classified as Not Achieved indicate that several performance targets remained unmet. Therefore, the results highlight the importance of continuous monitoring, timely corrective action, and evidence-based evaluation to address performance gaps during the implementation of DPMS.

Table 1 Distribution of UPI Strategic Performance Indicator Achievement in 2025

Achievement Category	Number of Indicators	Percentage
Exceeded	29	59.18%
Achieved	9	18.37%
Not Achieved	11	22.45%
Total	49	100%

Source: Laporan Tahunan UPI 2025

Based on this distribution, most performance indicators achieved optimal levels, with 38 indicators classified as either Exceeded or Achieved. Meanwhile, 11 indicators were classified as Not Achieved and were distributed across several performance areas requiring further improvement, as presented in Table 2. Nevertheless, an analysis of the achievement percentages for these 11 indicators revealed an average achievement rate of 84.37%. The absence of

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indicators with achievement rates below 50% suggests that all organizational units maintained performance levels above the minimum threshold of 50%, although several indicators did not meet their respective targets.

Beyond the distribution of performance achievements, the analysis also revealed that achievement data were reported for all performance indicators in the system. The data completion rate reached 100%, indicating that no indicators were left blank or undocumented. This finding suggests that all organizational units within the university had submitted comprehensive performance reports through the e-performance system.

Table 2 Performance Indicators That Did Not Meet Their Targets

No	Indicator	Target	Actual Achievement	Percentage
1	Percentage of undergraduate and diploma courses that utilize the case method or team-based project approach	100%	64,41%	64,41%
2	Percentage of international students	1,60%	1,49%	93,13%
3	Percentage of students participating in student mobility	2,25%	2,13%	94,67%
4	Percentage of foreign faculty members	7,50%	6,49%	86,53%
5	UPI's Ranking in GreenMetric	310	379	81,79%
6	Service satisfaction index	90%	80,00%	88,89%
7	Percentage of study programs that have established collaborations with partners	100%	92,05%	92,05%
8	Percentage of study programs with an 'excellent' (or equivalent) accreditation at the national level	75%	72,16%	96,21%
9	Rankings in the QS/THE World University Rankings	801–1000	1309	76,39%
10	Ranked in the QS/THE World University Ranking by Subject in Education	151–200	253	79,05%
11	QS Star Rating	4 star	3 star	75,00%
	Average Percentage of Achievement			84,37%

Source: Laporan Tahunan UPI 2025

This data completeness not only reflects the administrative availability of performance information but also demonstrates that each indicator has a measurable achievement value that is systematically documented. Accordingly, the e-performance system provides a comprehensive performance database covering all strategic indicators established in the institution's planning framework.

Beyond data completeness, performance reporting patterns also indicate significant changes in the organization's monitoring mechanisms. Performance reporting is conducted quarterly through a digital platform, with indicator achievement data updated periodically across four reporting cycles throughout the year. This approach establishes a more structured and recurring reporting framework, enabling continuous updates to performance data. A more detailed overview of the reporting cycle is presented in Table 3.

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Table 3 DPMS-Based Performance Reporting Cycle in 2025

Reporting Period	Frequency	Characteristics
Quarter I	1	Initial reporting and baseline performance measurement
Quarter II	1	Performance updates and progress evaluation
Quarter III	1	Ongoing monitoring and reporting consistency
Quarter IV	1	Consolidation of year-end performance achievements
Total	4 cycles	Continuous periodic reporting

This reporting pattern indicates that monitoring is no longer static or confined to year-end evaluations but is conducted continuously throughout the implementation period. Each reporting cycle provides updates on indicator achievement data, thereby enabling more systematic monitoring of performance progress.

Through periodic reporting, performance data are not accumulated at a single point in time but are updated progressively in accordance with predetermined reporting periods. This process generates more up-to-date performance data that reflect the organization's actual conditions during each reporting period. Furthermore, the continuity of reporting across periods indicates consistency in data entry practices among organizational units. No reporting periods were found to have been missed or left incomplete, suggesting that the e-performance system was routinely used and integrated into the organization's regular work cycle.

Overall, the findings presented in this subsection demonstrate that the first year of DPMS implementation yielded three key achievements in system performance: a distribution of performance indicators dominated by the Exceeded category, a performance data completion rate of 100%, and consistent, continuous performance reporting throughout the quarterly reporting cycles. Together, these findings provide an overview of organizational performance that is comprehensively documented and supported by a digital monitoring system operating on a periodic and systematic basis.

4.2 Reporting Compliance and Performance Governance Integration

The findings indicate that implementing the Digital Performance Measurement System (DPMS) has achieved high performance reporting compliance across all organizational units. All units at the university, faculty, and supporting-unit levels consistently submitted performance reports in accordance with the quarterly reporting schedule established in the system. No organizational units failed to submit reports, and no indicators were left incomplete during any reporting period.

This condition suggests that the e-performance system has been adopted comprehensively across organizational units as the primary medium for performance reporting. The high level of compliance is reflected not only in the availability of performance data but also in the regularity of reporting in accordance with the established cycle. Consequently, performance reporting is no longer an ad hoc activity but has become an integral part of structured organizational routines.

Changes in reporting practices are also evident in the transition from an annual reporting system to a quarterly, periodic reporting framework. Implementation documentation indicates that each organizational unit must submit reports across four cycles throughout the year, with each cycle generating updated performance indicator achievement data. This approach provides more current performance information and a progressive account of performance developments.

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Table 4: Comparison of Performance Reporting Practices

Aspect	Before Implementation (Manual)	After Implementation (DPMS)
Reporting frequency	Annual	Quarterly (four times per year)
Reporting regularity	Inconsistent	Scheduled and systematic
Data updates	At the end of each period	Periodic and continuous
Data completeness	Potentially incomplete	Complete (100%)

Based on Table 4, implementing DPMS has brought significant changes to performance reporting practices. Reporting, which was previously conducted at the end of the year, is now carried out progressively over shorter reporting periods, enabling more intensive monitoring of performance progress. In addition, reporting regularity has improved through a system that establishes standardized reporting schedules and procedures.

Beyond improved reporting compliance, the findings also indicate that performance data generated by the e-performance system have been integrated into organizational governance processes. Institutional documentation shows that performance dashboards are used in university leadership meetings as one of the information sources supporting monitoring and evaluation. This indicates that performance data are not merely collected but are also utilized in organizational activities.

The use of dashboards in leadership meetings demonstrates that the e-performance system has become part of the organization's information flow. Performance indicator achievement data are used to provide an overview of the performance of organizational units, identify targets that have been achieved, and monitor indicators requiring further attention. Thus, the digital system functions not merely as a data repository but also as an information presentation tool that supports organizational monitoring.

System integration is also reflected in the relationship between performance indicator achievement data and the implementation of organizational programs and activities. The data available in the e-performance system are used to support program evaluation, particularly in assessing the alignment between established targets and actual implementation results. This indicates that the performance management system does not operate in isolation but is connected to other managerial processes within the organization. The forms of integration are illustrated in Table 5.

Table 5 Integration of Performance Data into Organizational Governance

Integration Dimension	Implementation in 2025
Performance monitoring	Indicator data are used in periodic evaluations.
Leadership meetings	Dashboards are used as a primary source of information.
Program evaluation	Performance data are used to assess program progress.
Institutional reporting	Data are integrated into the official reporting system.
Inter-unit coordination	Performance information is accessible across organizational units.

The table demonstrates that performance data have been utilized across various organizational activities related to governance, ranging from monitoring to program evaluation. Centralized access to data through the system facilitates better coordination among organizational units, as

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the information used is consistent and documented within a single platform.

Furthermore, this integration indicates that the e-performance system functions as a link between reporting processes and decision-making. The data generated do not merely serve reporting purposes but also form part of the information cycle used in day-to-day organizational activities.

Overall, the findings presented in this subsection demonstrate that the first year of DPMS implementation has yielded two key achievements: improved performance reporting compliance across organizational units and the integration of performance data into various organizational governance processes. Consistent and periodic reporting, together with the use of data in monitoring and evaluation activities, indicates that the digital system has become an integral part of the organization's operational mechanisms for performance management.

4.3 Strengthening Accountability, Transparency, and Organizational Practices

The first year of Digital Performance Measurement System (DPMS) implementation revealed tangible changes in organizational accountability and transparency. A key finding is that each performance indicator recorded in the system has a clearly designated person or unit responsible for achieving it, and indicator performance can be traced through data documented on the digital platform. This indicates that the e-performance system has established a structured, systematically documented recording mechanism.

The traceability of performance data is reflected in the system's ability to store and display detailed information on indicator achievements, including achievement values, reporting periods, and the organizational units responsible. Through an integrated recording system, changes in data can be identified and traced through the available digital audit trail. This demonstrates that the reporting process not only generates performance data but also establishes a continuous documentation system.

Beyond accountability, DPMS implementation has also enhanced the accessibility of performance information. The e-performance system provides access to indicator achievement data through digital dashboards available for use by organizational leaders. Performance data are presented in a standardized format, facilitating the interpretation and comparison of achievements across organizational units and reporting periods. This indicates that performance information is no longer dispersed across separate sources but is instead consolidated within an integrated system.

The availability of data through dashboards also indicates that access to performance information has become broader and more systematic. Indicator achievement information is no longer available only at the end of the reporting cycle but can be accessed periodically as data are updated. This enables organizational leaders to obtain a more current and continuous overview of institutional performance.

Changes are also evident in organizational practices related to performance reporting and monitoring. Institutional documentation indicates that reporting has become more systematically scheduled and aligned with consistent quarterly cycles. Each organizational unit updates its indicator achievement data according to predetermined reporting periods, resulting in regularly updated performance information. Monitoring activities have likewise become more systematic, with data available in the system serving as a basis for performance evaluation.

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Furthermore, digital systems have influenced how the organization manages the relationship between performance planning, implementation, and evaluation. The e-performance system links indicator achievement data with organizational programs and activities, enabling the relationship between established targets and actual implementation results to be tracked. Indicator achievement data can therefore be used to assess how well implemented programs contribute to achieving planned performance targets.

To provide a more systematic overview of the effects of DPMS implementation on organizational practices, the research findings are summarized in Table 6.

Table 6 Impact of DPMS Implementation on Organizational Practices

Dimension	Observed Conditions in 2025
Data completeness	100% of indicators reported
Reporting pattern	Quarterly (periodic)
Monitoring	Continuous
Data utilization	Used in leadership meetings
Accountability	Indicator responsibilities are clearly defined and documented
Transparency	Data are available through an integrated dashboard

The table indicates that DPMS implementation has brought about changes across multiple dimensions of organizational practices. Complete data coverage suggests that the system has been utilized comprehensively, while quarterly reporting reflects the establishment of a more structured reporting framework. Continuous monitoring indicates that evaluation is no longer an isolated activity but is conducted periodically throughout the reporting cycle.

The use of performance data in leadership meetings demonstrates that performance information has become an integral part of organizational activities, while clearly defined indicator responsibilities indicate stronger accountability mechanisms. The availability of data through dashboards further suggests that performance information is presented in a more transparent and integrated format.

Overall, the findings in this subsection demonstrate that the first year of DPMS implementation has not only generated performance indicator achievement data but has also established more structured reporting, monitoring, and documentation systems. These changes reflect strengthened accountability, improved information transparency, and the adaptation of organizational practices toward more systematic performance management.

4.3. Discussion

4.3.1. DPMS and the Strengthening of Organizational Performance

The findings indicate that implementing the Digital Performance Measurement System (DPMS) resulted in a performance distribution predominantly concentrated in the high-achievement category, with a performance indicator data completion rate of 100%. These conditions suggest that the digital system has contributed to improving the consistency of performance monitoring and maintaining the stability of indicator achievement during the first year of implementation. This finding is particularly important because organizations typically undergo an adjustment phase during the early stages of technology adoption. Stable performance outcomes supported by comprehensive documentation therefore suggest a relatively rapid and widespread adoption of the system.

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From the perspective of Performance Management Theory, organizational performance effectiveness depends substantially on the availability of measurement systems that connect strategic objectives with program implementation through clearly defined indicators, continuous monitoring, and systematic feedback (Neely, 2005; Melnyk et al., 2014). The findings demonstrate that DPMS implementation at Universitas Pendidikan Indonesia has strengthened these three core components. Structured quarterly reporting establishes recurring monitoring cycles, enabling the organization to obtain feedback more rapidly than under conventional annual reporting systems. This suggests that DPMS contributes to shortening the performance feedback loop, which the performance management literature identifies as a key factor in enhancing organizational responsiveness to change (Franco-Santos et al., 2012).

Furthermore, the predominance of indicators classified as Exceeded reflects not only final performance outcomes but may also indicate improved performance controllability within the organization. Under manual systems, limited data accessibility and reporting delays often make it difficult for organizations to identify performance deviations at an early stage. However, digital systems that provide integrated and timely data enable organizations to monitor indicator achievement more intensively and continuously. This interpretation is consistent with Bourne et al. (2018), who suggest that digital performance measurement systems can enable organizations to move beyond retrospective evaluation toward a more proactive managerial approach.

The findings also reveal substantial changes in organizational performance monitoring practices. Before digitalization, performance monitoring systems in the public sector commonly faced persistent challenges, including reporting delays, inconsistent data, and weak connections between planning and program implementation. These conditions often reduced the accuracy of performance evaluations and limited their usefulness for strategic decision-making. Following DPMS implementation, however, monitoring processes became more structured, scheduled, and supported by integrated data. This transformation suggests that digital systems can help address data fragmentation and improve the quality of organizational performance information.

In addition, the 100% completion rate for performance indicator data suggests that DPMS has strengthened not only monitoring quality but also organizational discipline in performance reporting. In the performance management literature, data completeness is a fundamental prerequisite for producing valid and reliable evaluations (Melnyk et al., 2014). By providing complete and systematically documented data, the system establishes a stronger information base for performance analysis and future strategic planning.

In this context, DPMS can be understood as an enabler of modern performance management systems that integrate multiple organizational functions within a single digital platform. The system does more than provide data: it establishes continuous monitoring mechanisms, accelerates evaluation cycles, and strengthens alignment between strategic targets and program implementation. This reinforces the argument that the digitalization of performance measurement does not merely improve administrative efficiency but can also fundamentally transform organizational performance control mechanisms (Neely, 2005; Franco-Santos et al., 2012).

Moreover, these findings provide empirical support for the broader argument that the success of performance management systems depends not only on indicator design but also on the capacity to integrate data and support continuous monitoring. In this regard, DPMS serves as

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strategic infrastructure that enables organizations to manage performance more systematically and in a data-driven manner.

Taken together, the findings suggest that DPMS implementation has contributed not only to the quantitative assessment of organizational performance but also to the strengthening of internal mechanisms that support sustainable performance management. These improvements are reflected in more consistent monitoring, comprehensive performance data, and a greater capacity to connect planning and evaluation processes. Overall, DPMS serves as a catalyst for transforming performance management systems into a more adaptive, measurable, and responsive model that better accommodates organizational dynamics.

4.3.2. DPMS and the Transformation toward Data-Driven Governance

The findings indicate that implementing the Digital Performance Measurement System (DPMS) has not only improved reporting compliance but also promoted the integration of performance data into organizational governance processes. This is evidenced by the use of performance dashboards in leadership meetings, where indicator achievement data serve as a key information source for organizational monitoring and evaluation. These findings suggest a shift in decision-making mechanisms from reliance on static reports toward approaches informed by periodically updated data.

From a digital governance perspective, this transformation demonstrates the role of digital technologies as a key instrument in reshaping organizational governance processes. Digital governance extends beyond the digitalization of administrative services to encompass changes in how organizations manage information, enhance transparency, and strengthen accountability through integrated information systems (Ferreira et al., 2025; Valentino, 2025). The findings reinforce the view that digital system implementation can shift organizational governance from a document-based approach toward data-driven governance, in which performance information serves as a fundamental basis for managerial processes.

The use of dashboards in leadership meetings indicates a significant shift from decision-making based on reports toward evidence-based decision-making. Under conventional systems, performance reports are often retrospective and available only at the end of a reporting period, making information delays a constraint on decision-making. By contrast, digital systems provide more dynamic performance data that can be accessed periodically, enabling organizational leaders to respond to performance conditions more rapidly and accurately. This finding is consistent with literature emphasizing that digital transformation can improve decision-making quality through the use of more accurate and real-time data (Janssen & Estevez, 2013; Mergel et al., 2019).

Beyond changes in decision-making mechanisms, improvements in reporting compliance and data consistency also indicate stronger management of organizational objectives. From the perspective of Goal-Setting Theory, organizational performance is strongly influenced by goal clarity, measurable indicators, and the availability of continuous monitoring mechanisms (Locke & Latham, 2002). DPMS enables performance indicators to be documented digitally, organizational targets to be structured more systematically, and indicator achievements to be monitored periodically. These capabilities increase the visibility of performance targets and achievements at the organizational-unit level, thereby strengthening organizational performance awareness.

Furthermore, quarterly monitoring through a digital system creates a mechanism to reinforce

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commitment to organizational objectives. Within the framework of Goal-Setting Theory, periodic monitoring functions as a reinforcement mechanism that sustains organizational units' engagement in achieving established targets. The observed improvements in reporting consistency and the regular updating of data suggest that DPMS has provided such a mechanism systematically.

In addition, the integration of performance reporting and program evaluation indicates that DPMS has connected various organizational governance processes within a coordinated system. Indicator achievement data are used not only for reporting purposes but also as a basis for evaluating organizational programs and activities. This suggests that the digital system has strengthened the connections among planning, implementation, and monitoring, which often operate separately under conventional systems.

In the public governance literature, integration across organizational processes is an important indicator of governance effectiveness because it facilitates coordination and reduces information fragmentation (Cordella & Tempini, 2015). The findings indicate that DPMS functions as an integration platform that brings organizational information flows together within a structured system. Accordingly, the digital system serves not merely as a data collection tool but also as infrastructure supporting coordination and synchronization across organizational units.

Furthermore, this integration has implications for the overall quality of organizational governance. With integrated data that are broadly accessible, organizations are better positioned to conduct monitoring and evaluation and to make decisions based on current organizational conditions. This demonstrates that DPMS serves as a link among various dimensions of organizational governance, ranging from reporting to strategic decision-making.

Overall, the findings affirm that DPMS implementation has contributed to transforming organizational governance toward a more data-driven, integrated, and responsive model. This transformation is reflected not only in improved reporting compliance but also in changes in how organizations use data to inform decision-making. Therefore, DPMS can be understood as a key element in establishing adaptive, information-driven organizational governance in the digital era.

4.3.3. DPMS as a Driver of Institutional Change

The findings indicate that implementing the Digital Performance Measurement System (DPMS) has affected not only the technical aspects of performance management but also strengthened organizational accountability and transparency, while stimulating changes in workplace practices and organizational culture. Clearly defined indicator responsibilities, traceable performance data, and greater information accessibility through dashboards show that the digital system has established more structured, systematic accountability mechanisms. These findings suggest that digitalization not only improves data quality but also reshapes how organizations account for their performance.

From the perspective of Institutional Theory, these changes can be understood as an organizational response to institutional pressures arising from the adoption of digital systems. DiMaggio and Powell (1983) explain that organizations tend to adapt to normative, regulatory, and mimetic pressures to maintain legitimacy within their institutional environments. In this context, DPMS implementation establishes new standards for performance reporting and monitoring, indirectly creating institutional pressures for organizational units to align their

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practices with expectations of transparency, accountability, and measurable performance. Similarly, Scott (2014) emphasizes that institutions are shaped by interactions among formal regulations, social norms, and organizational practices, which, in this case, are mediated by digital systems.

The findings indicate that clearly assigned indicator responsibilities and the traceability of performance data through digital audit trails have strengthened the regulatory and normative dimensions of the organization. Each indicator achievement is not merely recorded but can also be systematically traced, thereby enhancing accountability at both the individual and organizational-unit levels. This condition suggests that the digital system functions as a monitoring mechanism embedded within organizational processes rather than merely as an external administrative tool.

Furthermore, greater access to performance data through dashboards reflects enhanced transparency, with implications for relationships among organizational units. Information that was previously restricted has become more accessible to organizational leaders. This development reduces information asymmetry and encourages the emergence of new standards in performance reporting practices. From an institutional perspective, this condition can be understood as a process of institutionalization, through which new practices supported by digital systems gradually become accepted organizational norms.

Moreover, the observed changes in organizational culture indicate that digitalization affects not only organizational structures and procedures but also behavior and patterns of interaction. Increased awareness of performance targets, greater reporting discipline, and stronger leadership engagement in monitoring suggest a shift toward a performance-oriented and data-driven organizational culture. This change marks a transition from an administrative culture focused on fulfilling formal obligations toward one that places greater emphasis on achievement and results.

In the digital transformation literature, such changes are often associated with the emergence of a data-driven culture, in which data serve as a primary basis for decision-making and organizational management (Vial, 2021). The findings suggest that DPMS has helped lay the foundations of such a culture by providing integrated, measurable, and systematically accessible data. Accordingly, digitalization not only introduces a new system but also reshapes how organizations conceptualize and manage performance.

Furthermore, DPMS's role as a driver of institutional change is evident in its capacity to connect organizational processes that previously operated separately. The integration of planning, program implementation, and budget utilization indicates that the digital system has strengthened relationships among organizational processes. Performance indicator achievement data serve not only as an evaluation instrument but also as a link between performance targets, program implementation, and resource allocation.

From an institutional perspective, this integration reflects structural changes in organizational governance, whereby boundaries between processes become more fluid and interconnected through a shared information system. This suggests that DPMS does not merely change reporting practices but also restructures organizational coordination flows. With an integrated system in place, organizations are better equipped to align their activities within a common strategic framework.

Overall, the findings demonstrate that DPMS implementation has contributed to institutional

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changes encompassing stronger accountability, greater transparency, shifts in organizational culture, and integration across governance processes. These changes suggest that the digitalization of performance systems affects not only operational efficiency but also the deeper ways in which organizations function and interact. Therefore, DPMS can be understood as a catalyst for moving organizations toward more structured, transparent, and data-driven governance over the long term.

5. Conclusion

This study demonstrates that the first year of Digital Performance Measurement System (DPMS) implementation has brought about substantial changes in performance management and organizational governance at Universitas Pendidikan Indonesia. At the operational level, the system has contributed to more consistent performance monitoring and stable indicator achievement, as reflected in the predominance of indicators classified as Exceeded and Achieved, alongside a data completion rate of 100%. These findings underscore the contribution of digital performance measurement to strengthening organizational control through more structured, continuous, and data-driven monitoring mechanisms. Furthermore, DPMS implementation has promoted greater reporting compliance and the integration of performance data into decision-making processes, as evidenced by the use of performance dashboards in leadership meetings. This indicates a shift toward data-driven governance, in which performance information is not merely collected but actively utilized in managerial processes. At a deeper level, the system also functions as a driver of institutional change by strengthening accountability and transparency while fostering organizational practices and cultures that are increasingly performance-oriented and data-driven.

Overall, this study establishes that DPMS serves not merely as an administrative tool but as strategic infrastructure that integrates planning, monitoring, evaluation, and decision-making within a coordinated digital system. Its implementation is associated with improvements in organizational governance characterized by greater transparency, accountability, and responsiveness to performance data. Sustaining and strengthening DPMS therefore requires broader system integration, enhanced human resource capacity in data management and utilization, and institutional policies that promote the use of data as a primary basis for decision-making. Future research should examine the long-term effects of DPMS implementation and conduct cross-institutional comparisons to strengthen the generalizability of the findings. Accordingly, DPMS holds considerable strategic potential as a model for strengthening higher education governance that is adaptive, data-driven, and oriented toward sustainable performance improvement.

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