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A holistic framework for asset decision-making: Organisational drivers and collaborative culture

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Purpose: This study aims to map the influence of regulatory compliance, technology adoption and human resource capacity on asset management decisions through the mediating role of collaborative culture in regional governments in Indonesia. Asset management in the public sector requires strategic, efficient, and sustainable decision-making aligned with governance principles. A collaborative culture can promote transparency, cross-functional coordination, and alignment with regulations and technology.

Design/methodology/approach: A quantitative approach was used by distributing an online survey to regional government employees in South Sulawesi Province. From a population of 1150, a sample of 320 respondents was selected. Data were analysed using partial least squares structural equation modelling (PLS-SEM) to evaluate both measurement and structural models.

Findings/results: The findings reveal that collaborative culture significantly mediates the influence of regulatory compliance, technology adoption, and human resource capacity on asset management decisions. Notably, technology adoption does not directly impact decision-making but becomes significant when mediated by a collaborative culture. Human resource capacity is the strongest predictor of collaborative culture.

Practical implications: The findings suggest that strengthening a collaborative culture within regional governments is essential to enhance regulatory compliance, improve human resource capacity, and support effective technology adoption. Public managers are encouraged to foster cross-functional communication, provide targeted training, and integrate digital tools with collaborative work structures to improve asset management decision-making processes

Originality/value: This study contributes to asset management literature by integrating technical, regulatory, and cultural perspectives into a comprehensive model. The results offer a practical framework for policymakers to strengthen decision-making through collaboration and capacity-building. It also provides empirical evidence supporting the importance of organisational culture in improving public sector governance.

Keywords: regulatory compliance; technology adoption; human resource capacity; collaborative culture; asset management decision.

Introduction

Asset management decisions play an important role in ensuring the optimisation of asset value and sustainability in government (Atolagbe & McNeil, 2023). Asset management not only focuses on operational efficiency, maintaining physical assets and meeting the needs of the community or surrounding environment. It can also involve broader strategies such as portfolio diversification, meeting standards and adapting to applicable dynamics and regulations (Komljenovic et al., 2019). With an integrated approach, regional governments can improve asset performance, manage risks and create relevant long-term added value and sustainability (Song & Zhao, 2024).

Effective asset management decisions require a collaborative culture that integrates regulatory compliance, technology adoption and human resource capacity to achieve the organisation's strategic goals. A collaborative culture can encourage cross-functional cooperation and transparency, so that regulations can be understood and comply with established standard quality (Goetz & Hooper, 2024). Technology adoption also plays an important role in influencing

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effective and efficient asset management decisions (Attencia & Mattos, 2022; Erguido et al., 2019). However, technology adoption requires a conducive organisational culture supported by quality resources who are skilled at using technology. In addition, a collaborative culture strengthens the development of human resource capacity through increased knowledge, training and innovation in maintaining the effectiveness of asset management decisions (Kucharska & Bedford, 2023).

Asset management decisions in regional governments in Indonesia have been well implemented and have followed the national standards that have been applied. However, in its implementation, it often faces challenges in terms of accuracy, openness and utilisation of technology (Kim et al., 2023). This is caused by various factors such as limited human resource capacity, inadequate technological infrastructure and organisational culture that does not fully support the principles of transparency (Wajdi et al., 2020). Therefore, it is the government's responsibility to ensure that asset management is carried out with the correct procedures based on the principles of good governance.

This study explores the integration of regulatory compliance, technology adoption and human resource capacity to influence asset management decisions through a collaborative culture by implementing the principles of good governance that are transparent, accountable and emphasise community participation and equality. Transparency in asset management requires accuracy, timeliness and accessibility of information to ensure accountability in building public trust (Atolagbe & McNeil, 2023).

This study was conducted to complement the limitations of the literature related to factors that influence asset management decisions. Most previous studies have focused more on the technical and procedural aspects of reporting (Kortelainen et al., 2015), without considering institutional dynamics (Maroun & De Ricquebourg 2024), organisational culture (Yansahrita, 2019) and technology adoption in driving innovation (Makhanya et al., 2022) and regulatory compliance (Lima & Costa, 2019). By combining a multidimensional approach that includes these factors, this study not only enriches the existing literature but also offers a new perspective that researchers and academics can use as a reference in future studies. Furthermore, it becomes an important insight for asset management decision reform in achieving better governance.

The findings of this study provide significant implications for regional governments seeking to improve transparency in asset management. By identifying conditions under which collaborative culture can mediate the relationship between predictor variables and response variables, it provides a practical framework for strengthening asset management governance and accountability. In addition, this study is in line with global efforts to promote transparency, accountability and good governance of regional governments in Indonesia.

Literature review

Underpinning theory

The theory of planned behaviour is one of the theories underlying this research. The theory was developed by Ajzen in 1991 and is used to understand regulatory compliance (Cammarata et al., 2024). In the context of asset management decisions, regulatory compliance can be linked to the attitude of the organisation that upholds applicable norms, and the extent to which the organisation is able to meet regulatory requirements (Lima & Costa, 2019). The second theory is the technology acceptance model introduced by Davis in 1989, which is used to explain the factors of technology adoption in organisations (Alajmi et al., 2023). This theory states that the acceptance and use of technology are influenced by perceived usefulness and perceived ease of use (Su et al., 2024). In this study, this theory is used to understand the factors that drive the adoption of technology implemented by regional governments (Senadheera et al., 2024).

The third theory, namely the resource-based view, was developed by Barney in 1991, emphasising that an organisation's competitive advantage can be obtained from human resources (Monson, 2024). In this context, the capacity of human resources in a government includes skills, knowledge and competencies that are very important for effective asset management. This theory explains that increasing human resource capacity can contribute to better asset management decisions and governance. The fourth theory, namely institutional theory, was developed by DiMaggio and Powell in 1983, emphasising the importance of social norms, values and rules in shaping organisational behaviour (Surachman, 2020). In the context of organisational governance and collaborative culture, this theory explains that government organisations can be influenced by institutional norms and regulatory pressures to behave according to expected standards (Chen & Filieri, 2024). Thus, a strong collaborative culture can strengthen the relationship between human resource capacity, technology adoption and regulatory compliance with government asset management decisions.

Regulatory compliance, technology adoption and human resource capacity on collaborative culture

Regulatory compliance is a fundamental element of good organisational governance. Regulatory compliance refers to the extent to which an organisation complies with established rules, guidelines and standards (Lima & Costal, 2019). Organisational governance and collaborative culture encompass the values, norms and practices that guide organisational behaviour towards openness, accountability and compliance with rules. The relationship between regulatory compliance and collaborative culture becomes particularly relevant when applied in the context of developing countries, where governance and oversight dynamics are often challenged by limited resource capacity, bureaucratic culture and resistance to change (Barbour & James, 2015).

Several studies have shown that an organisation's collaborative culture tends to have a higher level of regulatory compliance, which ultimately increases transparency, accountability and efficiency in public asset management decisions (Manase, 2015). A collaborative culture encourages better communication, more effective inter-unit coordination and a proactive approach to regulatory changes. However, this phenomenon has not been explored in-depth, where regulatory compliance is often seen as a mere administrative effort with no real impact on improving the quality of governance:

H1: Regulatory compliance has a positive effect on collaborative culture.

The technology adoption factor is considered very effective and can strengthen the collaborative culture in the public sector (Campion et al., 2022). The adoption of technology in government has become a major focus in efforts to improve the efficiency and transparency of public governance. Technology adoption refers to the acceptance and use of new technologies, such as digital-based asset management information systems and big data analytics, to support better decision-making and more effective management (Tan et al., 2024). Meanwhile, collaborative culture reflects the values, norms and structures that guide organisational behaviour towards openness, accountability and cooperation between various parties. The relationship between technology adoption and collaborative culture is becoming increasingly important in efforts to improve government effectiveness and efficiency often hampered by a rigid bureaucratic culture, limited human resource capacity and resistance to change:

H2: Technology adoption has a positive effect on collaborative culture.

Some research literature still focuses on technical and structural issues in governance, such as regulatory compliance and operational efficiency, without further exploring how human resource capacity building can directly affect collaborative culture. In addition, the lack of integration between human resource capacity, development strategies and organisational culture creates in practice gap that limits our understanding of how these factors can work synergistically to achieve better asset management goals (Raddatz, 2024):

H3: Human resource capacity has a positive effect on collaborative culture.

Regulatory compliance, technology adoption and human resource capacity on asset management decisions

Asset management decisions are key elements of good governance in ensuring transparent management of public assets. Regulatory compliance and technology adoption are important factors that significantly affect the level of transparency in asset management decisions. The relationship between regulatory compliance and technology adoption on asset management decisions is becoming increasingly important in facing challenges related to compliance, technology infrastructure and effective governance practices (Attencia & Mattos, 2022). The urgency of this research is very important in strengthening asset management decisions in presenting good governance. This research can offer a new perspective on how regional governments can overcome transparency issues that are often exacerbated by structural and institutional weaknesses (Seetharam et al., 2020). In digital advancements, technology is seen not only as a tool but also as an instrument to achieve a higher level of regulatory compliance. Regulatory compliance supported by innovative technology can create more transparent, responsive and accountable asset management decisions (Broek & Veenstra, 2018):

H4: Regulatory compliance has a positive effect on asset management decisions.

H5: Technology adoption has a positive effect on asset management decisions.

This study presents an integrative approach by combining important elements of human resource capacity and collaborative culture to influence accountable asset management decisions. This study not only fills the gap in the existing literature but also offers an innovative strategic framework for policy makers to design more effective and contextual human resource development strategies and governance reforms. By highlighting the synergy between human resource capacity and collaborative culture, this study makes an important contribution in improving the quality of governance and offers evidence-based guidance to create more transparent, efficient and accountable asset management decisions (Kumar et al., 2021):

H6: Human resource capacity has a positive effect on asset management decisions.

H7: Collaborative culture has a positive effect on asset management decisions.

Collaborative culture as a mediator of asset management decisions

Asset management decisions are important indicators of transparent governance and accountability in the public sector. This transparency can be achieved through a combination of several key factors including regulatory compliance, technology adoption and human resource capacity. Regulatory compliance refers to compliance with standards and guidelines established by the government to ensure accurate and transparent reporting (Oguejiofor et al., 2023). Technology adoption in the use of digital asset management information systems plays a role in facilitating a more efficient and secure reporting process (Ebrahim & VandenBerg, 2024). Meanwhile, human resource capacity includes the knowledge, skills and competencies of individuals in managing public assets and complying with existing regulations. The relationship between these three variables and asset management decisions is further strengthened through collaborative culture as a mediator variable.

In the Indonesian context, the challenges of regulatory gaps, technological limitations and human resource capacity often hamper reform, and understanding the synergy between these factors is essential (Latzer, 2013):

H8: Regulatory compliance has a positive effect on asset management decisions through a collaborative culture.

H9: Technology adoption has a positive effect on asset management decisions through a collaborative culture.

H10: Human resource capacity has a positive effect on asset management decisions through a collaborative culture.

Figure 1 shows the theoretical framework for evaluating a more complex model involving the mediating variables such as collaborative culture, in the relationship between regulatory compliance, technology adoption and human resource capacity in asset management decisions.

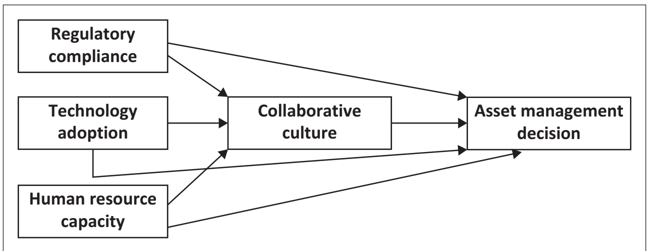

FIGURE 1: Conceptual framework of the study.

Methodology

Design

The research design used in this study is a quantitative approach through a survey method. The survey was conducted on regional government employees from the South Sulawesi province in Indonesia, in an effort to strengthen transparency and accountability in government asset management decisions that apply the principles of good governance. This study was designed with a scientific and systematic methodological approach by combining quantitative approaches to gain a comprehensive understanding of asset management decisions and the factors that influence them. Data collection was carried out through surveys, in-depth interviews and literature analysis of the documents of the government employees from the South Sulawesi province in Indonesia related to asset management decisions.

Data collection

Data collection was carried out from March 2024 to August 2024 with an online survey distributed to respondents using Google Forms. To determine the representative sample count of the population, a sample size determination formula was used according to Isaac and Michael (1981). This formula is one of the methods commonly used in social research to determine the ideal sample size based on a specific population size, with a predetermined margin of error and confidence level. By referring to this approach, the sample size in this study was determined rationally and proportionally, so that the results obtained can be generalised with a high level of trust in the target population. The number of respondents who became the research sample and participated in this survey was 320 employees, from a total population of 1150 employees in the regional government of the South Sulawesi province, Indonesia.

Data analysis

Data analysis in this study was performed using descriptive statistics and inferential statistical analysis. Descriptive analysis is used to describe the distribution of the respondents' answers through measures such as mean and standard deviation. Meanwhile, inferential statistics were analysed using the structural equation modelling (SEM) approach based on partial least square (SEM-PLS). The SEM-PLS method was chosen because it is able to analyse data that are not normally distributed, considering that SEM-PLS is included in the category of non-parametric statistics (Jony & Serradell-López, 2021). The SEM-PLS is applied to develop a new model that involves intervening variables in the structure of the model, in order to analyse the relationship between variables (Sarstedt et al., 2021). In addition, this model is also suitable for use in complex models with a limited number of samples (Hair et al., 2019).

Ethical considerations

Ethical approval to conduct this study was obtained from Institut Bisnis dan Keuangan (IBK) Nitro Research Ethics Committee (Ref: 273/ECE-1/IBKN/XII/2024).

Results

Descriptive statistics

The descriptive data in Table 1 show that the respondents have important characteristics in the research variables. Productive age, long work experience, good educational qualifications and gender diversity can provide broad insights into regulatory compliance, technology adoption and human resource capacity influencing asset management decisions through collaborative culture in government organisations. Respondents with higher educational qualifications and adequate work experience have the potential to more easily adopt new technologies and comply with regulations that can ultimately improve asset management decisions. The distribution of the respondents in this study reflects significant diversity in age, gender, education level and length of service. The majority of the respondents are in the productive age of 31–40 years as much as 43.8%, with a male dominance of 64.3%. In terms of education, most respondents (38.1%) have a bachelor's degree and 21.3% have a master's, indicating a fairly high level of academic competence to support the relevance of the answers in this study. In addition, the respondents' work experience also varies, with the majority (38.8%) having a work period of 5–10 years. This combination of productive age, education level and work experience provides high credibility to the data collected and ensures the quality of the analysis.

Measurement model

To estimate the main research variables, the author uses important indicators based on previous research as shown in Table 2.

Each of these indicators will be constructed using a 5-point Likert scale ranging from scores of (1) 'strongly disagree', (2) 'disagree', (3) 'uncertain', (4) 'agree' and (5) 'strongly agree' (Mumu et al., 2022), which will be chosen by respondents according to what they experience.

TABLE 1: Respondent description.

Description	Quantity	%
Age (years)		
18–30	95	29.7
31–40	140	43.8
41–50	80	25.0
> 50	5	1.6
Total	**320**	**100.0**
Gender		
Male	225	64.3
Female	95	35.7
Total	**320**	**100.0**
Education		
High School	45	14.1
Diploma	85	26.6
Bachelor's degree	122	38.1
Master's degree	68	21.3
Total	**320**	**100.0**
Length of employment (years)		
1–5	86	26.9
5–10	124	38.8
10–15	89	27.8
> 15	51	6.6
Total	**320**	**100.0**

TABLE 2: Structure composition, items and sources of the extended theory of planned behaviour model.

Construct	Indicator	Measurement item	Sources
Regulatory compliance	RC1	Understanding of applicable regulations	Nasirpouri Shadbad and Biros, 2021
	RC2	Implementation of compliance procedures	Arnold et al., 2011
	RC3	Compliance audit and evaluation	Arena and Azzone, 2009
Technology adoption	TA1	Perceived usefulness	Hsia et al., 2014
	TA2	Perceived ease of use	Hutchinson et al., 2008
	TA3	Organisational readiness	Nordin, 2012
Human resource capacity	HRC1	Technical competencies	Bish et al., 2014
	HRC2	Work experience	Petchrompo and Parlikad, 2019
	HRC3	Training and development	Taji et al., 2023
Collaborative culture	CC1	Teamwork	Titus and Hoole, 2021
	CC2	Open communication	Albu and Flyverbom, 2019
	CC3	Trust between members	Colquitt and Baer, 2023
	CC4	Participation in decision-making	Li et al., 2024
Asset management decision	AMD1	Asset needs planning	Sarbini et al., 2021
	AMD2	Asset utilisation and use	Lee and Lee, 2023
	AMD3	Asset supervision and control	Lima and Costa, 2019

Source: Please see the full reference list of this article: Gunawan, H., Husni, M.F., Qur'ani, B., Ashary, M., Arman, A., & Afriyani, A. (2025). A holistic framework for asset decision-making: Organisational divers and collaborative culture. *South African Journal of Business Management*, *56*(1), a5101. https://doi.org/10.4102/sajbm.v56i1.5101 for more information

RC, regulatory compliance; TA, technology adoption; HRC, human resource capacity; CC, collaborative culture; AMD, asset management decisions.

The measurement model uses indicators for each variable as shown in Table 2. These indicators are identified in analysing the relationship between variables including regulatory compliance, technology adoption, human resource capacity, collaborative culture and asset management decisions with a multidimensional approach. Regulatory compliance creates a framework that ensures the implementation of standards and procedures and provides a basis for audits and evaluations that support transparency. The adoption of technology plays an important role in facilitating the asset management process through operational efficiency and data-based analysis. Perceived usefulness and perceived ease of use of technology encourage members of the organisation to be more open in collaboration. Meanwhile, human resource capacity provides a strong foundation for supporting all processes related to asset management decisions. Technical competence, work experience and ongoing training not only improve individual abilities but also strengthen the collaborative culture needed to achieve optimal asset management decisions. A collaborative culture that includes teamwork, open communication, trust between members and participation in decision-making plays a significant mediating role in the relationship between these variables. Furthermore, an analysis of the reliability, validity and model fit of each research variable is as shown in Table 3.

Table 3 shows that all constructs in this study meet the reliability and validity criteria. The rho_A and composite reliability (CR) values for all constructs are above the minimum limit of 0.7, indicating strong internal consistency (Hair et al., 2019). The average variance extracted (AVE) values also show good results, with all constructs having values above 0.5, indicating that more than 50% of the variance of each construct can be explained by its indicators. The asset management decision construct has the highest CR value of 0.885 and AVE of 0.720, confirming the strength and consistency of measurement for the construct (Sarstedt et al., 2021).

The variance inflation factor (VIF) value indicates that there are no significant multicollinearity problems in the model. All VIF values for the relationships between constructs are below the maximum limit of 5, with the highest value of 1.999 for the relationship between human resource capacity and asset management decision. This confirms that each construct has an independent contribution to explaining the relationship between variables in the model. In addition, the relationship between collaborative culture and asset management decision shows a relatively low VIF value of 1.798, reflecting the unique contribution of collaborative culture to asset management decision.

Evaluation of model fit based on the standardized root mean square residual (SRMR) value and other indices shows that this research model is in accordance with the data obtained. The SRMR value of 0.700 is within the acceptable range (< 0.08), indicating that the difference between the observed and predicted correlation matrices is relatively small. Other indicators, such as d_G and d_{uls}' further strengthen the conclusion that this model has a good overall level of fit (Sarstedt et al., 2021). These findings support the hypothesis that factors such as regulatory compliance, technology adoption, human resource capacity and collaborative culture have a significant influence on asset management decision. Furthermore, discriminant validity evaluation by Fornell and Lacker criteria and Heterotrait-Monotrait (HTMT) results are carried out as shown in Table 4.

Table 4 displays discriminant validity through the Fornell-Larcker and HTMT criteria. The Fornell-Larcker criterion is used to evaluate discriminant validity by comparing the square root of the AVE value for each construct with the correlation between the construct and other constructs. The results show that the diagonal value (square root of AVE) for all constructs is greater than the correlation between constructs (off-diagonal value). For the asset management decision variable, the AVE root value of 0.849 is greater than all its correlation values with other constructs. This confirms that each construct has good discriminant validity, with the construct being able to distinguish itself from other constructs significantly (Hair et al., 2022).

Evaluation through HTMT provides an additional measure of discriminant validity, with the general criterion that the HTMT value must be less than 0.9 to indicate adequate validity. In the results of this study, all HTMT values were below this threshold. The HTMT value between collaborative culture and asset management decision is 0.801, which reflects a good relationship without discriminant validity issues. These values confirm that the constructs in the model do not have high multicollinearity (Hair et al., 2019). The results of this discriminant validity analysis provide strong evidence that each construct in the model has theoretical and operational distinctions. This supports the argument that factors such as human resource capacity, regulatory compliance and adoption of technology play a unique roles in influencing asset management decisions through collaborative culture. With good discriminant validity, the research model can be relied on to explore the causal relationships between constructs. This strengthens the relevance of the research model in providing practical and significant insights for policy development that focuses on transparency and accountability in asset management decisions.

Structural model and hypothesis testing

Figure 2 shows that the analysis results show a strong relationship between the main variables that influence asset management decisions. This analysis process includes the validity of the construct through indicator measurements (outer model) and structural relationships between the construct (inner model). The validity and reliability values in the model show consistency and reliability in measuring latent variables, which are a strong basis for drawing research conclusions (Sarstedt et al., 2021).

Table 5 presents the outcomes of hypothesis tests related to a study on the relationship between different constructs. The path coefficients, *t*-statistics, and *p*-values for each hypothesis are displayed, along with the results indicating whether the hypothesis is accepted or not. Key additional metrics such as the confidence intervals (CIs), VIF, *R*-squared and *Q*-squared values for each relationship are also depicted.

The results of hypothesis testing as presented in Table 5 show that all hypotheses that connect factors including regulatory compliance, technology adoption and human resource capacity with collaborative culture, that is hypotheses H1, H2 and H3 are accepted. For example, human resource capacity has the most significant influence on collaborative culture with a path coefficient of 0.283 (t = 4.034, p < 0.001). This shows that adequate human resource capacity is the main driver of creating a collaborative culture. Furthermore, hypothesis testing of regulatory compliance, technology adoption and human resource capacity variables on asset

TABLE 4: Discriminant validity evaluation by Fornell and Lacker criteria and Heterotrait-Monotrait results.

Criteria and results	HRC	CC	RC	TA	AMD
Fornell and Lacker criteria					
HRC	0.810	-	-	-	-
CC	0.582	0.787	-	-	-
RC	0.603	0.568	0.799	-	-
TA	0.596	0.549	0.560	0.763	-
AMD	0.607	0.655	0.553	0.535	0.849
HTMT results					
HRC	-	-	-	-	-
CC	0.748	-	-	-	-
RC	0.825	0.738	-	-	-
TA	0.868	0.760	0.817	-	-
AMD	0.786	0.801	0.723	0.735	-

HTMT, Heterotrait-Monotrait; HRC, Human resource capacity; CC, Collaborative culture; RC, Regulatory compliance; TA, Technology adoption; AMD, Asset management decision.

TABLE 3: Reliability, validity and overall model fit assessment based on structural equation modelling-partial least square results.

Variable	rho_A	Composite reliability (CR)	AVE	VIF Values		Overall model fit assessment and p-values at 0.5 confidence intervals (CIs)		
				CC	AMD	SRMR	d_G	d_{uls}
HRC	0.745	0.851	0.655	1.855	1.999	0.700	0.265	0.667
CC	0.814	0.866	0.620	-	1.798	-	-	-
RC	0.726	0.841	0.638	1.741	1.871	-	-	-
TA	0.667	0.806	0.583	1.721	1.815	-	-	-
AMD	0.812	0.885	0.720	-	-	-	-	-

AVE, average variance extracted; VIF, variance inflation factor; SRMR, standardized root mean square residual; HRC, Human resource capacity; CC, Collaborative culture; RC, Regulatory compliance; TA, Technology adoption; AMD, Asset management decision.

management decisions shows that H4 and H6 are accepted. Meanwhile, hypothesis H5 is not accepted, showing that technology adoption does not have a direct influence on asset management decisions with a path coefficient of 0.108 (t = 1.876, p > 0.001). Furthermore, the collaborative culture factor directly has a significant effect on asset management decisions with a path coefficient of 0.379 (t = 6.403, p < 0.001). Thus, hypothesis H7 is accepted. This shows the importance of collaborative culture in asset management decisions of a government.

The mediation hypothesis connecting regulatory compliance factors, technology adoption and human resource capacity with asset management decisions through collaborative culture shows that the results of hypothesis testing from H8, H9 and H10 are accepted. For example, the mediation effect of human resource capacity through collaborative culture on asset management decisions shows a significant influence with a path coefficient of 0.107 (t = 3.452, p < 0.001). This result underlines that collaborative culture functions as an effective mediator to strengthen the relationship between these factors in asset management decisions. This finding indicates that increasing collaborative culture can be an important strategy in optimising the influence of regulation, technology and human resources on asset management decisions based on transparency and accountability.

The R-square results show that the model is able to explain 43.8% of the variance in collaborative culture and 52.0% of the variance in asset management decisions, which shows strong predictive relevance with Q-square values of 0.252 and 0.363, respectively. Although hypothesis H5 does not have a significant direct influence between technology adoption and asset management decision, it shows that

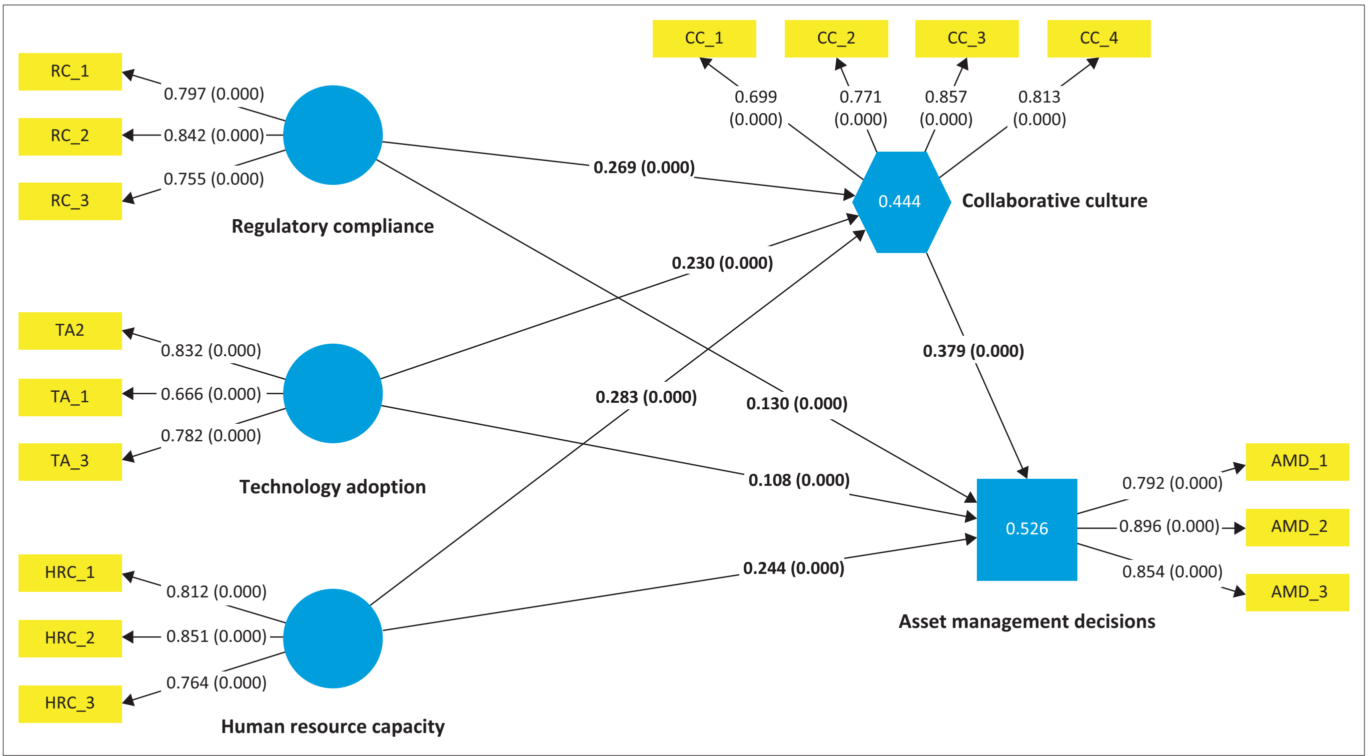

FIGURE 2: The different paths of influence from statistical results.

TABLE 5: Hypothesis testing results.

Hypothesis	Path coefficients	*t*-statistics	*p*-value	Result	97.5 % CI	VIF	*R*-square	*Q*-square
RC → CC	0.269	3.774	0.000	H1 accepted	0.415	1.741	0.438 (CC)	0.252 (CC)
TA → CC	0.230	3.790	0.000	H2 accepted	0.355	1.721	-	-
HRC → CC	0.283	4.034	0.000	H3 accepted	0.419	1.855	-	-
RC → AMD	0.130	2.281	0.023	H4 accepted	0.239	1.871	-	-
TA → AMD	0.108	1.876	0.061	H5 not-accepted	0.218	1.815	-	-
HRC → AMD	0.244	4.103	0.000	H6 accepted	0.368	1.999	0.520 (AMD)	0.363 (AMD)
CC → AMD	0.379	6.403	0.000	H7 accepted	0.495	1.798	-	-
RC → CC → AMD	0.102	3.053	0.002	H8 accepted	0.175	-	-	-
TA → CC → AMD	0.087	3.269	0.001	H9 accepted	0.142	-	-	-
HRC → CC → AMD	0.107	3.452	0.001	H10 accepted	0.172	-	-	-

CI, confidence intervals; VIF, variance inflated factor; RC, Regulatory Compliance; TA, technology adoption; HRC, human resource capacity; CC, collaborative culture; AMD, asset management decisions.

technology adoption requires collaborative culture intervention that has a significant impact on asset management decision. The practical implications of this study emphasise that policy makers must strengthen collaborative culture as a strategic priority, accompanied by the development of technology and human resource capacity to improve accountability in asset management decision.

Discussion

Theoretical implications

The findings of the study provide significant theoretical contributions to the asset management literature by explaining the multidimensional relationship between regulatory compliance, technology adoption, human resource capacity and collaborative culture with asset management decisions. Collaborative culture plays a mediating role in the relationship between regulatory compliance, technology adoption and human resource capacity, towards asset management decisions, strengthening the Social Exchange theory (Blau, 2017), which states that mutually supportive and collaborative working relationships produce better outcomes in organisations. In addition, this study supports the Institutional Isomorphism theory (DiMaggio & Powell, 1983), which highlights that regulatory compliance strengthens the cooperative structure in organisations to achieve legitimacy and efficiency. The results of the hypothesis testing indicate that regulatory compliance, technology adoption and human resource capacity significantly influence collaborative culture (H1, H2, H3). The collaborative culture is then shown to contribute greatly to asset management decisions (H7). This extends the literature on asset management by showing that internal organisational variables such as collaborative culture can be a catalyst for optimising asset management, supporting previous studies (Li et al., 2024; Titus & Hoole, 2021). These findings provide a theoretical justification for the integration of a cultural approach into asset management studies that often focus too much on technical and regulatory factors alone. Failure of technology adoption to directly affect asset management decisions (H5 is not accepted) provides new insight that technology is not effective enough without supportive collaboration mechanisms. These findings confirm the importance of the Technology-Organisation-Environment theory (N'Dri & Su, 2024), which states that the success of technology depends on a supportive organisational environment. Thus, this study contributes to a more holistic conceptual framework for asset management decisions and highlights the importance of the role of collaborative culture as the most important mediating factor.

Practical contributions

This study provides significant practical contributions to asset management, especially for public and private sector organisations facing complexities in asset management decision-making. Firstly, the results show that regulatory compliance has a direct impact on collaborative culture and asset management decisions. Organisations must ensure compliance with existing regulations through the implementation of clear policies, regular training, and periodic audits. By strengthening regulatory compliance, organisations not only minimise legal risks but also create a more collaborative work environment.

Secondly, technology adoption does not have a direct impact on asset management decisions but is significant when mediated by collaborative culture, offering practical insights for organisations to invest in technology infrastructure that supports teamwork. Technologies such as asset management systems and data-driven analytics should be integrated with collaborative work practices to increase effectiveness. Organisations should also build an organisational culture that supports the use of technology through technology training and the creation of a work environment that supports innovation.

Thirdly, the results also highlight the importance of human resource capacity as a factor that significantly influences collaborative culture and asset management decisions. Organisations must invest in the development of technical and managerial competencies through regular training, career development programmes and the formation of cross-functional teams. These steps will improve interpersonal skills, trust among team members and participation in decision-making. Thus, this study provides practical guidance that can be implemented by organisations to optimise asset management through a multidimensional approach that includes regulation, technology, human resources and organisational culture.

Limitations of the study

While this study provides significant information on the relationships between regulatory compliance, technology adoption, human resource capacity, collaborative culture and asset management decisions, there are several limitations that need to be acknowledged. Firstly, the study design is cross-sectional, which only captures the relationships between variables at a single point in time. This approach limits the ability to identify causal relationships in greater depth, given that variables such as collaborative culture and decision-making can evolve dynamically over time. Secondly, the geographic scope and context of the study are limited to a specific sample, which can affect the generalisability of the results. Thirdly, additional potential variables were not included in the research model. For example, external factors such as market pressures, political dynamics or rapid technological developments may influence the relationships between the factors analysed in this study.

Future research

This approach will provide a deeper insight into how factors such as regulatory compliance or collaborative culture evolve and influence asset management decisions in a dynamically changing organisational context. Further research could also integrate additional moderating variables, such as leadership style or organisational digitalisation level, to identify conditions under which the relationships between variables become stronger or weaker. Future research could also expand the geographic and sectoral scope to increase the generalisability of these findings. Asset management contexts in public, private or non-profit organisations across countries can differ significantly, especially in terms of regulation, technology adoption and organisational culture development. Cross-cultural research is also important to explore how differences in work culture and social norms influence the effectiveness of collaborative culture and asset management decisions. Future research with this approach is expected to enrich the literature and provide broader practical contributions.

Conclusion and recommendations

The results of the study highlight that regulatory compliance, technology adoption and human resource capacity play an important role in supporting a collaborative culture that ultimately affects the quality of asset management decisions. The findings show that collaborative culture plays a significant mediating role, strengthening the relationship between the response variable and the predictor variable in asset management decision-making in the regional government of the South Sulawesi province, Indonesia. This confirms the importance of a multidimensional approach to asset management, in line with previous literature on social exchange theory and institutional isomorphism.

The results of the hypothesis testing show that regulatory compliance makes a significant direct contribution to collaborative culture, which supports cross-functional collaboration through the implementation of clear standards and procedures. Likewise, technology adoption and human resource capacity also contribute positively to collaborative culture, emphasising the importance of technology and competent human resources to build a collaborative work environment. However, the adoption of technology does not have a direct effect on asset management decisions, indicating that technology is only effective when supported by a strong collaboration mechanism. Meanwhile, the collaborative culture variable has a direct and significant effect on asset management decisions, indicating that collaboration between team members allows for a more transparent, accurate and evidence-based decision-making process. These findings support the importance of building a collaborative work culture to optimise the use of regional government assets in Indonesia. In addition, the indirect relationship through the collaborative culture indicates that this variable is an important catalyst that links organisational factors with quality decision-making.

Thus, overall this study provides significant theoretical and practical contributions in the asset management decisions of regional government organisations in the South Sulawesi province, Indonesia. The findings emphasise that local governments must focus on strengthening the collaborative culture through improving regulatory compliance, using appropriate technology and developing human resource capacity. By adopting this approach, local governments can ensure that asset management decisions are not only efficient but also support accountability and sustainability, making a major contribution to the asset management literature and modern local government practices. In the future, this study will be expanded to more countries or regions to expand the scope of the study.

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Competing interests

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Authors' contributions

H.G., M.F.H., A. Arman and B.Q. contributed to the conceptualisation, design and methodology of the study. M.A. and A. Afriyani performed material preparation, data collection and analysis. H.G. wrote the first draft of the manuscript. All the authors commented on the earlier versions and read and approved the final manuscript.

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Data availability

The datasets generated and/or analysed during the current study are available from the corresponding author, H.G., upon reasonable request.

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