SIMBA

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THE EFFECT OF MANAGERIAL COMPETENCE, DIGITAL LITERACY, AND GOOD COOPERATIVE GOVERNANCE ON MANAGEMENT BOARD PERFORMANCE IN MERAH PUTIH VILLAGE AND URBAN VILLAGE COOPERATIVES: EVIDENCE FROM SEMARANG REGENCY, INDONESIA

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Abstract

The Merah Putih Village and Urban Village Cooperative program (Koperasi Desa/Kelurahan Merah Putih, KDKMP) is a strategic Indonesian policy initiative designed to strengthen community-based economic institutions. Its effectiveness depends not only on institutional establishment and resource support but also on the capacity of cooperative management boards to manage their organizations professionally, adaptively, transparently, and through the effective use of digital technologies. This study examines the effects of managerial competence, digital literacy, and Good Cooperative Governance on management board performance in KDKMP units in Semarang Regency, Indonesia. The study adopts a quantitative explanatory design covering 235 village and urban-village units through a census-based approach, with one key management-board respondent from each cooperative. The questionnaire uses a five-point Likert scale and comprises 40 items. Digital literacy is adapted from the five competence areas of DigComp 3.0, whereas cooperative governance is assessed through transparency, accountability, responsibility, independence, and fairness. For preliminary methodological review, the analytical model was assessed using an initial dataset of 235 observations. The assessment yielded Cronbach's alpha values ranging from 0.922 to 0.942, an adjusted R-squared of 0.519, and an F-statistic of 85.084 ($p < 0.001$). Managerial competence (beta = 0.282), digital literacy (beta = 0.292), and Good Cooperative Governance (beta = 0.382) all exhibited positive relationships with management board performance. The study's novelty lies in integrating managerial, digital, and governance capabilities within a single framework to explain management board performance during the early operationalization of KDKMP. These statistical estimates are presented for methodological review and will be replaced by verified field-survey results in the final empirical manuscript.

Keywords: *Digital Literacy; Good Cooperative Governance; Managerial Competence; Management Board Performance; Merah Putih Village Cooperative*.

A. INTRODUCTION

Cooperatives occupy a strategic position in Indonesia's economic system because they combine the functions of a business enterprise with the principles of member participation, economic democracy, and mutual benefit creation. In local economic development, cooperatives can connect production, distribution, financing, marketing, and community services. This member-based character makes institutional quality and managerial capability as important as capital and business infrastructure.

The Government of Indonesia reinforced this agenda through Presidential Instruction No. 9 of 2025 on the Acceleration of the Establishment of Merah Putih Village/Urban Village Cooperatives. The policy directs the establishment, development, and revitalization of cooperatives at the village and urban-village levels as instruments for village-led economic development and more equitable growth. Following legal establishment, KDKMP units face a more demanding operational phase: developing feasible business units, managing members and transactions, preparing reports, maintaining accountability, and building sustainable economic networks.

Semarang Regency provides a relevant empirical setting. Regional planning documents identify 19 districts comprising 208 villages and 27 urban villages. The Semarang Regency Government has also issued Regent Regulation No. 22 of 2025 on the Administration of Merah Putih Village/Urban Village Cooperatives, covering establishment, empowerment, protection, monitoring, evaluation, reporting, capacity building, and supervision. The regional cooperative information system also lists KDKMP units as real-sector cooperatives. These developments indicate that the policy challenge has shifted from institutional establishment toward effective management and operational performance.

Management board members are central actors because operational decisions, task allocation, administration, business-unit development, member services, and organizational accountability fall within their managerial responsibilities. Management board performance during the early phase of KDKMP deserves specific examination because financial indicators from newly operating cooperatives may not yet adequately reflect management quality. Analysis at the board-member level makes it possible to assess task performance, work quality,

adaptability, problem solving, and accountability before organizational performance becomes stable.

Managerial competence is the first factor expected to influence management board performance. In the cooperative context, managerial competence encompasses planning, organizing, decision making, leadership, coordination, supervision, and evaluation. Fahmi and Farida (2025) report a strong direct relationship between managerial competence and cooperative performance. Their findings reinforce the argument that the ability of management boards to structure and deploy organizational resources is a prerequisite for organizational effectiveness.

The second factor is digital literacy. Circular Letter of the Minister of Cooperatives No. 3 of 2025 specifically addresses digitalization platforms for KDKMP, making the digital capabilities of management board members increasingly relevant. This study does not equate digital literacy with the mere availability of applications. Digital literacy is understood as an individual's ability to search for and evaluate information, manage data, communicate and collaborate through digital technologies, create or use digital content, maintain digital safety and well-being, and solve technology-related problems. The measurement framework adapts DigComp 3.0, which retains five broad competence areas while systematically integrating artificial intelligence, cybersecurity, digital rights and responsibilities, well-being, and the ability to address misinformation (Cosgrove & Cachia, 2025).

The third factor is Good Cooperative Governance (GCG). Cooperative governance differs from conventional corporate governance because cooperative members are simultaneously owners and users of cooperative services. The authority delegated to the management board therefore needs to be balanced by transparency, accountability, responsibility, independence, and fairness. Marlina (2019) and Budiyah and Suyono (2020) provide evidence that Good Cooperative Governance dimensions are positively associated with cooperative performance. More recent work continues to position governance as a critical factor in cooperative performance and the strengthening of member participation (Sianipar et al., 2026).

Research on cooperative performance has expanded, yet several relevant gaps remain. Fahmi and Farida (2025) examine managerial competence and entrepreneurial orientation in relation to cooperative performance. Sari and Parsaulian (2026) investigate Islamic financial

literacy, digitalization, Good Cooperative Governance, and the performance of Islamic cooperatives. Recent legal scholarship also emphasizes the need for stronger governance arrangements for village cooperatives (Kartika et al., 2026). Although these studies are important, they do not specifically integrate individual managerial capability, individual digital capability, and governance capability to explain the performance of management boards in KDKMP units that are still in an early operational phase.

To address this gap, the present study develops a Human-Digital-Governance Capability Model. Managerial competence is conceptualized as managerial capability, digital literacy as digital capability, and Good Cooperative Governance as governance capability. The three capabilities are examined jointly as determinants of management board performance. This positioning distinguishes the study from research that treats cooperative digitalization solely as organization-level technology adoption and from studies that use financial or aggregate organizational performance as the primary outcome.

Accordingly, this study aims to examine the effects of managerial competence, digital literacy, and Good Cooperative Governance on the performance of management boards of Merah Putih Village/Urban Village Cooperatives in Semarang Regency. Theoretically, the study extends the application of the Resource-Based View, Agency Theory, and Stewardship Theory to newly established cooperatives. Practically, the findings are expected to inform local-government and KDKMP initiatives related to management training, digital capacity building, and governance mechanisms.

Table 1. Research Gap and Positioning of the Study

Study	Primary Focus	Research Gap / Positioning
Fahmi & Farida (2025)	Entrepreneurial orientation; managerial competence; innovation; cooperative performance	Does not focus on KDKMP and does not integrate digital literacy and GCG at the management-board level.
Sari & Parsaulian (2026)	Islamic financial literacy; digitalization; GCG; Islamic cooperative performance	Examines organization-level digitalization, Islamic cooperatives, and cooperative-level performance as the outcome.

Study	Primary Focus	Research Gap / Positioning
Sianipar et al. (2026)	Good Cooperative Governance; member participation; cooperative performance	Emphasizes governance and member participation but does not examine the human-digital capabilities of KDKMP management boards.
Kartika et al. (2026)	Regulatory reconstruction; Good Cooperative Governance; village cooperatives	A normative legal study rather than an empirical examination of management-board behavior or performance.
This study	Managerial competence; digital literacy; GCG; management board performance	Integrates human, digital, and governance capabilities during the early operationalization of KDKMP in Semarang Regency.

Source: Literature synthesis by the author, 2026

Theoretical Background and Hypothesis Development

Resource-Based View

The Resource-Based View (RBV) posits that differences in organizational performance may arise from internal resources and capabilities that are valuable, rare, difficult to imitate, and difficult to substitute (Barney, 1991). In knowledge-intensive organizations, such resources extend beyond physical assets to include knowledge, skills, experience, organizational processes, and the ability to combine resources effectively.

In this study, managerial competence and digital literacy are conceptualized as intangible resources embedded in management board members. Managerial competence enables board members to direct and coordinate organizational resources, whereas digital literacy strengthens their capacity to acquire information, manage data, communicate, and solve problems through technology. When consistently applied in KDKMP operations, these capabilities are expected to enhance management board performance.

Agency Theory and Stewardship Theory

Agency Theory views the separation of ownership and management as a condition that can generate divergent interests and information asymmetry (Jensen & Meckling, 1976). In cooperatives, members delegate authority to the management board to manage the organization and its resources. Transparency, monitoring, reporting, and accountability mechanisms are therefore necessary to ensure that management decisions remain aligned with members' interests.

Stewardship Theory provides a complementary perspective by viewing managers as stewards who may be oriented toward collective and organizational goals (Davis et al., 1997). The cooperative emphasis on shared interests makes Agency Theory and Stewardship Theory simultaneously relevant. Sugiyanto (2025) likewise argues that cooperative governance can be understood through both perspectives. In this study, Good Cooperative Governance is conceptualized as an institutional mechanism that balances authority, trust, and accountability.

Managerial Competence

Managerial competence refers to the capabilities that enable management board members to perform management functions effectively. In this study, the construct comprises planning, priority setting, work organization, resource coordination, decision making, problem solving, leadership, communication, supervision, and evaluation. In newly developing KDKMP units, such capabilities determine whether institutional mandates can be translated into executable work programs.

Fahmi and Farida (2025) find that managerial competence has a strong direct effect on cooperative performance. From an RBV perspective, managerial capability represents human capital that helps organizations transform resources into outputs. Management board members with stronger competence are expected to formulate more realistic targets, allocate responsibilities more effectively, anticipate operational problems, and evaluate achievements more systematically.

H1: Managerial competence has a positive effect on management board performance in Merah Putih Village/Urban Village Cooperatives in Semarang Regency.

Digital Literacy

Digital literacy refers to the ability to use and interact with digital technologies confidently, critically, safely, responsibly, and effectively. DigComp 3.0 retains five broad competence areas: (1) information search, evaluation, and management; (2) communication and collaboration; (3) content creation; (4) safety, well-being, and responsible use; and (5) problem identification and solving. The latest framework also integrates artificial intelligence, cybersecurity, rights and responsibilities, digital well-being, and responses to misinformation across its competence structure (Cosgrove & Cachia, 2025).

For KDKMP management boards, digital literacy is relevant to member administration, record keeping, communication, document management, reporting, promotion, market-information searches, and the use of digital platforms. The availability of digital systems does not automatically generate organizational benefits if users lack the competence to operate, evaluate, and secure them. Digital literacy is therefore treated as an individual digital capability that may improve productivity and service quality.

H2: Digital literacy has a positive effect on management board performance in Merah Putih Village/Urban Village Cooperatives in Semarang Regency.

Good Cooperative Governance

Good Cooperative Governance refers to governance arrangements that ensure cooperatives are managed transparently, accountably, in compliance with applicable rules, independently from inappropriate influence, and fairly toward members. This study adopts the dimensions of transparency, accountability, responsibility, independence, and fairness that are widely used in cooperative governance research (Marlina, 2019; Budiyah & Suyono, 2020).

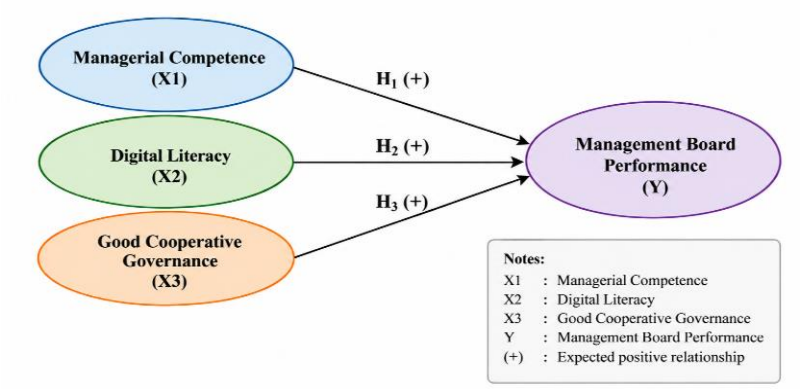
Previous empirical evidence indicates that stronger governance is associated with better cooperative performance. Sianipar et al. (2026) likewise identify Good Cooperative Governance as an important determinant of cooperative performance. Governance is particularly salient in the KDKMP context because management boards interact with members, village and urban-village governments, the regency government, financial institutions, business partners, and other stakeholders.

H3: Good Cooperative Governance has a positive effect on management board performance in Merah Putih Village/Urban Village Cooperatives in Semarang Regency.

Management Board Performance

Management board performance refers to the degree to which board members successfully carry out the responsibilities assigned by the organization. The construct is developed by considering task performance, contextual and adaptive performance, and work accountability. Research on individual work performance emphasizes that performance should be assessed multidimensionally rather than solely in terms of output quantity (Koopmans et al., 2014).

In this study, management board performance is represented by target achievement, work quality, timeliness, efficiency, service quality, information accuracy, problem solving, adaptability, accountability, and work coordination. These indicators are adapted to the cooperative context, in which management board members are responsible for both institutional and operational activities.



Figures 1. Conceptual Framework

B. METHOD

This study employs a quantitative explanatory research design because its primary objective is to test the relationships between managerial competence, digital literacy, Good Cooperative Governance, and management board performance. The unit of analysis is the individual KDKMP management board member, whereas the sampling frame comprises KDKMP units located in the villages and urban villages of Semarang Regency.

Semarang Regency consists of 208 villages and 27 urban villages, representing 235 administrative units. The research design applies a census approach to the 235 KDKMP units, with one key respondent from each cooperative. The chairperson is prioritized as the key respondent; when unavailable, the secretary, treasurer, or another board member with comprehensive knowledge of the cooperative's operations may participate. The initial target is therefore 235 respondents, while the final analytical sample will depend on questionnaire completeness and eligibility criteria.

Primary data are collected using a structured questionnaire measured on a five-point Likert scale, where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 =

Strongly Agree. The instrument consists of 40 items: 10 items for Managerial Competence, 10 for Digital Literacy, 10 for Good Cooperative Governance, and 10 for Management Board Performance. Secondary data are used to support the policy and regional context of the study.

Before the main survey, the instrument should undergo expert review and a limited pilot test to assess wording clarity, contextual relevance, and completion time. In the field dataset, item validity will be evaluated using corrected item-total correlations, and construct reliability will be assessed using Cronbach's alpha. Once the instrument meets the required criteria, the analysis will proceed with descriptive statistics, classical assumption tests, multiple linear regression, t-tests, the overall F-test, and the coefficient of determination using IBM SPSS Statistics.

The regression model is specified as Y = alpha + beta1X1 + beta2X2 + beta3X3 + epsilon, where Y denotes Management Board Performance, X1 Managerial Competence, X2 Digital Literacy, X3 Good Cooperative Governance, alpha the intercept, beta the regression coefficients, and epsilon the error term. Hypotheses are evaluated at a 5% significance level.

Table 2. Operational Definitions of Variables

Variable	Operational Definition	Indicators	Primary Reference
Managerial Competence (X1)	The capability of management board members to perform management functions effectively.	Planning; prioritization; organizing; resource coordination; decision making; problem solving; leadership; communication; supervision; evaluation.	Fahmi & Farida (2025); RBV adaptation
Digital Literacy (X2)	The capability of management board members to use digital technologies critically, safely, responsibly, and effectively.	Information search/evaluation/management; communication/collaboration; content creation/use; safety/well-being/responsible use; problem identification/solving.	Cosgrove & Cachia (2025); Ministerial Circular No. 3/2025
Good Cooperative Governance (X3)	The quality of governance arrangements that ensure transparent, accountable, responsible, independent, and fair cooperative management.	Transparency; accountability; responsibility; independence; fairness.	Marlina (2019); Budiyah & Suyono (2020); Sugiyanto (2025)

Variable	Operational Definition	Indicators	Primary Reference
Management Board Performance (Y)	The degree to which management board members successfully carry out organizational and operational responsibilities.	Target achievement; work quality; timeliness; efficiency; service quality; information accuracy; problem solving; adaptability; accountability; coordination.	Koopmans et al. (2014), adapted to the cooperative context

Source: Developed from the literature and policy references, 2026

C. RESULTS AND DISCUSSION

Respondent Characteristics

Table 3. Respondent Characteristics

Characteristic	Category	Frequency	Percentage
Unit Type	Village	208	88.5%
Unit Type	Urban Village	27	11.5%
Gender	Male	159	67.7%
Gender	Female	76	32.3%
Education	Senior High School or Equivalent	62	26.4%
Education	Diploma	38	16.2%
Education	Bachelor's Degree	122	51.9%
Education	Postgraduate Degree	13	5.5%
Board Position	Chairperson	128	54.5%
Board Position	Secretary	45	19.1%
Board Position	Treasurer	34	14.5%
Board Position	Other Board Member	28	11.9%

Source: Preliminary dataset processed by the author, 2026

The preliminary analytical dataset contains 235 observations, comprising 208 village units (88.5%) and 27 urban-village units (11.5%). The mean age of respondents is 43.21 years, and their average cooperative experience is 4.27 years. These characteristics provide an initial overview of the data structure used to evaluate the proposed analytical model.

Descriptive Statistics

Table 4. Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Managerial Competence	235	1.20	5.00	3.221	1.011
Digital Literacy	235	1.00	5.00	3.126	0.941
Good Cooperative Governance	235	1.00	5.00	3.096	1.059
Management Board Performance	235	1.00	5.00	3.198	0.951

Source: Preliminary dataset processed by the author, 2026

The mean values are 3.221 for managerial competence, 3.126 for digital literacy, 3.096 for Good Cooperative Governance, and 3.198 for management board performance. All constructs display adequate dispersion across the 1-5 response scale, providing sufficient variation for the preliminary assessment of linear relationships among the variables.

Validity and Reliability Tests

Table 5. Item Consistency and Reliability

Construct	Items	Min. CITC	Max. CITC	Cronbach's Alpha	Interpretation
Managerial Competence (X1)	10	0.675	0.785	0.934	Valid & Reliable
Digital Literacy (X2)	10	0.623	0.777	0.922	Valid & Reliable
Good Cooperative Governance (X3)	10	0.704	0.822	0.942	Valid & Reliable
Management Board Performance (Y)	10	0.600	0.760	0.926	Valid & Reliable

Source: Preliminary dataset processed by the author, 2026

The minimum corrected item-total correlation for every construct exceeds 0.30, indicating adequate item consistency. Cronbach's alpha values range from 0.922 to 0.942, indicating strong internal reliability across the four constructs. Validity and reliability testing will be repeated using verified field data before final empirical conclusions are drawn.

Correlation Matrix

Table 6. Correlation Matrix

Variable	X1	X2	X3	Y
Managerial Competence	1.000	0.282	0.413	0.523
Digital Literacy	0.282	1.000	0.351	0.505

Variable	X1	X2	X3	Y
Good Cooperative Governance	0.413	0.351	1.000	0.601
Management Board Performance	0.523	0.505	0.601	1.000

Source: Preliminary dataset processed by the author, 2026

The correlation between X1 and Y is 0.523, between X2 and Y is 0.505, and between X3 and Y is 0.601. Correlations among the independent variables range from 0.282 to 0.413, indicating that the predictors remain empirically distinguishable within the preliminary model assessment.

Classical Assumption Tests

Table 7. Classical Assumption Tests

Test	Statistic	Sig.	Interpretation
Residual normality (Shapiro-Wilk)	0.995	0.567	No indication of non-normal residuals
Autocorrelation (Durbin-Watson)	1.873	-	No strong indication of autocorrelation
VIF - Managerial Competence	1.238	-	No multicollinearity
VIF - Digital Literacy	1.170	-	No multicollinearity
VIF - Good Cooperative Governance	1.299	-	No multicollinearity
Heteroskedasticity (Breusch-Pagan)	0.459	0.928	No heteroskedasticity indication

Source: Preliminary dataset processed by the author, 2026

The Shapiro-Wilk test of regression residuals yields p = 0.567, whereas the Breusch-Pagan test yields p = 0.928. The Durbin-Watson statistic is 1.873, and VIF values range from 1.170 to 1.299. These results indicate no material preliminary evidence of violations related to residual normality, heteroskedasticity, autocorrelation, or multicollinearity. All assumption tests will be repeated using the field dataset.

Multiple Linear Regression Results

Table 8. Multiple Linear Regression

Model	B	Std. Error	Beta	t	Sig.
(Constant)	0.357	0.187	-	1.911	0.057
Managerial Competence	0.266	0.047	0.282	5.598	<0.001
Digital Literacy	0.295	0.050	0.292	5.948	<0.001
Good Cooperative Governance	0.343	0.046	0.382	7.393	<0.001

Source: Preliminary dataset processed by the author, 2026

The estimated regression equation is Y = 0.357 + 0.266X1 + 0.295X2 + 0.343X3 + epsilon. All predictor coefficients are positive and statistically significant at $p < 0.001$. Good Cooperative Governance has the largest standardized coefficient (beta = 0.382), followed by Digital Literacy (beta = 0.292) and Managerial Competence (beta = 0.282).

Goodness of Fit

Table 9. ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	111.176	3	37.059	85.084	<0.001
Residual	100.613	231	0.436		
Total	211.789	234			

Source: Preliminary dataset processed by the author, 2026

The model yields F = 85.084 with $p < 0.001$, indicating that managerial competence, digital literacy, and Good Cooperative Governance jointly explain a statistically significant share of the variation in management board performance within the preliminary analytical model.

Coefficient of Determination

Table 10. Model Summary

R	R Square	Adjusted R Square	Std. Error of Estimate	Durbin-Watson
0.725	0.525	0.519	0.660	1.873

Source: Preliminary dataset processed by the author, 2026

The model produces an R-squared of 0.525 and an adjusted R-squared of 0.519. Accordingly, approximately 51.9% of the variation in management board performance is explained by managerial competence, digital literacy, and Good Cooperative Governance after adjustment for the number of predictors. The remaining 48.1% may be associated with factors outside the model, including member participation, government support, experience, entrepreneurial orientation, innovation, organizational commitment, work culture, and business resources.

Hypothesis Testing

Table 11. Hypothesis Testing

Hypothesis	Relationship	t	Sig.	Result
H1	Managerial Competence → Management Board Performance	5.598	<0.001	Supported
H2	Digital Literacy → Management Board Performance	5.948	<0.001	Supported
H3	Good Cooperative Governance → Management Board Performance	7.393	<0.001	Supported

Source: Preliminary dataset processed by the author, 2026

Discussion

The Effect of Managerial Competence on Management Board Performance

Managerial competence yields B = 0.266, standardized beta = 0.282, t = 5.598, and p < 0.001. The positive coefficient indicates that higher managerial competence is associated with stronger management board performance within the preliminary model assessment.

The positive relationship is theoretically consistent with the RBV. Management board members who can plan activities, organize resources, make decisions, lead, communicate, supervise, and evaluate work possess capabilities that can support more effective task performance. These capabilities are particularly important in KDKMP units because board members face two simultaneous demands: establishing organizational routines for a newly formed institution and developing business activities that are expected to generate benefits for members.

This direction is consistent with Fahmi and Farida (2025), who report a strong relationship between managerial competence and cooperative performance. Field estimates may nevertheless differ in magnitude because KDKMP units can vary in management experience, business maturity, village-government support, and the intensity of institutional assistance. These contextual differences should be examined in the final empirical analysis.

The Effect of Digital Literacy on Management Board Performance

Digital literacy yields B = 0.295, standardized beta = 0.292, t = 5.948, and p < 0.001. The preliminary result indicates that digital capability is empirically distinguishable from managerial competence and governance and therefore warrants examination as an independent construct in explaining management board performance.

Conceptually, digital literacy shapes how management board members obtain information, store and manage data, communicate with members, operate digital platforms, prepare documents, develop content, and manage security risks. DigComp 3.0 reinforces these dimensions by systematically integrating artificial intelligence, cybersecurity, rights and responsibilities, digital well-being, and responses to misinformation (Cosgrove & Cachia, 2025). This makes digital literacy increasingly relevant for cooperatives that are being encouraged to participate in a digital ecosystem.

The study's digital novelty lies at the individual level: it examines not merely whether KDKMP units use digital applications, but whether management board members possess the capability to use technology effectively. This distinction is important because organizations may have access to digital platforms without realizing their potential benefits when users cannot evaluate information, protect data, or solve technology-related problems. In the field analysis, interpretation should therefore be linked to the platforms actually used by management boards and the intensity of digital assistance they receive.

The Effect of Good Cooperative Governance on Management Board Performance

Good Cooperative Governance yields B = 0.343, standardized beta = 0.382, t = 7.393, and $p < 0.001$. The standardized coefficient for X3 is the largest among the three predictors, indicating a comparatively strong governance contribution within the preliminary model assessment.

Theoretically, this pattern is consistent with Agency Theory and Stewardship Theory. Transparency reduces information asymmetry; accountability clarifies responsibility for decisions; responsibility promotes compliance with regulations and cooperative principles; independence supports objective decision making; and fairness protects members' rights. Together, these principles can create organizational conditions that enable management board members to work in a more structured and accountable manner.

The positive direction is consistent with Marlina (2019), Budiyah and Suyono (2020), and Sianipar et al. (2026), all of whom identify governance as an important factor in cooperative performance. The KDKMP setting provides an additional reason to examine this relationship because the organizations are in an early operational phase and interact with multiple stakeholders. If field data confirm a relatively strong GCG coefficient, transparency, reporting,

conflict-of-interest controls, and accountability mechanisms should become central components of KDKMP capacity development.

An Integrated Human-Digital-Governance Capability Perspective

The study's principal conceptual contribution lies not only in the three direct relationships but also in the integration of three distinct forms of capability. Managerial capability captures the ability to organize resources and work processes; digital capability captures the ability to use technology and information; and governance capability captures the institutional mechanisms that structure authority and accountability. These capabilities operate at different levels but are complementary.

This integrated model is particularly relevant to KDKMP. Management board members who are managerially competent but digitally weak may face limitations in administration and information access. Digitally capable boards without adequate governance may increase speed without sufficient accountability. Conversely, strong governance without managerial competence may produce administrative compliance without corresponding productivity. Management-board development should therefore integrate all three capability dimensions.

The adjusted R-squared of 0.519 indicates that the three proposed capabilities explain a meaningful proportion of performance variation while leaving substantial room for other factors. Field analysis will determine whether these capabilities retain comparable explanatory power or whether variables such as member participation, business feasibility, capital support, and the quality of institutional assistance become more influential.

D. CONCLUSION

This study develops a research model that positions managerial competence, digital literacy, and Good Cooperative Governance as determinants of management board performance in Merah Putih Village/Urban Village Cooperatives in Semarang Regency. Conceptually, the three variables represent managerial capability, digital capability, and governance capability, which are expected to complement one another during the early operational phase of these cooperatives.

The preliminary assessment of 235 observations indicates strong internal reliability, with Cronbach's alpha values ranging from 0.922 to 0.942. The regression model yields an adjusted

R-squared of 0.519 and F = 85.084 ($p < 0.001$). All three predictors have positive coefficients, with standardized beta values of 0.282 for managerial competence, 0.292 for digital literacy, and 0.382 for Good Cooperative Governance.

These statistics support the methodological readiness of the instrument, database structure, and analytical model for field implementation. Final empirical conclusions regarding KDKMP management boards in Semarang Regency will be based exclusively on verified field-survey data, and the statistical estimates reported in this review version will be updated accordingly.

E. IMPLICATIONS AND FUTURE RESEARCH

During the field-data analysis stage, item validity, construct reliability, descriptive statistics, regression assumptions, regression coefficients, and model fit should all be re-estimated using actual responses. Differences in coefficient direction, magnitude, or significance constitute substantive empirical information and should be interpreted in relation to the observed field conditions rather than adjusted to match the preliminary model.

Future research may extend the model by incorporating member participation, entrepreneurial orientation, government support, business assistance, innovation capability, organizational commitment, or business-unit maturity. Longitudinal designs would also be valuable for comparing management board performance during the early KDKMP phase with performance after business units have reached a more mature stage of operation.

Research Novelty

Table 12. Novelty Positioning

Novelty Dimension	Contribution
Model-integration novelty	Integrates managerial, digital, and governance capabilities within a single explanatory model.
Level-of-analysis novelty	Uses management board performance as the primary outcome rather than only cooperative-level organizational or financial performance.
Digital-capability novelty	Measures individual digital literacy by adapting DigComp 3.0 rather than treating digitalization solely as organization-level technology adoption.
Contextual-temporal novelty	Examines KDKMP in Semarang Regency during the early operationalization phase following institutional establishment and the strengthening of local regulations.

Source: Author's formulation, 2026

Novelty statement: This study develops an integrated human-digital-governance capability model to explain management board performance during the early operationalization phase of Merah Putih Village and Urban Village Cooperatives.

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