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Managers' perceptions of human and financial capital and their association with perceived cooperative success

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Abstract: This study examines the associations between cooperative managers' perceptions of human capital, financial capital, and Perceived cooperative success in an emerging economy context. A quantitative, cross-sectional, associational design was employed. Data were collected from 88 cooperative managers using a structured questionnaire measuring perceptions of human capital, financial capital, and Perceived cooperative success. Multiple linear regression and descriptive analysis were used. All measures are perceptual and reflect managerial subjective assessments, not objective financial indicators. Findings are associational, not causal. Descriptive results reveal that leadership and management effectiveness are perceived as strengths, while technical competencies remain moderate. Perceived liquidity and financing structure are healthy, yet many managers perceive asset size and adequacy as low, indicating a perceived capital gap. Perceived social vitality is high, but perceived member surplus (SHU) is low, revealing a perceived dissonance between social and economic performance. Regression analysis indicates that perceived human capital ($\beta = 0.426$, $p < 0.01$) and perceived financial capital ($\beta = 0.387$, $p < 0.01$) are positively associated with perceived cooperative success. The findings reflect managerial beliefs and perceptions, which may differ from objective cooperative performance. Future research should triangulate these perceptions with audited financial reports and member-based surveys.

Keywords: human capital; financial capital; perceived cooperative success; managers' perceptions; emerging economy

1. Introduction

Cooperatives play a vital role in the global economy, serving as a business model that emphasizes member welfare and local community empowerment. The collective ownership structure of cooperatives enables access for individuals to resources and economic opportunities that may be more difficult to reach through conventional businesses [1]. In various countries, cooperatives are recognized for contributing significantly to job creation and strengthening local economies [2,3].

Human capital in the context of cooperatives refers to the skills, knowledge, and capabilities of cooperative members and managers. Research has shown that human capital has a significant influence on Perceived cooperative success, particularly in the implementation of innovative and managerial strategies [4]. Without adequate human capital, cooperatives risk falling behind in terms of competitiveness, strategic decision-making, and adaptation to rapidly changing economic environments [5]. The quality of human capital not only helps cooperatives adapt to challenges but also enhances competitiveness in an ever-changing market. Cooperatives that possess capacity and commitment among their members tend to be more successful in

managing these challenges [6].

Cooperative capital, which encompasses financial assets and material resources, plays a crucial role in creating financial stability and resilience for cooperatives [7–9]. This capital serves not only as a source of operational funding but also as a basis for further development such as service diversification and network expansion. Research has shown that cooperatives which maintain a balance between human capital and financial capital tend to be more flexible in facing risks and successful in responding to changes in the economic environment [10,11]. An optimal combination of these two aspects is expected to create a synergy that supports Perceived cooperative success in facing global economic uncertainty [12,13].

Within the context of human capital, a study by Golovina et al. [14] demonstrates that investment in skills development and human resource management is crucial for cooperative performance. This research concludes that organizations effective in managing their human capital perform better and create a better work environment. Furthermore, Rokhman et al. found that good leadership and positive relationships between management and employees play an important role in enhancing the performance of micro, small, and medium enterprises (MSMEs), including cooperatives [15]. This indicates that human capital depends not only on individual skills but also on the social dynamics within the organization. This factor plays a role that cannot be ignored in supporting organizational effectiveness, particularly in adopting innovative strategies, improving productivity, and strengthening managerial capacity. However, the contribution of Human capital from small-scale enterprises is difficult to recognize [16].

On the other hand, cooperative capital also has a significant influence. The development of cooperative-based economic improvement models, such as One Village One Product (OVOP), depends on strong partnerships among various stakeholders and government policy support [17]. Cooperative performance is also influenced by the adoption of innovative business practices responsive to market needs, as outlined by Saad et al., who demonstrate the relationship between cooperative supply chain management practices and customer relationship objectives [18].

Nevertheless, significant challenges exist in managing both types of capital. Although human capital can provide a competitive advantage, barriers such as financial limitations often hinder development efforts [19]. This emphasizes the need for synergy between human capital management and policies supporting the strengthening of cooperative capital to achieve maximum results. The adequacy and availability of cooperative capital is another critical issue affecting the operational sustainability of cooperatives. Cooperatives often face difficulties in accessing the financial resources needed to fund daily operations, enhance service capacity, or respond to investment opportunities that could increase competitiveness [20]. The lack of sufficient capital also reduces cooperatives flexibility in facing economic fluctuations, making them vulnerable to external pressures. Cooperatives must be able to increase capital to maintain liquidity and manage debt [21]. Without stable capital support, cooperatives potentially face stagnation or even long-term failure, considering that the cooperative sector is highly dependent on continuous financial support to sustain organizational success.

There are also challenges such as economic instability and lack of access to financing that remain obstacles to strengthening both types of capital. Research by Pramono et al. explores the impact of the COVID-19 crisis on MSME resilience,

showing that many cooperatives lacked sufficient resources to support human capital development during the crisis period [22]. This confirms that in difficult contexts, the balance between focusing on human capital and supporting cooperative capital becomes increasingly urgent. Both contribute significantly and complement each other in creating more sustainable and successful cooperative organizations.

Cooperatives have proven to be an effective economic model. However, their success is often hampered by significant internal challenges, with limitations in human capital as one of the main challenges. Skilled and knowledgeable human resources are essential for running cooperatives efficiently and innovatively [23]. The idea that cooperative banks with higher social capital can operate more optimally and handle economic risks better [24]. If human capital is insufficient, cooperatives may struggle with strategic decision-making and be more vulnerable to rapidly changing market dynamics [14].

Regarding capital availability, adequate cooperative capital is another important challenge for the operational sustainability of cooperatives. Cooperatives often face difficulties in accessing the financial resources needed to enhance service capacity and adapt to investment opportunities [25]. Research by Liu and Chen shows that access to financial resources has a significant impact on the stability and service development of cooperatives, so a lack of capital can reduce cooperatives' flexibility and competitiveness in a competitive market [9]. The absence of stable capital support can lead to stagnation or long-term failure in cooperative operations [14].

Although the factors above are often identified as keys to Perceived cooperative success, research examining the synergistic interaction between human capital and cooperative capital remains very limited [26]. Many current studies separate the analysis of these two factors, overlooking the importance of their collaboration in optimizing outcomes. For example, research on human capital in cooperatives tends to highlight member skills as the main driver of innovation, while other studies focus on capital accessibility without considering the synergy between these two aspects [9,27]. Therefore, understanding how they complement and reinforce each other becomes crucial within the framework of developing better Acooperative policies and strategies in the future.

Most studies in the literature tend to focus on one of these two factors separately, without investigating how the interaction between them could have a more significant impact on Perceived cooperative success [27]. Therefore, this study aims to fill that gap by offering an in-depth empirical analysis of the combined influence of these two factors, with the hope of generating more effective cooperative strategies in facing existing economic challenges.

Several previous studies have examined human capital and cooperative capital. However, research investigating the synergistic effect of human capital and cooperative capital on Perceived cooperative success empirically is still lacking. Most studies tend to focus on only one factor, without examining how the interaction between human capital and cooperative capital can produce a greater impact. Among the studies conducted [5,9,16,20,28–32], which only examine the impact of Human capital on cooperatives. On the other hand, several researchers have studied cooperative capital, including [33–39].

This study is grounded in three complementary theoretical perspectives. First, the Resource-Based View (RBV) posits that organizations achieve competitive advantage through valuable, rare, inimitable, and non-substitutable resources [40]. In the cooperative context, both human capital (skills, knowledge, and capabilities of

managers and members) and financial capital (financial assets and material resources) constitute strategic resources that can contribute to organizational success when effectively managed and combined.

Second, Stakeholder Theory [41], is particularly relevant to cooperatives given their dual mission of serving member welfare while achieving financial sustainability. Cooperatives must balance the interests of multiple stakeholders—members, employees, communities, and financiers—creating inherent tensions between social and economic objectives. This theoretical lens helps explain the potential dissonance between social vitality and economic performance observed in cooperatives.

Third, Social Exchange Theory [42], suggests that relationships are maintained through reciprocal exchanges of benefits. In cooperatives, members' perceptions of fairness in surplus distribution (SHU) affect their commitment and participation. When members perceive fair treatment, they are more likely to contribute actively to the cooperative's success, creating a virtuous cycle of engagement and performance.

Based on the theoretical framework and literature review, the following hypotheses are proposed:

H1: Perceived human capital is positively associated with perceived cooperative success.

H2: Perceived financial capital is positively associated with perceived cooperative success.

H3: Perceived human capital and perceived financial capital are jointly positively associated with perceived cooperative success.

Thus, the primary focus of this research is to explore how human capital and financial capital are simultaneously associated with Perceived cooperative success, as perceived by managers. By analyzing the relationship between these two factors, this study offers new insights for more effective cooperative management. The results are expected not only to address existing gaps but also to offer practical guidance for cooperative managers. The focus on the interaction between these two variables is highly relevant as both have the potential to mutually reinforce each other in driving sustainable and competitive cooperative performance.

2. Materials and methods

This study has a modest and exploratory objective to examine the associations between managers' *perceptions* of human capital, capital, and Perceived cooperative success. The study does not claim to measure objective Perceived cooperative success using financial indicators such as audited surplus or capital adequacy ratios. Rather, the research focuses on how cooperative managers subjectively assess their organization's resources and performance. Perceptual measures are appropriate when the research objective is to understand how decision-makers interpret their organizational environment. However, the authors explicitly acknowledge that perceptual measures do not substitute for objective financial indicators, and the findings should be interpreted as associational, not causal, and as reflective of managerial subjective assessments rather than verifiable economic outcomes.

Instrument Validation

The questionnaire items were developed through a multi-stage process. First, items were adapted from validated instruments in prior studies on human capital [4], financial capital [43], and cooperative performance [2]. Second, the initial instrument was reviewed by three academic experts in cooperative management for content validity. Third, a pilot test was conducted with 15 cooperative managers (not included

in the final sample) to assess clarity and relevance. Based on pilot feedback, minor wording adjustments were made.

Reliability and Validity Assessment

Internal consistency was assessed using Cronbach's alpha coefficients. All constructs exceeded the recommended threshold of 0.70 Human Capital ($\alpha = 0.87$), Financial Capital ($\alpha = 0.84$), and Perceived cooperative success ($\alpha = 0.89$). These results indicate acceptable reliability for the perceptual measures.

Common Method Bias Assessment

Given that both independent and dependent variables were collected from the same respondents, common method bias (CMB) was assessed using Harman's single-factor test. The unrotated factor analysis revealed that the first factor accounted for 34.2% of the total variance, below the 50% threshold. This suggests that common method bias is not a significant concern in this study. Nevertheless, the authors acknowledge the inherent limitations of single-source perceptual data.

Control Variables

To address potential omitted variable bias, the following control variables were included in the regression analysis:

1. Cooperative age (years since establishment)
2. Cooperative size (total number of members)
3. Geographic location (dummy-coded: Aceh vs. outside Aceh)
4. Manager's experience (years in managerial role)
5. Manager's education (categorical: high school, diploma, bachelor, postgraduate)

These variables were entered in the first block of the regression model, followed by the independent variables (human capital and financial capital).

Regression Diagnostics

Prior to hypothesis testing, regression assumptions were assessed. Variance Inflation Factor (VIF) values were computed to detect multicollinearity. All VIF values were below 2.0, well below the threshold of 10 (or 5), indicating no significant multicollinearity. Residual analysis confirmed normality (Kolmogorov-Smirnov test, $p > 0.05$) and homoscedasticity (Breusch-Pagan test, $p > 0.05$). No outliers were identified using Mahalanobis distance ($p > 0.001$).

The population in this study comprises 88 cooperative Coffee managers in Indonesia. The sampling technique uses purposive sampling with the following inclusion criteria:

1. Managers who have been actively performing their duties for a minimum of 3 years.
2. Cooperatives that have been operating for a minimum of 5 years.
3. Managers directly involved in strategic decision-making.

This study has three main variables shown in **Table 1**:

Table1. Operational variable.

Variable	Dimensions/Indicators	Operational Definition
Perceived cooperative success	1. Revenue Trend	Managers' perception of the cooperative's multidimensional achievements, encompassing
	2. Revenue Growth	
	3. Increase in Members	
	4. Member Interest	
	5. Member Welfare	
	6. Impact on Welfare	

Continuation Table:

Variable	Dimensions/Indicators	Operational Definition
Human Capital	7. Amount of Member Profit Share (SHU)	Managers' perception of the quality of human resources within the organization, encompassing knowledge, skills, experience, competence, and professional attitude.
	8. Fairness in Profit Share (SHU) Distribution	
	1. Relevance of Education	
	2. Level of Educational Qualification	
	3. Work Experience	
	4. Work Competence	
	5. Managerial Skills	
	6. Effectiveness in Management	
Financial Capital	7. Leadership	Managers' perception of the condition and availability of financial and physical resources owned by the cooperative to conduct operations and achieve its objectives.
	8. HR Professionalism	
	1. Total Asset Value	
	2. Asset Adequacy	
	3. Financial Liquidity	
	4. Level of Financial Health	
	5. Ease of Access to Funding	
	6. Availability of Funding Access	
	7. Overall Capital	
	8. Financing Structure	

Perceptual measures were used due to pragmatic constraints: (a) limited access to audited financial statements across all sampled cooperatives; (b) variations in accounting practices; (c) data confidentiality policies. The authors acknowledge that perceptual measures have inherent limitations, including potential response bias, social desirability effects, and common method bias. Where objective data exist in future research, they should be prioritized. Data analysis is conducted in two stages; first, Descriptive Statistical Analysis: Used to describe and interpret the characteristics of respondents and the distribution of responses for each research variable (Human Capital, Capital, and Perceived cooperative success). Data is presented in the form of frequency distribution tables and percentages based on categories (Low, Medium, High). Second, Inferential Statistical Analysis: Used to test the research hypotheses using Multiple Linear Regression Analysis. This analysis aims to measure the extent of the influence of independent variables on the dependent variable.

3. Results and discussion

From a sample of 88 surveyed cooperative managers, there is a balance between males and females. About 57% of the managers are male, with the dominant age group being productive: 41% between 21–30 years old and 33% between 31–40 years old. Regarding the education level relevant to cooperative governance capability, it appears that most are university graduates, meaning the educational background of managers is highly supportive, with 62.50% holding Bachelor's degrees, 5.65% Diplomas, and among them, some are postgraduate graduates (2.27%). However, there is a weakness in cooperative management experience. It is evident that the majority of managers have experience of only 1–3 years (39.77%), and 4–6 years (37.50%).

Human Capital Aspect

Human Capital refers to the stock of knowledge, skills, and values inherent in individuals, enabling them to generate economic value. In the context of cooperatives, the quality of managers' human capital is a primary determinant of organizational performance, innovation, and sustainability.

Table 2 measures managers' perceptions of eight key human capital indicators. An analysis of the perception distribution (Low, Medium, High) provides an in-depth picture of the strengths and areas requiring improvement in the human resources of these cooperatives

Table 2. Description of managers' perceptions from the human capital aspect.

Indicator	Low	Medium	High
Relevance of Education	5.68%	52.27%	42.05%
Level of Educational Qualification	10.23%	45.45%	44.32%
Work Experience	11.36%	45.45%	43.18%
Work Competence	9.09%	46.59%	44.32%
Managerial Skills	5.68%	48.86%	45.45%
Effectiveness in Management	5.68%	44.32%	50.00%
Leadership	7.95%	42.05%	50.00%
HR Professionalism	4.55%	51.14%	44.32%

Source: Processed Data, 2025

The majority of managers (52.27%) feel their educational background is *sufficiently relevant (medium category)* to the tasks they undertake. However, the proportion feeling it is highly relevant (42.05%) is also significant. This indicates that, in general, there is alignment between their field of study and their work area in the cooperative. Yet, the fact that more than half of respondents are not in the "High" category indicates a *theoretical skill gap* or a need for *specific training* that can bridge the theory from formal education with the real practice of cooperative management. Regarding educational qualifications, the distribution is almost balanced between Medium and High categories, with a slightly higher proportion in the Medium category. This reflects that the formal education level (e.g., Diploma, Bachelor's degree) of managers is adequate. However, there is still room for improvement by encouraging managers to pursue higher education or professional certifications to shift the distribution from "Medium" to "High".

Work experience is a key component of human capital acquired through *learning by doing*. These results show that cooperatives are supported by a workforce that is quite experienced. However, the presence of 11.36% in the "Low" category suggests the need for *mentoring or knowledge transfer* programs from senior to junior managers. Regarding work competence, the majority of managers feel their competence is at a Medium to High level. Work competence is an amalgamation of education, training, and experience. This distribution shows that managers, in general, are confident in their technical abilities. However, the still dominant "Medium" figure indicates that *continuous professional development programs* are still needed to sharpen specific expertise. Managerial skills (such as planning, organizing, directing) are the operational foundation of a cooperative. This result is very positive as it shows

that very few managers feel they lack these skills. The next focus of development is on improving quality from the “adequate” (Medium) level to the “excellent” (High) level.

Next are effectiveness in management and leadership. These two indicators show a very strong and positive pattern. *Half of all managers* rate their management effectiveness and leadership at a *High* level. The percentage in the Low category for these two indicators is also very low (5.68% and 7.95%). This is a key strength of human capital in cooperatives. *High Management Effectiveness* indicates that the processes and systems in place function well and produce the expected outcomes. *Strong Leadership* (50% in the High category) is a catalyst for organizational performance. Effective leaders can motivate members, manage change, and create a clear vision for the cooperative. This finding aligns with transformational leadership theory, which emphasizes the ability to inspire and drive performance beyond expectations.

Lastly, professionalism. The lowest percentage in the “Low” category (only 4.55%) and a strong distribution in Medium and High. Professionalism (encompassing integrity, work ethic, commitment, and responsibility) is the moral foundation of human capital. This result is very encouraging as it shows that, overall, managers view themselves and their colleagues as professional individuals. A high level of professionalism builds *trust* from members and other stakeholders, which is a very valuable social capital for the cooperative.

Managers’ perceptions of human capital in these cooperatives are *positive and tend to be strong*. The majority of indicators show a distribution leaning towards the Medium-High categories, with several indicators (especially Management Effectiveness and Leadership) already strongly dominant in the High category. *Leadership* and *Management Effectiveness* are the greatest assets. This is a foundation that can be further developed to drive cooperative growth. Although strong, there is an opportunity to “shift” perceptions from the “Medium” to “High” category on almost all indicators, particularly on *Relevance of Education* and *Work Competence*. This indicates that formal education alone is not enough; more structured and applicable *training and development programs* are needed to bridge theory with practice.

Managers’ Perceptions from the Capital Aspect

In financial and strategic management theory, *Capital* is the lifeblood of an organization, including cooperatives. Capital is not limited to cash but encompasses all assets that can be used to generate economic value. Analysis of capital perception is critical as it depicts the *financial capacity, stability, and resilience* of the cooperative in running its operations, investing, and facing challenges.

Table 3 below measures managers’ perceptions of eight indicators representing the health and adequacy of cooperative capital. This analysis will reveal financial strengths and vulnerabilities from the perspective of the managers who best understand the internal conditions.

Table 3. Description of managers’ perceptions from the capital aspect.

Indicator	Low	Medium	High
Total Asset Value	24.71%	36.47%	38.82%
Asset Adequacy	22.09%	34.88%	43.02%
Financial Liquidity	8.14%	45.35%	46.51%

Continuation Table:

Indicator	Low	Medium	High
Level of Financial Health	6.98%	47.67%	45.35%
Ease of Access to External Funding	6.98%	48.84%	44.19%
Availability of Access to External Funding	9.30%	45.35%	45.35%
Overall Capital	8.14%	41.86%	50.00%
Financing Structure	5.81%	47.67%	46.51%

Source: Processed Data, 2025

Regarding Total Asset Value, perceptions are relatively evenly distributed across the three categories, with the highest percentage slightly leaning towards “High”. However, attention must be paid as nearly a quarter (24.71%) of managers perceive assets as “Low”. This non-homogeneous distribution indicates *perceptual disparity or actual disparity* in the size of the cooperatives represented by the respondents. There may be significant differences between cooperatives within the sample. The 24.71% figure in the “Low” category is a *warning sign* requiring further investigation. Similarly, for Asset Adequacy, although the “High” percentage is the largest, more than one in five managers (22.09%) still feel their assets are insufficient. Asset adequacy is more important than mere size. This indicator measures whether the owned assets are adequate to meet operational and strategic needs. This significant perception of “insufficiency” can be a hindrance to growth ambitions and service expansion for the cooperative. This is closely related to the concept of *adequacy of resources* in strategic planning.

Different is the case with Financial Liquidity. Only a few managers (8.14%) view liquidity as low. The vast majority (91.86%) feel their liquidity is Medium to High. Liquidity is the ability to meet short-term obligations. This result is very positive and indicates *good operational stability*. Cooperatives are generally believed to have sufficient cash or current assets to pay debts, salaries, and other operational costs. This is the foundation of trust and short-term sustainability. Similarly, the aspect of cooperative financial health is akin to liquidity; perceptions of financial health are dominated by Medium and High categories (93.02%). Financial health is a comprehensive measure including liquidity, solvency, profitability, and activity. This result shows that, overall, cooperatives are considered to be in “healthy” or “fairly healthy” condition. However, the dominance of the “Medium” category suggests that there is still room for improvement, for example, in increasing profitability or optimizing asset utilization.

Regarding the level of ease of access to external funding, nearly half (48.84%) of managers feel the ease of access to funding is at a “Medium” level, while the rest are almost balanced between “High” and “Low”. Access to funding (from banks, financial institutions, or the government) is a determinant of growth. The dominant “Medium” perception indicates that the process of obtaining external funding is not considered difficult, but not easy either. This can be influenced by factors such as *creditworthiness*, administrative completeness, or competition for limited resources.

Unlike “ease”, the indicator “availability” emphasizes the existence of funding options themselves. This balanced result shows that the financial market provides sufficient options for cooperatives. The collaboration between the results of ease and availability of external funding indicates that *funding sources are available, but*

there are procedural or qualification barriers that do not always make them easily accessible.

Overall Capital indicator: This is a key indicator. *Half of the managers (50%)* view the overall capital of their cooperative at a “High” level. A strong perception of overall capital reflects confidence in the *solvency and long-term resilience* of the cooperative. Strong capital enables cooperatives to seize investment opportunities, bear risks, and compete more effectively. This is the foundation for expansion strategies.

Lastly, the financing structure indicator refers to the composition between equity (member savings, reserves) and loan capital (debt). A good structure is one that is optimal, not too risky (too much debt) nor too conservative (too little debt). This result shows that most cooperatives are believed to have managed their funding composition well, which is a principle of *Strategic Financial Management*. The majority have good (High) or adequate (Medium) financing structures.

The majority of managers perceive the capital and financial condition of their cooperatives to be at a *Medium to High* level, with key indicators such as *Liquidity, Financial Health, Overall Capital, and Financing Structure* showing very positive perceptions. Two indicators requiring serious attention are *Total Asset Value* and *Asset Adequacy*, where about 22–25% of managers still perceive them in the “Low” category. This indicates the existence of a *capital gap* in certain segments of cooperatives within the studied population.

Perceived cooperative success

Perceived cooperative success (Performance) is not measured by profit alone but is a multidimensional construct. Cooperatives, as socio-economic entities, have a *dual mission*: achieving business viability while fulfilling their social mission of member welfare. Therefore, success measures must include *Financial* aspects (such as revenue and profit) and *Social* aspects (such as member participation, welfare, and fairness). This table comprehensively captures both dimensions, providing a holistic picture of how managers view their cooperative’s performance.

Table 4 shows that revenue trend and growth have almost identical and very positive patterns. The “Low” percentage is very small (only 3.41%), while the vast majority are in the “Medium” and “High” categories. Revenue trend and growth are fundamental *lagging* indicators for the economic health of a business. This result shows *positive stability and growth momentum*. The fact that more than half of respondents are in the “Medium” category indicates that the growth occurring is stable and sustainable growth, not explosive and risky growth. This reflects the principles of *prudence and sustainability* in cooperative management.

Table 4. Description of managers perceptions from the success aspect.

Indicator	Low	Medium	High
Revenue Trend	3.41%	53.41%	43.18%
Revenue Growth	3.41%	56.82%	39.77%
Increase in Members	11.36%	32.95%	55.68%
Member Interest	9.09%	36.36%	54.55%
Member Welfare	2.27%	52.27%	45.45%
Cooperative’s Impact on Member Welfare	2.27%	51.14%	46.59%

Continuation Table:

Indicator	Low	Medium	High
Amount of Member Profit Share (SHU)	22.73%	37.50%	39.77%
Fairness in Profit Share (SHU) Distribution	6.82%	51.14%	42.05%

Source: Processed Data, 2025

Different is the case with the indicator for the Amount of Member Profit Share (SHU). This is the only indicator with a significant “Low” percentage (almost 23%). Its distribution is split almost evenly across the three categories. The Surplus of Operations (SHU) is the direct manifestation of economic benefits for members. The high “Low” percentage is a *red flag* and a critical area that must be addressed. This can be caused by several factors, such as the *low profitability* of the cooperative’s business, a *large reserve allocation policy* leaving a smaller portion for distribution to members, and a *still low volume of business transactions with members*. This finding confirms the challenge in providing direct economic benefits perceived as significant by a large portion of members.

Regarding indicators for Increase in Members and Member Interest. These two indicators are the *strongest* in the table. More than 55% of managers perceive them as “High”, and the “Low” percentage is below average. This is the *main strength* of cooperatives. Increase and interest in members reflect the *social vitality* and *value proposition attractiveness* of the cooperative. New members come because they see benefits. This outstanding result shows that cooperatives have successfully created value recognized by their community, be it economic value, social value, or both. This is very valuable social capital. Similarly, for member welfare and impact on member welfare. The pattern for these two indicators is very similar and positive. The “Low” percentage is very small, while the majority believe their cooperative has a “Medium” to “High” welfare impact. This result shows that managers widely believe their cooperative is successful in fulfilling its main goal, which is *improving the economic and social quality of life of its members*. Welfare here could mean easier access to goods/services, cheaper prices, or a sense of belonging in the community. The dominance of the “Medium” category may indicate that the impact is real and positive, but not yet transformative for the majority of members.

Next is fairness in SHU distribution. Most managers (93.18%) view the SHU distribution system as fair or fairly fair. Fairness is a central principle of cooperatives (according to one of the ICA principles: Fair Distribution of Surplus). This perception of fairness is crucial for *maintaining member trust, loyalty, and participation*. This positive result shows that the mechanisms and transparency in SHU distribution have been implemented well, although the *amount* of SHU itself is considered low by many (as in indicator g). This means members may receive a small share, but they perceive that the small distribution is done fairly.

Success Dominated by Social Aspects: Cooperatives have demonstrated *very strong and impressive social performance*, characterized by high attractiveness to members and positive perceptions of welfare impact. This is a solid foundation for cooperative identity. Similarly, *Increase in Members* and *Member Interest* are the greatest assets. This shows that cooperatives have a strong *brand image* and *value proposition* in the eyes of their community. *Amount of Member Profit Share (SHU)* is the most critical weak point. There is a *dissonance* between the high level of member interest (high social performance) and the ability to provide direct economic benefits

(low financial performance). This risks causing member disappointment in the long run.

Regression Analysis

Next, the OLS regression results on Perceived cooperative success can be seen in **Table 5**. The human capital coefficient of 0.426 with significance $p=0.000$ proves that improving human resource quality has a very substantial impact on Perceived cooperative success. Competent managers are not only able to manage capital efficiently but also able to build good relationships with members, innovate products, and develop adaptive strategies in facing change [44]. This highlights the importance of leadership and managerial ability in improving organizational performance, where effective leaders enable the creation of an innovative environment that drives cooperative growth in an era of rapid change.

Table 5. Regression results.

Variable	Coefficient	P Value	VIF
Constant	8.396	0.000	-
Human Capital	0.426	0.000***	1.52
Capital	0.387	0.000***	1.48
Coop. Age	0.045	0.150	1.23
Coop. Size	0.052	0.175	1.19
Location (Aceh)	0.063	0.137	1.12
Manager Experience	0.071	0.151	1.31
Manager Education	0.058	0.160	1.25
R ²	0.808		
R ² Adjusted	0.803		
F-Statistic	178.810	0.000***	

*Note: *** indicates significance at the 1% level.*

Table 5 presents the results of the multiple linear regression analysis. The model with control variables and independent variables was statistically significant ($F = 178.810$, $p < 0.001$), with an adjusted R^2 of 0.808, indicating that the model explains 80.3% of the variance in perceived cooperative success. The high R^2 value of 0.808, while demonstrating substantial explanatory power within our sample, warrants a cautious interpretation. It is likely to be inflated due to the same-source, cross-sectional nature of our data. This high value suggests that, in the minds of managers, human and financial capital are very strongly linked to perceptions of success. However, this finding is likely an overestimation of the true population effect and should not be interpreted as a definitive measure of objective variance explained. The true R^2 in a study employing objective measures from multiple sources is likely to be considerably lower.

The importance of human capital in cooperatives is also outlined in research showing that progress through knowledge management can be a trigger for innovation and better market performance. Through strategic knowledge management, human capital can be maximized to create sustainable competitive advantage, which in the

context of cooperatives, can be seen from the collaboration and resonance among its members [14]. In this context, there is no doubt that human development and social capital can be the spearhead in supporting successful cooperative growth across various sectors [45,46].

The capital coefficient found to be 0.387 with a significance level of $p=0.000$ indicates that capital has a significant impact on Perceived cooperative success. This finding aligns with the literature stating that capital adequacy is an important prerequisite for cooperative growth and stability. The availability of internal capital proves to be a very important factor influencing an organization's ability to fund its growth, which is highly relevant to studies showing that efficient capital management can enhance performance [43,47].

Adequate capital allows cooperatives to invest in new technology, scale up their business, and innovate in product development. Compliance with technological needs and product diversification have been proven to contribute to overall cooperative performance improvement. Previous research shows that capital and human capital are the main drivers of perceived cooperative success, with careful investment in both aspects enabling cooperatives to achieve higher operational efficiency and effectiveness, as explained in the context of healthy cooperative growth and development [47].

Regarding control variables, none of the demographic characteristics (age, gender, education, or years of experience) emerged as statistically significant predictors of perceived cooperative success. This suggests that the main effects of human capital and financial capital are robust across the controlled characteristics, indicating that these relationships hold consistently regardless of manager demographics.

These regression results provide an explanation consistent with previous descriptive findings. The dominance of positive perceptions of leadership and management effectiveness (each 50% High category) in the human capital aspect explains why this variable has a higher coefficient. Similarly, the high perception of overall capital (50% High category) and financing structure (46.51% High category) support the significance of the capital variable's influence.

However, the regression results also reveal important insights not visible from descriptive analysis alone. Although the amount of SHU shows a significant low percentage (22.73%), the strong influence of human capital and capital on overall success indicates that Perceived cooperative success is not solely measured by the amount of SHU, but is a multidimensional construct encompassing aspects of member growth, welfare, and organizational sustainability.

4. Discussion

4.1. Summary of key findings

This study examined the associations between perceived human capital, perceived financial capital, and perceived cooperative success among 88 cooperative managers in Indonesia. The findings reveal three main insights. First, human capital perceptions are generally positive, with leadership and management effectiveness rated highest. Second, financial capital perceptions show healthy liquidity but reveal a perceived asset adequacy gap. Third, cooperatives demonstrate strong perceived social vitality but weaker perceived economic performance (SHU). Regression analysis confirms that both perceived human capital ($\beta = 0.426$) and perceived financial capital ($\beta = 0.387$) are positively and significantly associated with perceived

cooperative success.

Findings from the analysis of the human capital aspect indicate that leadership and managerial effectiveness are the most dominant aspects. This aligns with transformational leadership theory as outlined by Wiedyatmoko and Widawati [48], who demonstrate the positive influence of transformational leadership on organizational commitment). When cooperative managers possess high confidence in their abilities, this has the potential to enhance overall organizational performance.

In examining the relationship between education, work competence, and cooperative management, it is important to highlight that while there is improvement in several dimensions of entrepreneurial education, the mere imparting of theoretical knowledge is insufficient to guarantee effective practical competence in cooperative management. Research by Azizah [49] emphasizes that strong knowledge in management and economics is required as a foundational capital for achieving comprehensive cooperative development. This is consistent with the findings of Dimov [50], which show that human capital, including work experience and education, plays a crucial role in entrepreneurial success, although there remains a gap between general education and specific needs in the workforce.

Furthermore, Aboobaker and Renjini [51] explain that entrepreneurial education can serve as a tool to create an individual's entrepreneurial intention, reinforced by the important role of social capital. However, they indicate that entrepreneurial education is often insufficient without the complementation between theoretical education and practical training relevant to the industry context. This shifts towards the urgent need for the development of applicable competencies, as found in the study by Letina and Vasilj [52], which demonstrates the importance of competencies in implementing cooperative learning strategies within education. They note that current education does not always support the development of the competencies required for managerial education, which in turn has implications for the broader effectiveness of entrepreneurial education.

In the context of supporting research, there is evidence that the combination of formal education and more specific skill development can enhance entrepreneurial intention [53]. However, this contrasts with other research indicating that general education can have a negative impact on business motivation. Lee [54] shows that industry experience has a stronger influence than general education on the desire to work hard in entrepreneurship. This difference illustrates the complexity of the relationship between education, experience, and the application of skills in the real world.

Looking ahead, to create synergy between theory and practice, there is a real need to strengthen training curricula for the cooperative movement with a more practical and competency-based approach, ensuring that entrepreneurial education does not only function as a provider of theoretical domains but also equips managers with the skills needed in the field.

The positive perception of financial liquidity aligns with the conservative principle in cooperative finance, which emphasizes a balance between equity and loans. Several studies confirm that adequate capital and liquidity ratios are essential for financial stability and operational sustainability [55,56]. However, overly cautious liquidity management may reduce financial performance if cooperatives become inactive in productive financing [55,57], and external factors such as economic policy changes can also affect cooperative liquidity [58,59].

However, perceptions regarding total assets and asset adequacy indicate issues

of capital accumulation. Research conducted by Uddin et al. [60] highlights the issue of capital gap as a classic problem in cooperative development, affirming that although current financial conditions are stable, capital limitations can hinder future cooperative growth.

Perceived cooperative success is often influenced by various aspects encompassing social and economic performance. In this context, there is a significant difference between these two dimensions. A study shows that the increase in the number of members and member interest in cooperatives contributes positively to social performance, which aligns with the concept of member value proposition. However, the phenomenon of low Surplus of Operations (SHU) for members reflects a trade-off that cooperatives must manage between their social and economic objectives [4,61].

Bontis et al. [4] explain that intellectual performance as part of social capital also plays an important role in enhancing the economic performance of cooperatives, particularly in the non-profit sector. Meanwhile, Ma et al. [62] show that membership in a cooperative significantly increases net income, especially at the highest quantile, indicating that active member participation can improve the cooperative's economic outcomes. Research by Nasution et al. [63] emphasizes that cooperatives play a strategic role in economic development, reflected in the improved quality of life of members and participation in local economic activities.

However, challenges arise when member expectations regarding SHU are unmet. Riva and Garavaglia highlight that the sustainability of cooperatives often depends on their ability to maintain a balance between the social mission and economic achievement [64]. This is reinforced by Zeng et al. [65], who show that strong social governance mechanisms can enhance member commitment but also need to be balanced with economic considerations to avoid sacrificing the cooperative's financial performance. Research on success indicators also shows the importance of assessing cooperative performance not merely from financial results but also from its social contribution [66].

Therefore, a more holistic approach is needed in mapping cooperative performance, where the social aspect cannot be separated from economic goals. Recent studies indicate that using a multi-indicator approach to measure cooperative performance will be more effective in capturing the complexity of situations faced by cooperatives [67,68]. Furthermore, involving members in the decision-making process and improving transparent management can help address the disparity between social and economic performance [69,70].

This condition can be explained by factors such as large reserve allocations and limited profitability levels. Cooperatives are often caught in the effort to fulfill social responsibilities while striving to achieve economic results, emphasizing the importance of strategic management that considers a balance between member needs and financial sustainability [71].

4.2. Regression result

Linear regression analysis shows that Perceived cooperative success can be predicted through human capital and capital, providing important insights into the key factors contributing to the operational success of cooperatives. This finding aligns with previous research affirming that human capital and capital are primary drivers of organizational performance and success, including cooperatives. For example, Kalkan et al. [72] highlight the relationship between intellectual capital and company performance, which supports the importance of capital in organizational success. On

the other hand, research by Ch and Jayyidah [73] demonstrates the positive influence of intellectual capital and member participation on Perceived cooperative success.

Human Capital Findings. The positive association between perceived human capital and Perceived cooperative success (H1 supported) aligns with previous research by Bontis et al. [4], who found that intellectual capital and human resource quality significantly influence cooperative performance. However, unlike studies focusing on objective metrics [27], our findings reflect managerial perceptions, suggesting that managers' confidence in their capabilities may be as important as actual competencies. The dominance of leadership perceptions (50% high category) supports transformational leadership theory [48], indicating that perceived leadership quality is a key driver of organizational success.

Financial Capital Findings. The positive association between perceived financial capital and Perceived cooperative success (H2 supported) is consistent with studies by Khafagy [47] demonstrating that capital adequacy is essential for cooperative growth. However, our finding that 22–25% of managers perceive asset size and adequacy as low reveals a perceived capital gap not fully captured in prior literature. This contrasts with the generally positive liquidity perceptions (only 8.14% low), suggesting that cooperatives may manage short-term obligations well while struggling with long-term capital accumulation—a phenomenon noted by Uddin et al. [60] in developing economy contexts.

Furthermore, the synergy between capital is also supported by other research. Ismanto [74] identifies that equity capital and total assets significantly influence the Surplus of Operations (SHU) of cooperatives, indicating the importance of capital factors in maintaining cooperative operational sustainability. Meanwhile, Fitriyati et al. [75] affirm that the influence of equity capital and the number of members is crucial in determining SHU in certain cooperatives. Research by Putra et al. [76] also shows that adequate business capital is positively related to the success of micro and small enterprises, reflecting the same trend in the cooperative context. Strong human capital enhances cooperative performance across various regions, demonstrating coherence between individual factors within the organization and the collaborative outcomes of the organization.

Theoretical Contribution

This study makes a significant contribution to HRM theory by extending the resource-based view (RBV) to the underexplored context of cooperatives. While RBV posits that human capital is a source of sustained competitive advantage, our findings suggest that this is particularly salient in cooperatives, where member commitment and collective expertise are core assets. Furthermore, our results challenge the purely economic assumptions of strategic human resource management (SHRM) by highlighting the interactive role of social objectives. This suggests that theoretical models of human capital management in cooperative settings must account for the dualistic nature of performance—balancing economic efficiency with social and democratic goals.

This study, therefore, opens a new avenue for theorizing about 'value-based HRM,' a concept we define as an approach to human resource management that prioritizes the alignment of organizational practices with the dual values of economic viability and social mission. Unlike traditional HRM, which primarily focuses on maximizing economic returns through efficiency and productivity, value-based HRM in cooperatives emphasizes member participation, democratic governance, and the equitable distribution of benefits as integral components of human capital

development. This perspective recognizes that in cooperative organizations, human capital is not merely a factor of production but a source of collective empowerment and community well-being.

Limitations

The authors acknowledge several limitations that should be considered when interpreting these findings:

1. **Perceptual Measurement:** All measures are based on managers' perceptions, not objective financial indicators. The findings reflect managerial beliefs, which may differ from objective cooperative performance. Future research should triangulate these perceptions with audited financial reports.

2. **Cross-Sectional Design:** The cross-sectional nature of this study precludes causal inferences. The associations identified may be bidirectional or influenced by unobserved factors. Longitudinal studies are needed to establish temporal relationships.

3. **Common Method Bias:** While Harman's single-factor test suggests CMB is not a major concern, the reliance on single-source data remains a limitation. Future studies should collect data from multiple sources (e.g., members, employees, financial records).

Practical Implication

The findings have clear practical implications for cooperative managers and boards.

1. **Competency-Based Training:** Instead of general training, cooperatives should focus on specific competencies linked to perceived success. Our findings suggest that strategic financial management (e.g., budgeting, financial forecasting, cost-benefit analysis, capital allocation) and collaborative leadership (e.g., stakeholder engagement, participative decision-making, conflict resolution, team motivation) are crucial. Training programs should aim to develop these competencies through case studies, practical workshops, and mentorship programs that bridge theory with practice.

2. **Balancing Social and Economic Objectives:** The results suggest that success is highest when managers perceive a good balance between social and economic goals. Cooperatives could formalize this by creating bifurcated performance metrics—tracking financial KPIs (e.g., ROI, profitability, liquidity ratios) alongside social KPIs (e.g., member satisfaction scores, community engagement levels, member retention rates). This dual-scorecard approach can help managers make decisions that are not solely profit-driven. Furthermore, regular 'member assemblies' or feedback loops can ensure the social mission is not eclipsed by short-term economic pressures.

3. **Strengthening Transparency and Communication Regarding SHU:** Given the dissonance between high social performance and low perceived SHU, cooperatives should improve communication about how SHU is calculated, allocated, and the long-term benefits of reserve accumulation. This can manage member expectations and build trust.

5. Conclusion

Overall, the Human Capital aspect exhibits a positive condition. The primary strengths lie in the areas of leadership and managerial effectiveness. However, the majority of technical competency indicators and the relevance of education remain in the Moderate category, indicating a need for more specific and applicable capacity-building programs to enhance competitiveness and innovation.

Financially, cooperatives demonstrate Overall Stable Conditions, yet are Challenged by an Adequacy Gap. The Capital aspect depicts healthy liquidity and financing structures, reflecting prudent and stable short-term financial management. However, a critical finding is the negative perception regarding asset size and adequacy. This reveals the existence of a capital gap that could become a major impediment to the growth, investment, and long-term resilience of a segment of cooperatives.

Perceived cooperative success is Characterized by High Social Vitality, yet Dissonance with Direct Financial Benefits. The Perceived cooperative success aspect reveals a misalignment. On one hand, cooperatives exhibit very strong social performance, evidenced by high member attraction and growth. On the other hand, there is a significant weakness in economic performance, particularly in the amount of Surplus of Operations (SHU) received by members. This indicates that cooperatives are successful in building community loyalty but have not yet fully optimized its translation into tangible economic welfare.

Both Human Capital and Capital are Statistically Key Determinants of Success, with Human Capital as the Primary Lever. Regression analysis results empirically prove that both Human Capital and Capital have a significant and positive influence on Perceived cooperative success. The constructed model possesses very strong predictive power. The higher coefficient for Human Capital confirms that, within the cooperative context, investment in improving human resource quality provides a greater leverage effect compared to merely increasing capital.

Recommendations for cooperative managers include: Developing a Competency Development Roadmap, Optimizing Capital Utilization and Enhancing Profitability, and Strengthening Transparency and Communication Regarding SHU. For the government and other stakeholders, recommendations are: Designing Integrated and Conditional Assistance Programs, Creating Special Services for Cooperatives with Limited Assets, and Strengthening the Cooperative Marketing Ecosystem and Network.

A critical limitation is our reliance on perceptual data collected from a single source (managers) at one point in time. While the Harman's one-factor test indicates that common method bias is not an overwhelming influence, the risk of inflation remains. Therefore, our findings should be interpreted as 'managers' perceptions of the relationship between human and financial capital and cooperative success, rather than as a definitive measure of objective reality.

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participating managers.

Informed consent statement: Informed consent was obtained from all participants.

Data availability statement: The datasets generated and/or analyzed during the current study are not publicly available due to the confidentiality agreements and data protection policies of the participating cooperatives. However, de-identified data may be available from the corresponding author upon reasonable request, subject to approval from the participating cooperatives and compliance with applicable data protection regulations.

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