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**David Efendi**

Sekolah Tinggi Ilmu Ekonomi  
Indonesia (STIESIA)  
Surabaya, Indonesia

**Emeralda Ayu Kusuma**

Sekolah Tinggi Ilmu Ekonomi  
Indonesia (STIESIA)  
Surabaya, Indonesia

# The roles of strategic decisions making on managerial performance moderated with management accounting system

**David Efendi and Emeraldalda Ayu Kusuma**

## Abstract

This study aimed to specify empirical evidence to the effect of strategic decision making on managerial, and the role of MAS moderated the effect of strategic decision conception on managerial performance. There were 95 out of 101 returned questionnaires as data that could be analyzed with non-response bias testing, descriptive statistics and PLS analysis. As a result, this study indicated that (1) strategic decision making harmed managerial performance, and (2) the management accounting system weakened the impact of strategic decision making on managerial performance. The research results implicated the usage of MAS as the basis for strategic decision making.

**Keywords:** Strategic decision making, management accounting system, managerial performance

## Introduction

Organizations require qualified, fast, and effective decision making. Therefore, they should involve knowledge (Zimmerman, 2009) <sup>[55]</sup> and information (Zenita, Sari, Anugerah, & Said, 2015) <sup>[54]</sup>. Knowledge refers to the internal information system acquired by an organization. The accounting information system includes the financial accounting system (FAS) and management accounting system (MAS). Managers use the information to diminish uncertainty and achieve organizational goals (Atkinson, Kaplan, Matsumura, & Young, 2010) <sup>[7]</sup>. MAS is part of the Accounting Information System (Alikhani, Ahmadi, & Mehrava, 2013) <sup>[2]</sup>, so it can accomplish a decision quality.

The development of MAS has been debatable among academics and practitioners. Zoni, Dossi, and Morelli (2012) <sup>[56]</sup> address the issues because of two reasons: (1) the introduction of contemporary management accounting methods and cost management techniques for practitioners to adapt and for academics to conduct research, and (2) the consequence of economic downturn comprehensively. At the same time, J. J. Williams and Seaman (2002) <sup>[50]</sup> argue that the controversy is due to the dynamics of the business environment, globalization, and expanded business competition.

In organizations, information is collected and applied to make decisions (A. E. Williams & Wilson, 1993) <sup>[49]</sup>. MAS provides information to make decisions (Tsui, 2001) <sup>[43]</sup> and puts an organization's information for decision making and strategy development Chenhall and Morris (1986) <sup>[14]</sup>. MAS also provides information to improve organizational performance (Naranjo-Gil & Hartmann, 2004) <sup>[32]</sup> as a formal system of information for managers (Bouwens & Abernethy, 2000) <sup>[12]</sup> to develop organizational performance and economic improvement (Lääts & Haldma, 2012) <sup>[28]</sup>. Conceptually, the management information system (MIS) is part of the information system (O'Brien & Marakas, 2011) <sup>[34]</sup> in various forms of organization and business (Pedarpur, Zarrodi, Fatan, Afranche, & Riazi, 2013) <sup>[36]</sup>. MIS is a tool for organizing and summarizing information promptly for decision making. In addition, MIS provides managers with information for decision making.

In this study, the research problems are formulated as follow: (1) does strategic decision making have a positive effect on managerial performance, and (2) does the management accounting system strengthen the influence of strategic decision making on managerial performance? Furthermore, the objectives of this study are (1) to prove empirically the positive impact of strategic decision making on managerial performance, and (2) to prove the role of the management accounting system in strengthening the impact of strategic decision making on managerial performance.

## Correspondence

**David Efendi**

Sekolah Tinggi Ilmu Ekonomi  
Indonesia (STIESIA)  
Surabaya, Indonesia

The contingency theory studies organizations and organizational design (Van de Ven, Ganco, & Hinings, 2013) <sup>[46]</sup>. The evolution of classical management theory initiated the contingency theory concerning bureaucracy and legal authority (Van de Ven *et al.*, 2013) <sup>[46]</sup>. From the 1930s to the 1950s, the classical management theory was scientific management. Scientific management is in Taylor's research on task management analysis (Kulesza, Weaver, & Friedman, 2011) <sup>[27]</sup>. The Contingency theory dominates scientific research on organizational behaviour, design, performance, planning and management strategy (Van de Ven & Drazin, 1984) <sup>[45]</sup>. In addition, contingency theory is a new approach applied situationally (Luthans, 1973) <sup>[29]</sup>. The contingency approach recognizes the complexity in managing modern organizations using the relationship pattern of management subsystems (Luthans, 1973) <sup>[29]</sup>. Thus, the theory is generally an overall framework that integrates various quantitative processes and approaches to management's moral behaviour and incorporates the environmental gaps between theory and practice (Luthans & Stewart, 1977) <sup>[30]</sup>.

### **The Effect of Strategic Decision Making on Managerial Performance**

Decision making is one of leaders' important duties (Gardner & Laskin, 1995) <sup>[20]</sup> using relevant information (Zenita *et al.*, 2015) <sup>[54]</sup>. Extensive and relevant information affects the quality of managers' decisions to advance organizational performance (Verma, Bhat, Rangnekar, & Barua, 2015) <sup>[54]</sup>. Papadakis, Kaloghirou, and Iatrelli (1999) <sup>[35]</sup> argue that a complementary statement of decision quality contributes to company performance. Thus, decision making requires information that affects performance.

Human Resource aligns a decision and an organization with a changing environment (Dolence & Norris, 1994) <sup>[17]</sup>. It also aligns with organizational goals and capabilities (Wohlin *et al.*, 2016) <sup>[51]</sup> that positively affect organizational performance (Schwenk, 1995) <sup>[38]</sup>. The HR managers have to choose proper organizational strategies to determine organizational performance (Hambrick & Mason, 1984) <sup>[23]</sup>, so their decision will significantly affect the organization (Senik *et al.*, 2012) <sup>[39]</sup>.

Furthermore, the management team applies strategic decision-making to affect organizational performance (Finkelstein, Hambrick, & Jr, 2009) <sup>[18]</sup>. Leaders in organizations carry out strategic decision making to harmonize organizational goals, organizational capabilities, and environmental changes and improve organizational performance. Managers need extensive and relevant information in decision making (Zenita *et al.*, 2015) <sup>[54]</sup>. These decisions can achieve better performance and higher goals (Wong, 2010) <sup>[52]</sup> on organizational performance (Fredrickson, 1985). Benedetto and Klemes (2009) <sup>[10]</sup> argue that performance is an indicator in strategic decision making. Amason and Schweiger (1994) <sup>[4]</sup> find that strategic decision making affects organizational performance in their study.

In contrast, Andersen (2001) <sup>[5]</sup> shows that communication skills can affect organizational performance through the growth of strategic decision making. The finding implies that strategic decision making affects organizational performance. Another study showed that decentralized strategic decision making is associated with organizational performance within a dynamic environment (Andersen,

2005) <sup>[6]</sup>. Thus, performance is an indicator of strategic decision making that influences organizational performance. In this study, the alternative hypotheses can be formulated as follow:

**H1:** Strategic decision making has a positive effect on managerial performance.

Strategic decision making is an important determinant in the success of an organization (Amason & Mooney, 1999) <sup>[3]</sup>. Information has a prerequisite role in structuring strategic decision making (Citroen, 2011) <sup>[15]</sup> that produces rational decisions. So the information is an important factor in strategic decision making. Dean and Sharfman (2018) <sup>[16]</sup> show that rational and political behaviour are independent dimensions of the strategic decision process. The literature supports rational and political behaviour as central concepts in general decision-making and individual strategic decision-making. Nguyen (2018) <sup>[33]</sup> convince that strategic decision making improves marketing orientation using MAS. Andersen (2005) <sup>[6]</sup> also states that organizational performance mediates strategic decision-making. While Balta, Woods, and Dickson (2013) <sup>[9]</sup> show that strategic decision-making assists and encourages executives to take the risk, and strategic decision making can mediate something within the organization. Strategic decision making is also analyzed scientifically in evaluating alternatives quantitatively on a rational basis for optimal options (Bhushan & Rai, 2004) <sup>[11]</sup>.

Moreover, information systems provide internal and external information as the factors for organizational success (Walters, Jiang, & Klein, 2003) <sup>[48]</sup>. Using the information can reduce uncertainty, so the information system in an organization eliminates uncertainty to achieve particular objectives (Frishammar, 2003) <sup>[19]</sup>. Thus, increasing information in organizations requires relevant and reliable information in decision-making (Stokman, Assen, Knoop, & Oosten, 2000) <sup>[42]</sup>. When environmental uncertainty is high, the external conditions require non-financial information and supporting information (Gordon & Miller, 1976; Gordon & Narayanan, 1984) <sup>[21, 22]</sup>. The managers are very dependent on information systems (Smith, 1999) <sup>[41]</sup> to rely on relevant and reliable information to make decisions for the uncertainty.

Accounting information will affect management decisions and impact organizational performance (Siyanbola, 2012) <sup>[40]</sup>. Ullah, Khonadakar, and Fahim (2014) <sup>[44]</sup> reveal that accounting information is integral to understanding an organization's financial situation. It is the basis and analysis for the benefit of strategic decision making. For an organization, strategic decision-making is necessary (Jones, 1994) <sup>[26]</sup> because it determines its success and organizational success (Amason & Mooney, 1999; Axelsson, Cray, Mallory, & Wilson, 1991) <sup>[3, 8]</sup>. Thus, MAS is a part of accounting information required by the organization to make strategic decisions. Based on the findings and descriptions, the hypotheses can be formulated as follow:

**H2:** Management accounting system strengthens the effect of strategic decision making on managerial performance.

### **Material and Method**

This study used primary data from respondents by giving several questions in the questionnaire to cooperative

managers. The research population was managers working in cooperatives in Ponorogo Regency, East Java. The cooperatives involved 972 units in 2017, including 26 KUD and 946 non-KUD cooperatives (BPS, 2018). The sample

size was determined with Rao (1996)'s <sup>[37]</sup> formula (1996) and obtained 91 respondents. Furthermore, the operational definitions of variables, instruments and measurements are defined in the following table:

**Table 1:** Operational Definition and Measurement

Constructs	Operational Definition	Source of Instrument	Measurement
Strategic decision making	alternative decisions and policies to determine the best substitute to achieve a goal (Wong, 2010) <sup>[52]</sup> .	Jafari and Tabataba'i (2017) <sup>[24]</sup>	Likert Scale, 1-7
Management accounting system	a formal system provides managers with information to make a decision and to evaluate managerial activities (Chenhall & Morris, 1986) <sup>[14]</sup> .	Chenhall and Morris (1986) <sup>[14]</sup>	Likert Scale, 1-7
Managerial performance	the quality and work quantity achieved by a person in carrying out the given duties and responsibilities	Mahoney, Jerdee, and Carroll (1965) <sup>[31]</sup>	Likert Scale, 1-7

This study applied data analysis techniques: non-response bias testing, descriptive statistics, and PLS analysis with measurement models (outer models) and structural models (inner models) (Jogiyanto, 2011) <sup>[25]</sup>. The measurement model (outer model) was the first step in the PLS method. The outer model tested the construct validity and instrument reliability (Jogiyanto, 2011) <sup>[25]</sup>. The measurement model (outer model) tested construct validity and instrument reliability (Jogiyanto, 2011) <sup>[25]</sup>. The expected values in convergent validity were outer loading > 0.70, communality > 0.50 and average variance extracted (AVE) > 0.50 (Jogiyanto, 2011) <sup>[25]</sup>. The outer model was also used to

analyze the dimensions of the research construct, namely MAS and strategic decision making. The inner model was evaluated with R<sup>2</sup> for the dependent construct and the path coefficient value or t-values for each path to test the significance between constructs in the structural model (Jogiyanto, 2011) <sup>[25]</sup>.

### Results and Discussions

One hundred one questionnaires were returned from respondents, but 95 questionnaires could be analyzed. The data were collected for non-response bias testing and were described as follows:

**Table 2:** Non-Response Bias Test

Construct	Mean Awal (n=88)	Mean Akhir (n = 7)	t-stat	p-value
Management Accounting System	84,9205	84,4286	0,648	0,423
Strategic decision making	61,4091	67,2857	-1,251	0,050
Managerial performance	53,6136	50,5714	1,122	0,413

Source: Primary Data Processed, 2021

**Table 3:** Variable Descriptive Statistics

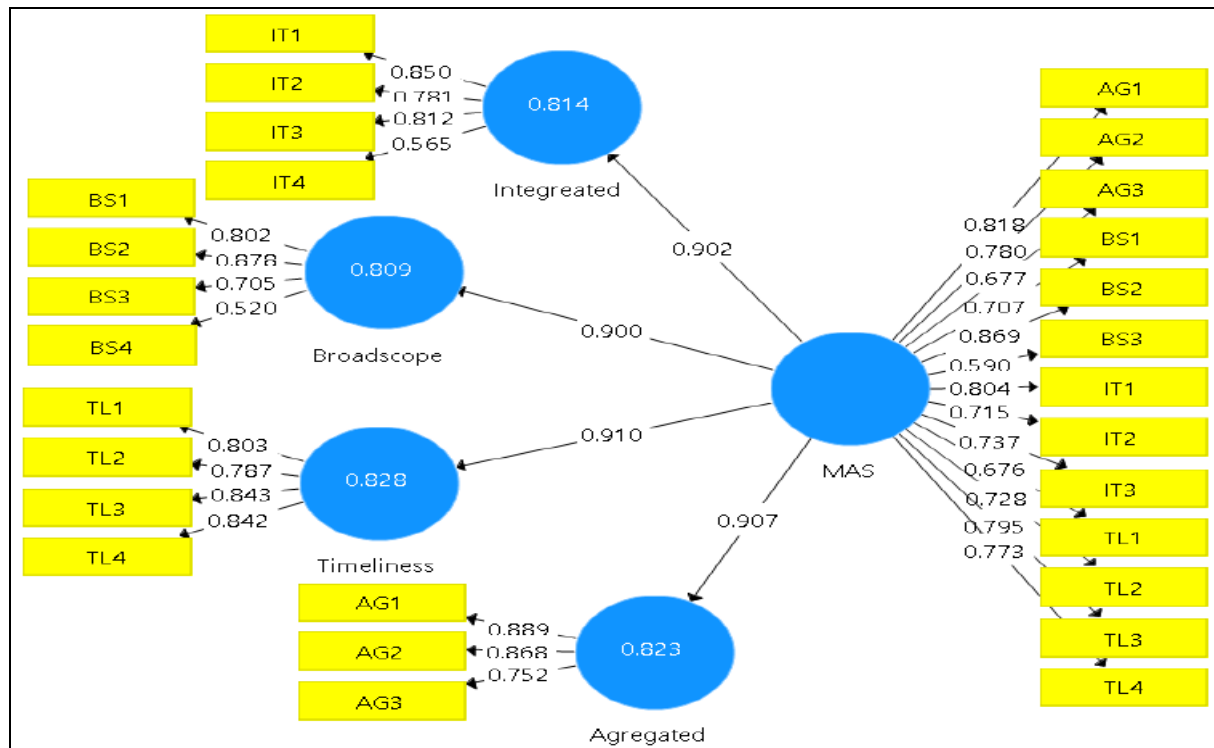
Constructs	N	Theories Range	Mean Theories	Actual Range	Actual Mean	Standard Deviation
Management Accounting System	95	15-105	60	63-105	90.7368	10.54697
Strategic decision making	95	14-98	56	45-96	74.1895	12.20594
Managerial performance	95	9-63	36	34-63	53.3895	6.91175

Source: Primary Data Processed, 2021

As Table 2 of this study, the non-response bias test showed that the p-value of each construct had a value > 5% or at-statistic value < 1.96. All the constructs in this study had no response bias problems, and the data could be analyzed. Table 3 presented that all research constructs had an actual mean value greater than the theoretical mean. In other words, all research construct situations were better than the hypothetical situation. The constructs also had a smaller standard deviation than the actual mean value. While the

data for all research constructs did not vary, and the data could be analyzed.

This study analyzed the research model with Partial Least Square (PLS) method and assisted with the SmartPLS software program. In this research, two stages were the outer and inner models. The first model performed the construction of validity and reliability tests. The second-order outer model used the MAS construct and the output strategic decisions construct is as follow:

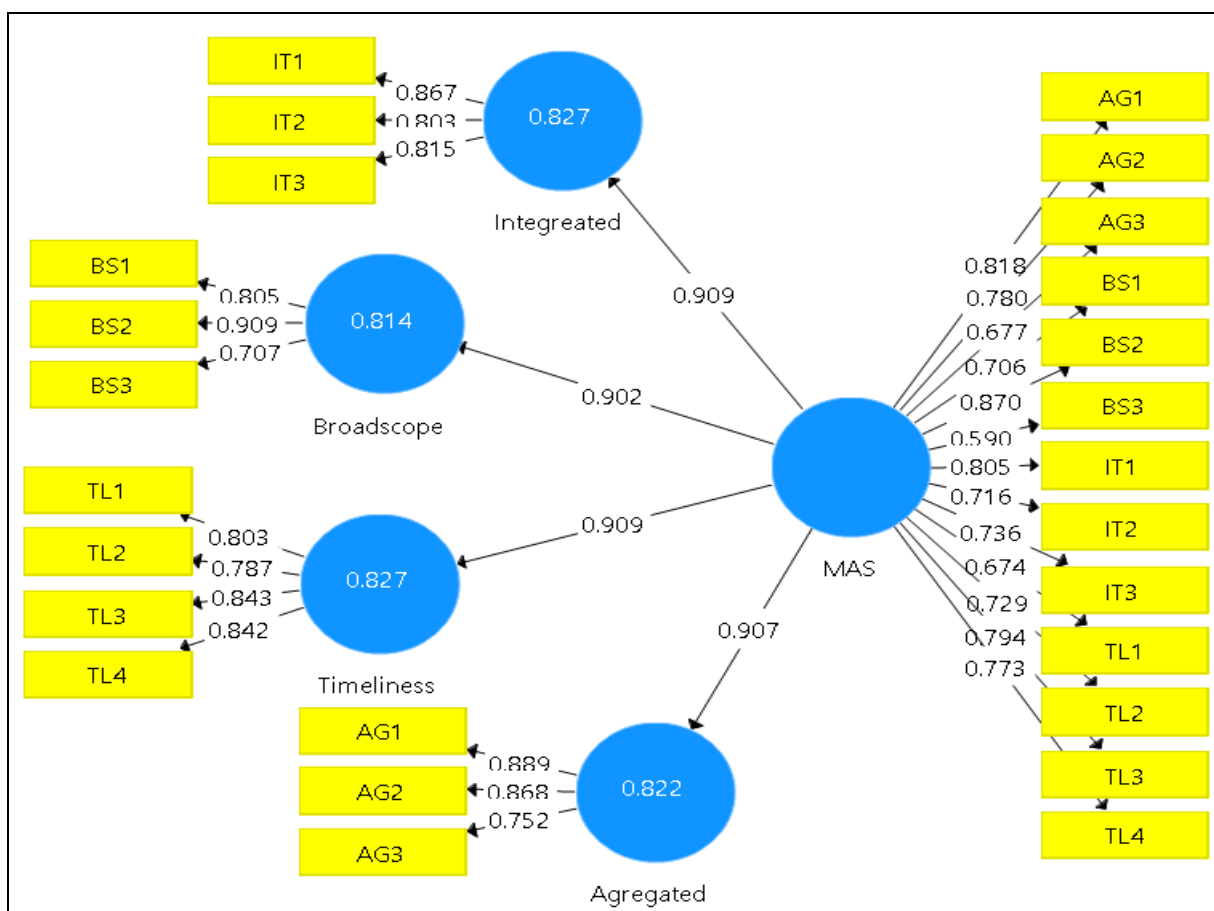


Source: Primary Data Processed, 2021

Fig 1: Path Diagram Management Accounting System

Figure 1 path diagram showed the results of the outer loading of the MAS, as the construct indicators BS4 and IT4 were invalid because the loading factor was  $< 0.70$ . So the

indicator was dropped. Moreover, the model resulted as follow:



Source: Primary Data Processed, 2021

Fig 2: Path Diagram of an invalid indicator post drop Management Acc. System

Figure 2 showed the results of the outer loading MAS and in a loading factor  $> 0.70$ . It meant that all indicators were in invalid conditions. From the same figure, the AVE and

Composite Reliability values of the MAS construct were as follows:

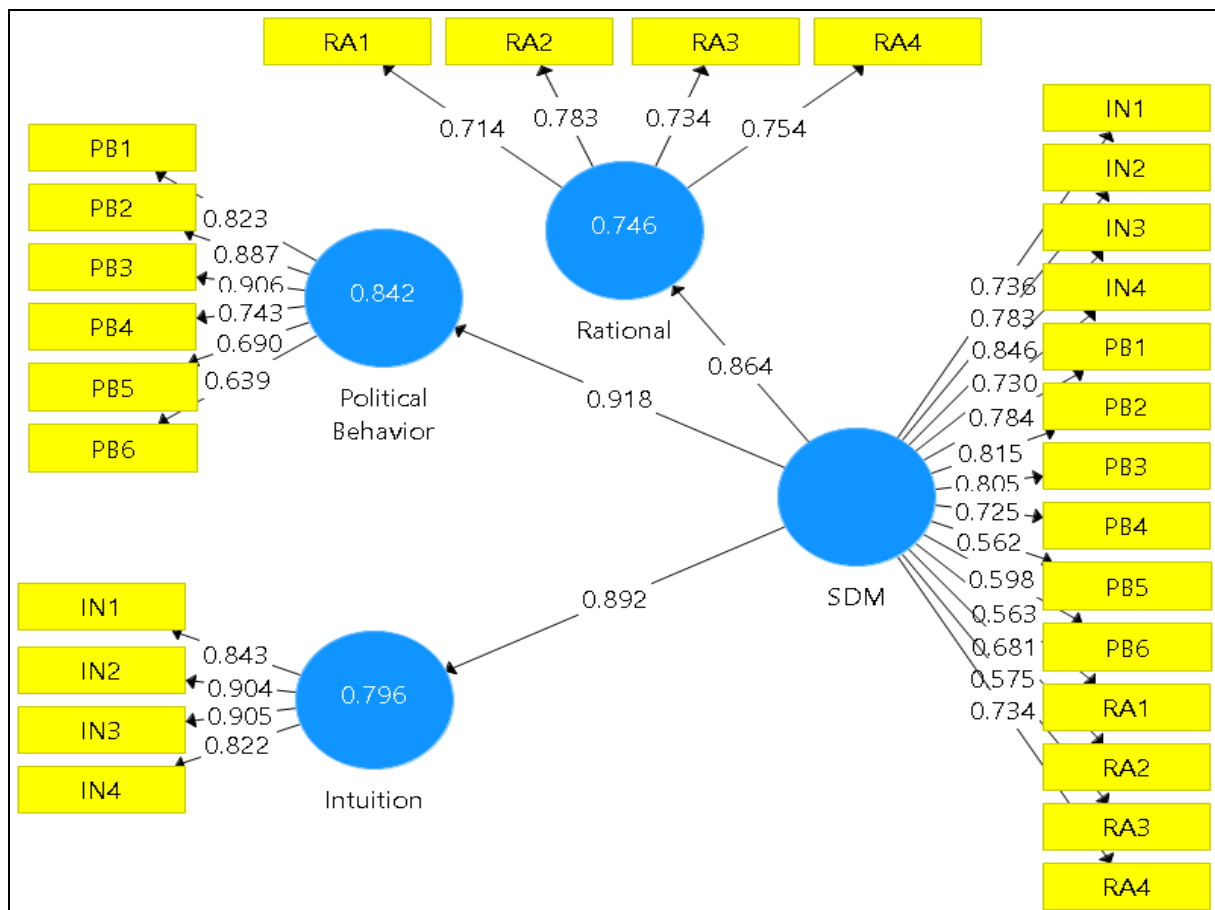
**Table 4:** AVE and Composite Reliability MAS Construct

	Composite Reliability	AVE
Aggregated	0,876	0,703
Broadscope	0,851	0,658
Integreated	0,868	0,687
Timeliness	0,891	0,671

Source: Primary Data Processed, 2021

Table 4 showed the result of the AVE and Composite Reliability of MAS construct, as shown in table 4. The table indicated that the AVE value generated by the construct indicator was  $> 0.50$ . Moreover, the composite reliability

generated by the construct indicator had a value  $> 0.70$ . In other meaning, the MAS construct met the reliability requirements, and the construct indicators met the reliability test.

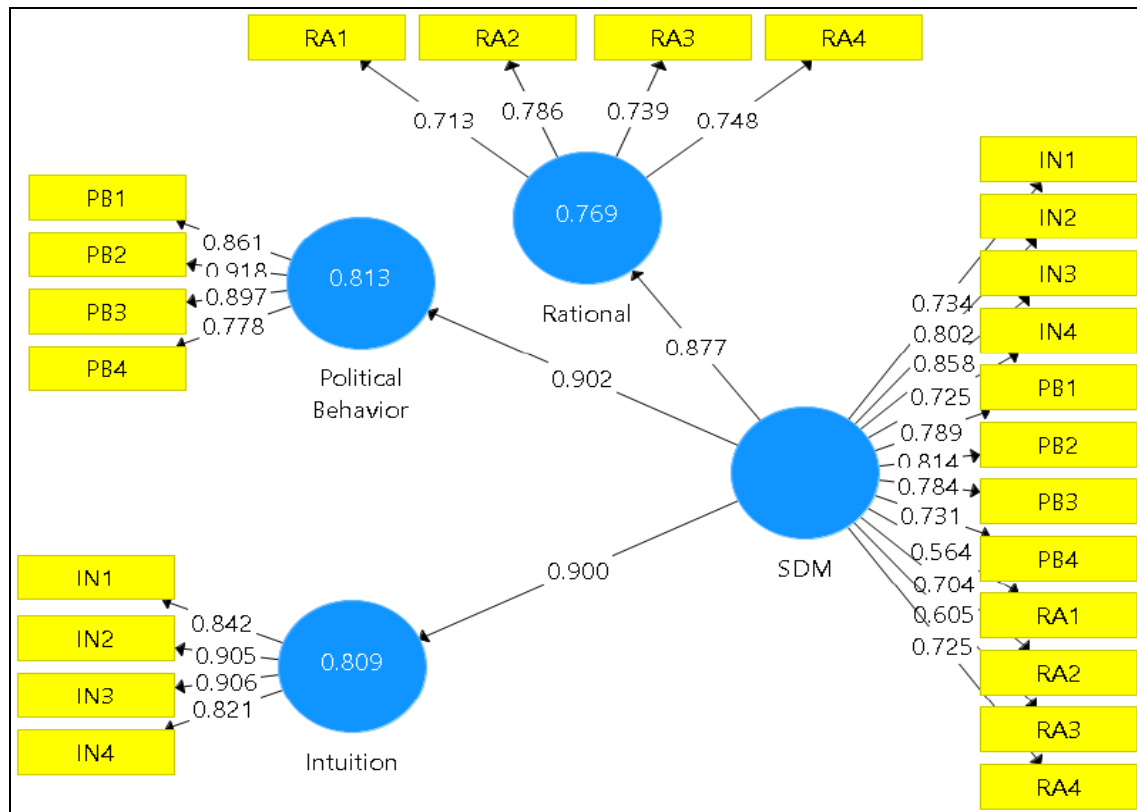


Source: Primary Data Processed, 2021

**Fig 3:** Path Diagram Strategic Decision Making

Figure 3 path diagram showed the outer loading of strategic decision-making results, showing the results of indicators of political behaviour PB5 and PB6 had a loading factor value

of  $< 0.70$ . The indicator needed to be dropped and run again, and the results were as follows:



Source: Primary Data Processed, 2021

Fig 4: Path Diagram HR after Invalid Indicator Drop

Table 5: AVE and Composite Reliability of Strategic Decision Making Construct

	Composite Reliability	AVE
Intuition	0,925	0,756
Political Behavior	0,922	0,748
Rational	0,835	0,558

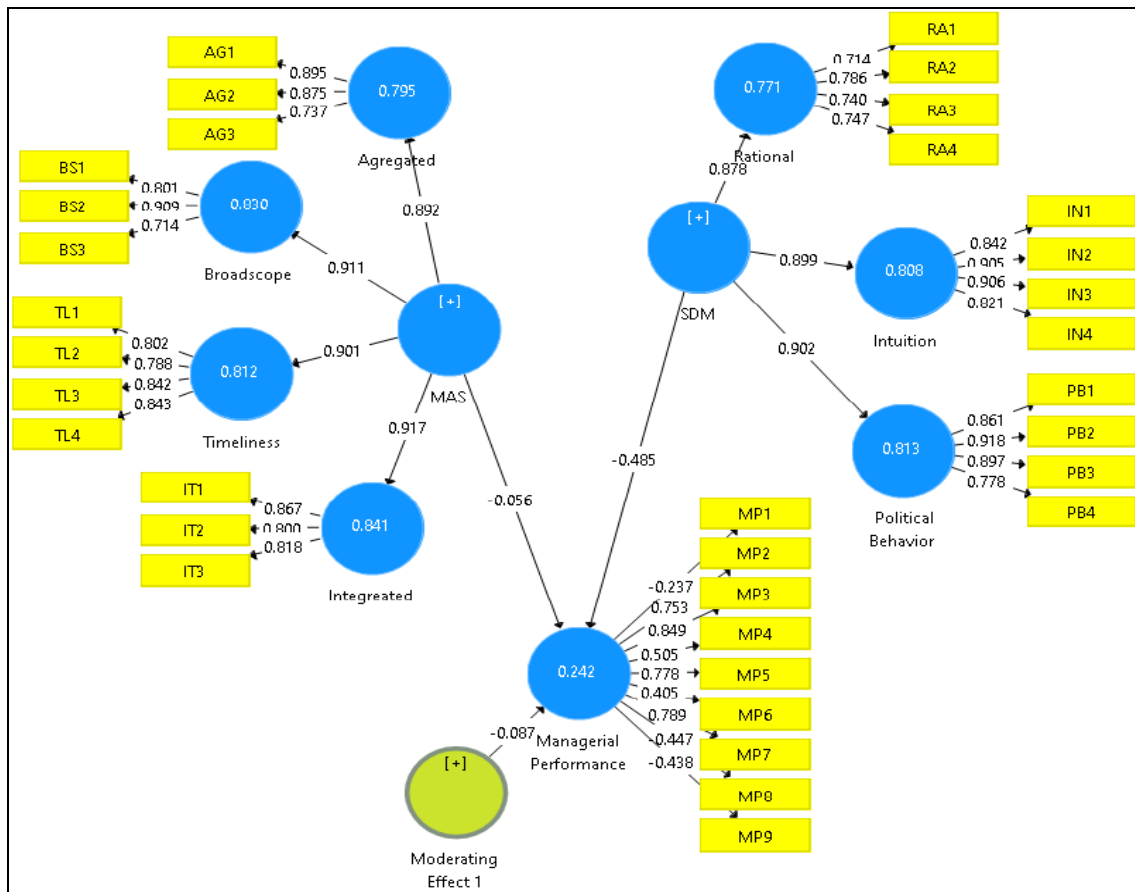
Source: Primary Data Processed, 2021

As Figure 4, all indicators had a value of  $> 0.70$ . The figure also provided the results of the AVE and Composite Reliability of strategic decision-making constructs, as shown in table 5. The table indicated that the AVE value generated by the construct indicator was  $> 0.50$ . Moreover, the composite reliability generated by the construct indicator had a value  $> 0.70$ . In other meaning, the strategic decision-

making construct met the reliability requirements, and the construct indicators met the reliability test.

Outermodel analysis was developed to ensure that the measurement was feasible for validity and reliability. With the SmartPLS program, the outer model of this research produced the following outputs:



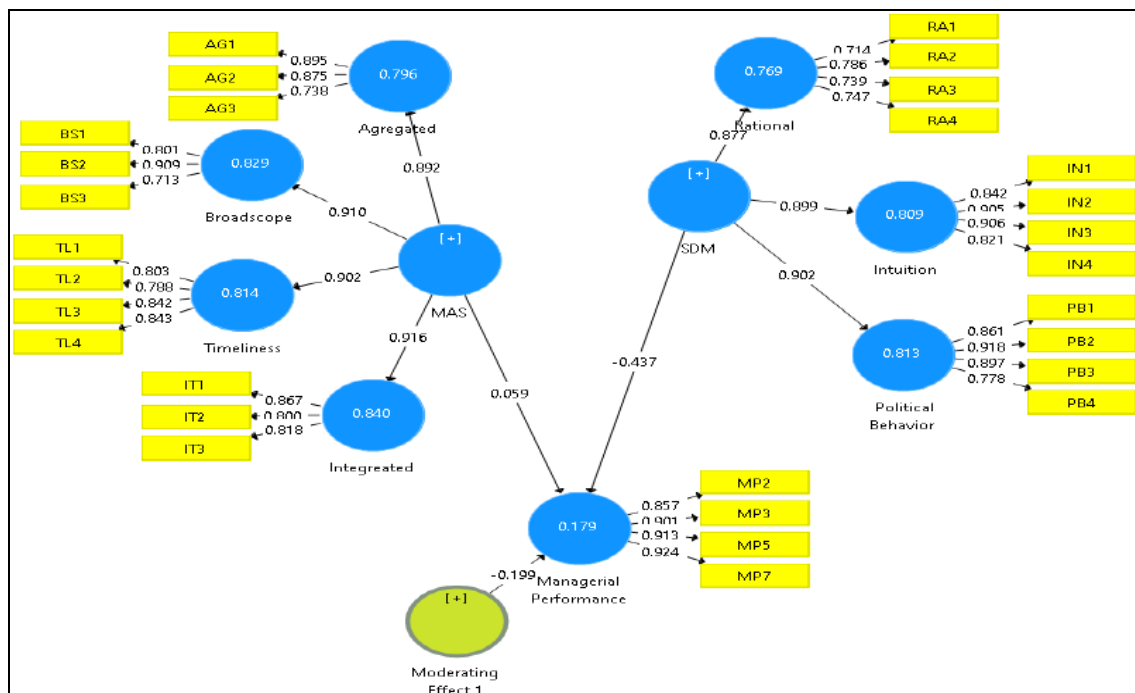


Source: Primary Data Processed, 2021

Fig 5: Outer of Research Model

Figure 5 presented invalid indicators of managerial performance constructs. Gradually these indicators were dropped from the analysis: MP1, MP4, MP6, MP8 and MP9

indicators. After dropping, the model was run again as the following output:



Source: Primary Data Processed, 2021

Fig 6: Outer of Research Model after Invalid Indicator Drop

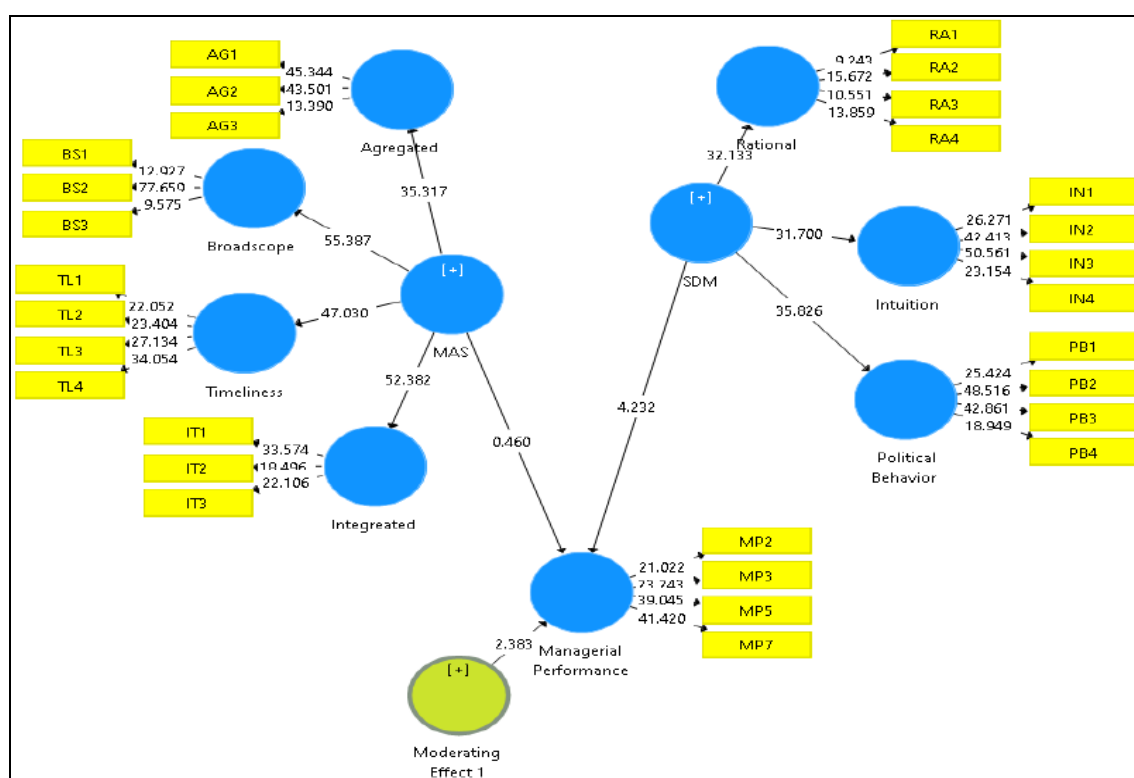
**Table 6:** AVE and Composite Reliability Constructs of MAS, Strategis Decision Making and Managerial Performance

	Composite Reliability	AVE
Aggegated	0,876	0,703
Broadscope	0,851	0,659
Integreated	0,868	0,687
Timeliness	0,891	0,671
MAS	0,940	0,569
Rational	0,835	0,558
Intuition	0,925	0,756
Political Behavior	0,922	0,748
Strategic Decision Making	0,935	0,549
Managerial Performance	0,944	0,809

Source: Primary Data Processed, 2021

Table 6 showed that the AVE value was  $> 0.05$  to meet the requirements of convergent validity. The table also indicated that the Composite Reliability values generated by all constructs were  $> 0.70$ . Thus, all the indicators possessed by the research construct were reliable, and the analysis

could be continued to the structural model or the inner model. The structural model (inner model) was the second stage of model evaluation (Hamid & Anwar, 2019). With the assistance of the smart pls program, the following inner model and path coefficients were developed:



Source: Primary Data Processed, 2021

**Fig 7:** Inner Model**Table 7:** Path Coefficient MAS, Strategis Decision Making (SDM) and Managerial Performance

	Original sample	Sample Mean	Standard Deviation	T-Statistics	P-Values
SDM → Managerial Performance	-0,437	-0,452	0,100	4,362	0,000
Moderating effect → M. performance	-0,199	-0,211	0,085	2,331	0,020

Source: Primary Data Processed, 2021

As in Table 7, the hypothesis testing resulted in strategic decision-making that harmed managerial performance. The findings were  $p\text{-value} < 0.05$ , the original sample was  $-0.437$ , and the  $t\text{-statistic} > 1.96$ . In the same table, the influence of the management accounting system weakened strategic decision-making on managerial performance. The original sample was  $-0.199$ ,  $p\text{-value} < 0.05$  and  $t\text{-statistic} > 1.96$ . The research hypothesis results were rejected because of two reasons. The first was the managers'

practical difficulties to choose techniques in strategic decision making (Bowman & Moskowitz, 2001) [13]. The second referred to complex and irrational strategic decision making (Ahmed, Bwisa, Otieno, & Karanja, 2014) [1]. The research findings also demonstrated that strategic decision making had a negative effect and did not support the previous results of Amason and Schweiger (1994) [4], Schwenk (1995) [38], Finkelstein *et al.* (2009) [18], Senik *et al.* (2012) [39] and Wu, Zhang, and Fang (2014) [53]. They argued



that strategic decision making had a positive effect on organizational performance and individual performance. The second finding shows that MAS weakened strategic decision-making's impact on managerial performance. These did not support Nguyen (2018) <sup>[33]</sup> that strategic decision-making could improve the relationship between marketing orientation and the use of MAS.

### Conclusion

The study found that (1) strategic decision making harmed managerial performance, and (2) the management accounting system weakened the effect of strategic decision making on managerial performance. So all findings rejected the research hypothesis. However, the implication of this study improved managerial performance using MAS as an organizational need as a basis for strategic decision making. This study had two limitations. First, the questionnaires were less understood by managers. Second, the research objects were still heterogeneous since the respondents came from various types of cooperatives. From these limitations, this study suggested that (1) cooperative managers should use MAS as a decision-making tool, (2) further research should develop questionnaires that respondents easily understand, and (3) further research should be more specific using homogeneous cooperatives so that obtained by the manager as a respondent.

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