

Analysis of Cognitive Bias and Ambiguity in Managerial Accounting Decision Making

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ABSTRACT

This study aims to analyze in depth the role of cognitive bias and ambiguity in the managerial accounting decision-making process in military organizations, particularly in the Iskandar Muda Military Command. This study uses a descriptive qualitative approach with data collection techniques in the form of in-depth interviews, non-participant observation, and documentation. The research informants came from the Ir, Asren, Dadenma, and Kakudam elements who were directly involved in the financial management and managerial decision-making processes. Data analysis was carried out through the stages of data reduction, data presentation, and conclusion drawing, with validity testing using triangulation, peer discussion, and member checking. The results of the study show that cognitive biases in the form of overconfidence, anchoring, and availability bias arise at the stages of budget planning, activity evaluation, and financial report interpretation. In addition, information ambiguity, role ambiguity, and organizational goal ambiguity also increase uncertainty in the decision-making process. These two factors have an impact on the accuracy of budget estimates, the quality of performance evaluations, and the effectiveness of internal controls. The study emphasizes the importance of strengthening information systems, improving the analytical competence of personnel, and refining control procedures to minimize distortions in managerial decisions.

INTRODUCTION

Managerial accounting plays an important role in supporting organizational planning, control, and decision-making functions by providing financial and non-financial information. In public sector organizations, including military institutions, managerial accounting information forms the basis for budget allocation, operational planning, performance evaluation, and resource control. Unlike profit-oriented organizations, public and military institutions place greater emphasis on accountability, efficient use of funds, and the achievement of institutional mandates. Therefore, the quality of managerial decisions greatly determines the effectiveness of the organization and the accountability of state financial management.

Conceptually, decision-making is often assumed to be rational and data-driven. However, the behavioral accounting perspective shows that managerial decisions are not entirely objective because they are influenced by psychological factors and situational conditions. Decision-makers have limitations in processing information, especially in environments characterized by time pressure, hierarchical structures, and data limitations. These conditions are commonly found in military organizations, where operational demands and bureaucratic procedures run concurrently, opening up opportunities for deviations from ideal rationality.

One influential behavioral factor is cognitive bias, which is the tendency toward systematic deviation in judgment due to the use of heuristics or mental shortcuts. Biases such as overconfidence, anchoring, and availability can affect how decision makers interpret accounting information, estimate budgets, and evaluate performance. Overconfidence can cause managers to rely too heavily on personal experience, dependence on initial information can hinder decision adjustments, and the use of the most memorable information can reduce the completeness of the analysis. These conditions have the potential to reduce the objectivity and quality of managerial accounting decisions.

In addition, organizational ambiguity also affects the decision-making process. Ambiguity arises when information, roles, or organizational goals are not entirely clear. Unclear financial reports, overlapping responsibilities, and differences in understanding regarding activity priorities can cause uncertainty in data interpretation. In structured organizations such as the military, ambiguity can slow down coordination, cause differences in interpretation, and encourage decision makers to rely on intuition rather than systematic analysis. The interaction between cognitive bias and ambiguity increases the risk of suboptimal decisions.

The Iskandar Muda Military Command, as one of the Regional Military Commands under the Indonesian Army, operates within a hierarchical and bureaucratic system with complex financial management responsibilities. Managerial accounting decisions in this environment include budgeting, logistics management, and operational activities that demand accuracy, precision, and accountability. However, challenges such as limited analytical capacity, layered procedures, time pressure, and limited information systems can create conditions that allow for cognitive bias and ambiguity in the decision-making process.

Various studies show that cognitive bias and ambiguity influence managerial decisions in both the public and private sectors. However, studies in the context of military organizations are still limited, even though they have unique characteristics, such as a strict command structure and high accountability requirements. This study aims to understand how cognitive bias and organizational ambiguity influence managerial accounting decision-making in the Iskandar Muda Military Command, thereby contributing to the development of public sector behavioral accounting literature and providing practical input for improving the quality of financial management in the military environment.

LITERATURE REVIEW

The behavioral accounting approach emphasizes that the use of accounting information is influenced by individual cognitive processes (Birnberg et al., 2007). In situations of uncertainty, individuals use heuristics to simplify judgments, but this strategy can lead to systematic errors (Gigerenzer & Gaissmaier, 2011).

Cognitive biases are consistent deviations from rationality due to the use of heuristics (Kahneman & Tversky, 1974). Overconfidence bias describes the tendency of individuals to overestimate their personal abilities or knowledge (Bazerman & Moore, 2013). Anchoring bias occurs when decisions are strongly influenced by initial information (Kahneman, 2011). Availability bias arises when individuals rely on easily remembered information rather than the most relevant data (Tversky & Kahneman, 1974). In the context of managerial accounting, these biases influence cost estimates, budgeting, and performance evaluations (Libby & Luft, 1993).

METHODOLOGY

This study uses a descriptive qualitative approach to gain an in-depth understanding of how cognitive bias and organizational ambiguity influence the managerial accounting decision-making process. This approach was chosen because it is capable of exploring the meanings, perceptions, and experiences of decision makers in a complex organizational context.

The research was conducted at the Iskandar Muda Military Command, Banda Aceh, as one of the Indonesian Army's regional command units responsible for financial and operational management. The location was selected purposively, considering that this organization has a hierarchical structure, a bureaucratic system, and a financial decision-making process that involves various managerial levels.

Research informants were selected purposively based on their direct involvement in financial management and managerial decision-making processes. Informants came from several relevant departments, such as planning, finance, and support units. Informant criteria included work experience, understanding of the budgeting process, and role in activity evaluation.

Data were collected through in-depth interviews, non-participant observation, and documentation. Interviews were used to explore informants'

perceptions and experiences related to the decision-making process and the factors that influence it. Observations were conducted to understand the organizational context and interactions between units, while documentation included financial reports, budget documents, and relevant internal procedures.

Data analysis was conducted interactively through the stages of data reduction, data presentation, and conclusion drawing. The analysis process was continuous from data collection to the final interpretation stage. To maintain data validity, the study applied source and method triangulation techniques, discussions with peers, and confirmation of results with informants (member checking).

Organizational ambiguity arises when information, roles, or objectives are unclear (March & Olsen, 1976). Information ambiguity can stem from incomplete reports, role ambiguity from unclear division of responsibilities, and goal ambiguity from differing interpretations of organizational priorities. These conditions increase uncertainty and encourage individuals to rely on intuition (Daft & Lengel, 1986).

The quality of managerial accounting decisions is influenced by the accuracy of information and the decision maker's ability to interpret data (Waller, 1995). When cognitive biases influence the interpretation of information and ambiguity reduces the clarity of context, decisions may deviate from rational analysis (Simon, 1955).

RESEARCH RESULT

The results of the study show that the managerial accounting decision-making process at Kodam Iskandar Muda is not only determined by formal procedures and financial data, but is also influenced by individual psychological factors and organizational conditions that contain uncertainty. Although the budgeting and reporting systems have been structured, their implementation at the operational level still involves subjective assessments by decision makers.

The first finding relates to the existence of cognitive bias in the decision-making process. Overconfidence bias is evident when decision makers tend to rely on previous work experience in preparing budget estimates or determining activity priorities, without always conducting in-depth data analysis. Overconfidence in experience is considered to speed up the process, but has the potential to reduce the accuracy of calculations, especially when operational conditions change.

Anchoring bias is also found in the budgeting process, where initial figures or previous year's realizations become the main reference in subsequent planning. Despite changes in needs and circumstances, adjustments are often limited because decisions remain anchored to the initial figures. This condition shows that initial information has a strong influence in shaping subsequent decisions.

Meanwhile, availability bias arises when decisions are influenced more by experiences or cases that are most easily remembered than by the latest data available in financial reports. Information that is frequently discussed or has

caused problems in the past tends to receive more attention, resulting in suboptimal analysis of other data.

In addition to cognitive bias, research has also found organizational ambiguity that affects the decision-making process. Information ambiguity is evident in delayed or incomplete financial reports, which force decision makers to work with data that is not entirely certain. Role ambiguity arises in the form of overlapping responsibilities between departments, so that the authority to make certain decisions is not always clear. Goal ambiguity is also evident when the priorities of activities are understood differently by the units involved, so that budget allocations are not always in line with strategic objectives.

The interaction between cognitive bias and ambiguity reinforces the tendency to make intuition-based decisions. When information is not entirely clear, decision makers tend to rely more on personal experience and perception, which ultimately increases the influence of cognitive bias. This condition shows that the quality of managerial accounting decisions depends not only on systems and procedures, but also on behavioral factors and the clarity of the organizational structure.

These findings are consistent with the behavioral accounting perspective, which states that cognitive limitations and conditions of uncertainty affect the use of accounting information. In the context of military organizations, hierarchical structures and the demand for quick decisions reinforce these conditions. Therefore, efforts to improve decision quality are not sufficient through procedural improvements alone, but also through increased analytical literacy, improved information systems, and clear division of roles.

DISCUSSION

Research findings indicate that managerial accounting decisions are influenced by cognitive limitations, in line with the concept of bounded rationality (Simon, 1955). The existence of overconfidence bias supports the view that experience can increase self-confidence but also has the potential to reduce the accuracy of analysis (Bazerman & Moore, 2013). Findings on anchoring bias reinforce the theory that initial information forms the reference for subsequent decisions (Kahneman, 2011). Meanwhile, availability bias demonstrates the role of memory in evaluating situations (Tversky & Kahneman, 1974).

The organizational ambiguity found is also in line with the theory that unclear structures and information increase reliance on intuition (March & Olsen, 1976). Under these conditions, the effects of cognitive bias become even stronger (Daft & Lengel, 1986). These results reinforce the relevance of the behavioral accounting approach in explaining public sector decision-making practices (Birnberg et al., 2007).

CONCLUSIONS AND RECOMMENDATIONS

This study shows that managerial accounting decision-making at Kodam Iskandar Muda is influenced not only by formal systems and financial information, but also by behavioral factors and organizational conditions. Cognitive biases such as overconfidence, anchoring, and availability have been shown to influence how decision makers interpret accounting data, prepare budgets, and evaluate activities. Overconfidence in experience, reliance on initial information, and use of the most memorable information can reduce the objectivity of analysis and decrease the accuracy of decisions.

In addition, organizational ambiguity in the form of unclear information, roles, and objectives also influences the decision-making process. Ambiguity creates uncertainty that encourages individuals to rely more on intuition and subjective perceptions, thereby reinforcing the impact of cognitive bias. The interaction of these two factors shows that the quality of managerial accounting decisions is the result of a combination of technical, psychological, and organizational structural aspects.

Theoretically, this study reinforces the relevance of the behavioral accounting approach in explaining decision-making practices in the public sector, particularly in the context of military organizations that have hierarchical characteristics and high accountability demands. Practically, the research findings indicate the need to improve the quality of financial information systems, clarify the division of roles, and strengthen the analytical capacity of personnel to minimize potential decision distortions.

Based on the results of the study, several recommendations that can be considered include improving financial analysis training for decision makers, developing a more integrated and timely reporting system, and reinforcing the structure of responsibility in the budget management process. In addition, organizations need to raise awareness of the potential for cognitive bias in decision-making through educational approaches and the strengthening of internal control mechanisms. These efforts are expected to improve the accuracy, consistency, and accountability of managerial accounting decisions in military organizations.

ADVANCED RESEARCH

This study has several limitations that open up opportunities for further research. First, the study was conducted at a single military institution, so the results are contextual and cannot be generalized to other public or military organizations. The characteristics of the structure, organizational culture, and financial management system in each institution may differ, which may result in different dynamics of cognitive bias and ambiguity.

Second, this study uses a qualitative approach that focuses on a deep understanding of the decision-making process and its meaning. Although it provides a comprehensive picture, this approach does not measure the level of influence of each type of cognitive bias and form of ambiguity quantitatively. Future research could use quantitative methods or a mixed methods approach to statistically test the relationship between variables, thereby providing more measurable empirical evidence.

Third, this study focuses on cognitive bias and organizational ambiguity, while other behavioral factors such as organizational pressure, work culture, leadership style, and incentive systems have not been examined in depth. Future studies could integrate these variables to gain a broader understanding of the factors that influence managerial accounting decision-making in the public sector.

In addition, comparative studies between military units or between military and civilian organizations can also be conducted to examine differences in the patterns of influence of behavioral factors in different organizational contexts. Thus, future research development is expected to enrich the behavioral accounting literature and provide a stronger basis for the formulation of adaptive financial management policies based on an understanding of decision-makers' behavior.

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