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The Impact of Groupthink, Group Cohesiveness, and Bounded Rationality on the Quality of Decision Making: A Systematic Literature Review

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Abstract: This research conducted a systematic literature review of the impact of groupthink, group cohesiveness, and bounded rationality on group decision making. Through a systematic analysis method of relevant literature, the research results reveal that the interaction between these three factors significantly influences the quality of the group decision-making process. The novelty of this research lies in the integration of these three factors in one conceptual framework, providing holistic insights that can be the basis for developing more effective strategies in improving the quality of group decision making. The contribution of this research is important in the social psychology and group decision-making literature, highlighting practical implications for improving decision-making processes in group contexts.

Keywords: Bounded Rationality, Groupthink, Group Cohesiveness, Quality of Decision Making.

A. Introduction

Group decision making is an important aspect in the scientific literature because it has a significant impact on decision quality and organizational performance. Recognizing the importance of this, this research aims to conduct a systematic literature review highlighting three key concepts, namely Groupthink, Group Cohesiveness, and Bounded Rationality. The main focus of this research is to understand how these three concepts interact with each other and impact the quality of the decision-making process in a group context. By deepening understanding of the relationship between these concepts, it is hoped that we can provide more holistic insight into improving the quality of group decision making as well as overall organizational performance. Evaluation of the quality of decision making often involves various factors, such as accuracy, relevance of information, courage to take risks, and the impact of decisions on desired goals. (March, 1991) often emphasize the complexity and uncertainty in organizational environments.

Decision making is a mental process that involves selecting options or actions from several available alternatives. Rational theory (Simon, 1986) emphasizes that

individuals in making decisions are expected to behave rationally, by evaluating alternatives comprehensively to choose the most optimal option based on existing information. However, (Lindblom, 1959) provides the perspective that decision making is often incremental or gradual, where decisions are made slowly over time with adjustments based on experience. According to (Janis, 1972) who was the pioneer of the groupthink concept. In this book, he outlines the symptoms and negative impacts of groupthink in the context of group decisions. Janis presents case studies and provides in-depth insight into how conformity pressures can hinder rational decision-making processes. Groupthink is a phenomenon in which a group reaches an uncritical or evaluative agreement, ignoring alternative information or views that may conflict with the majority opinion.

Group cohesiveness refers to the extent to which group members feel tied to each other and feel they have a shared identity within the group. This includes group cohesion, friendship, and positive interactions between group members. According to (Festinger, 1957) group cohesiveness is the strength or attractiveness of a group that strengthens an individual's interest in the group, resulting in a desire to remain a member. (Kahneman & Tversky, 1979) suggests that individuals are more sensitive to losses than to gains, and their behavior can be influenced by the frame of reference or context in which choices are presented. This theory provides a deep understanding of the limitations in risk assessment and decision making that do not always follow traditional economic logic.

Previous studies have made important contributions to understanding the role of Group Cohesiveness in group decisions. For example, research by (Mullen et al., 1994) entitled "Group Cohesiveness and Quality of Decision Making: An Integration of Tests of the Groupthink Hypothesis" proposes the integration of Groupthink hypothesis tests as part of an exploration of the correlation between group cohesiveness and decision quality. Furthermore, a study conducted by (Sáenz-Royo et al., 2023a) with the title "Intentional Bounded Rationality Methodology to Assess the Quality of Decision Making Approaches With Latent Alternative Performances" brings a new perspective in measuring the quality of decision making. Apart from that, understanding the drawbacks or weaknesses in group decision making from a psychological aspect is outlined in research by (Janis, 1972) and discussed further in a recent article by (Farkas, 2016) entitled "The Drawbacks of Group Decision Making from a Psychological Aspect: The Pitfalls of Groupthink and How to Handle Them". Based on the understanding of the complexity of group decision making explained previously, this research formulates the main question: "How do Groupthink, Group Cohesiveness, and Bounded Rationality impact the quality of the group decision making process, as reflected in the findings of existing literature studies?" By adopting a comprehensive systematic literature review approach, this research aims to explore in depth the interaction and impact of these three concepts on the quality of group decision making. It is hoped that the results of this research will not only provide a deeper understanding of the mechanisms behind group decision making, but also

provide valuable insight for the development of more effective strategies in improving group decision making processes.

B. Methods

Systematic Literature Review (SLR) is a systematic and methodological research method for investigating, disseminating, and synthesizing literature relevant to a particular research topic or research question. This approach is used to obtain a comprehensive picture of existing knowledge in a field and to identify key findings. The SLR method creates a transparent, systematic, and objective approach to achieving an understanding of the literature on a research topic. It provides a solid foundation for decision making, policy development, and knowledge development in various disciplines. Kitchenham, (2004), a well-known researcher and methodologist in the field of software engineering, has made significant contributions to the development and understanding of Systematic Literature Review (SLR). Kitchenham has played a key role in developing guidelines and methods for applying SLR in computer science and software engineering contexts.

According to (Tranfield et al., 2003), literature searches must be carried out comprehensively and involve various sources of relevant information, such as basic journal data. This process also requires the use of appropriate search strategies, including the use of relevant keywords, selection of appropriate databases, and application of clear inclusion and exclusion criteria.

Respondents in SLR are articles or documents that are relevant to the selected research topic. The instruments used in SLR include the delivery of recording data used to record important information from each article analyzed, as well as tools to convey the quality of methodological studies included in literature observations.

Data analysis in SLR includes extracting relevant data from selected articles, creating tables or frameworks to organize the data, as well as analyzing and interpreting existing findings by identifying patterns, similarities, differences and evolution between them. This analysis helps researchers to explore relationships between findings and identify conclusions or patterns that emerge from the literature reviewed.

C. Results and Discussion

This research article was searched online using Google Scholar. Using the keywords groupthink, group cohesiveness, bounded rationality, and quality of decision making, 26 articles were obtained. Then a filter was carried out and the author used 16 articles. Of these 16 articles, there are 5 articles from 1984-2005, 4 articles from 2006-2015, and 7 articles from 2016-2022 as shown in graphic image 1.1.

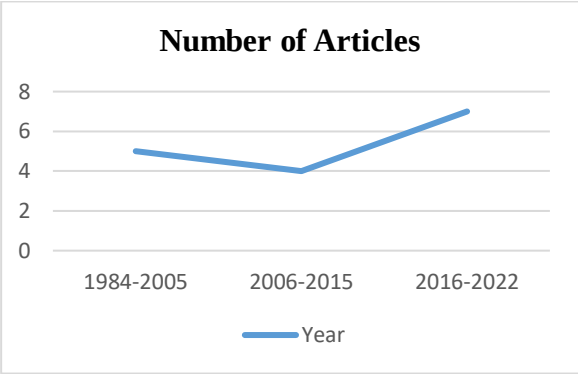

Figure 1.1. Publication Trends 1984-2022

The following is a table listing literature reviews of several articles that the author has obtained from this search:

No.	Researcher Identity and Title	Variable	Method	Results
1	Callaway, Michael & James K Esser. 1984. Groupthink: Effects Of Cohesiveness And Problem-solving Procedures On Group Decision Making. Social Behavior and Personality. 12(2). 157-164	Group Cohesiveness, Groupthink, Decision Making	Quantitative	Groups with high cohesiveness show greater confidence in group decisions, consistent with the illusion of invulnerability that is a symptom of groupthink. Overall, the lack of dissent and high levels of trust in group decisions were the main indicators of the presence of groupthink in this study. (Callaway & Esser, 2006)
2	Leana, Carrie. 1985. A Partial Test of Janis Groupthink Model: Effects of Group Cohesiveness and Leader Behavior on Detective Decision Making. Journal of Management 1985 11: 5	Group Cohesiveness, Groupthink, Decision Making	Qualitative	Groups with higher cohesiveness are more likely to exhibit symptoms of groupthink. This research provides partial support for Janis' groupthink model, suggesting that higher group cohesiveness can contribute to flawed decision making, especially when combined with a directive leadership style. (Leana, 1985)

3	Mullen, Brian et al. 1994. Group Cohesiveness and Quality of Decision Making An Integration of Test of the Groupthink Hypothesis. Sage Publications. Vol. 25 No. 2. SAGE Social Science Collections	Group Cohesiveness, Decision Making	Quantitative	More cohesive groups will produce poorer decision quality as group size increases. (Mullen, 1994)
4	Schafer, Mark. 2002. The Process-Outcome Connection in Foreign Policy Decision Making: A Quantitative Study Building on Groupthink. International Studies Quarterly. 46, 45–68	Group think, Decision Making	Quantitative & Qualitative (Mix-Method)	It was found that operational definitions for process variables were functional and effective, resulting in satisfactory intercoder reliability assessments. In addition, expert assessments of the outcomes of all cases conducted by 34 different researchers in North America and Europe provide a valuable perspective on the outcomes of foreign policy decisions. (Schafer & Crichlow, 2002)
5	Agosto, Denise. 2002. Bounded Rationality and Satisficing in Young People's Web-Based Decision Making. Journal Of The American Society For Information Science And Technology	Bounded Rationality, Decision Making	Qualitative Descriptive	Students' decision-making processes when surfing the web are influenced by factors such as color, design, physical limitations, and time constraints. Participants demonstrated bounded rationality, making decisions based on satisfaction, not optimization. (Agosto, 2002)
6	Chapman, Judith. 2006. Anxiety and Defective Decision Making: An Elaboration of the Groupthink Model. Emerald Insight. Vol. 44 Iss 10 pp. 1391 - 1404	Group think, Decision Making	Qualitative Descriptive	Theoretical elaboration of the groupthink model centers on the idea that anxiety associated with decision-making tasks triggers an implicit motivation of anxiety reduction within the group, i.e. enacted through the activation of general defense mechanisms, thereby resulting in symptoms of flawed decision-making. (Chapman, 2006)
7	Lohan, Gary et al. 2013. The Impact of Group Cohesiveness on Decision-Making Outcomes under Conditions of Challenging and Avoiding Time	Group Cohesiveness, Decision Making	Quantitative	High/low levels of group cohesion moderate the impact of time pressure on decision outcomes. (Lohan et al., 2013)

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8	Hogg, David. 2013. Application of Groupthink to Generation Y Decision Making Processes within a Professional Services Context in New Zealand. International Journal of Business and Management. Vol. 8, no. 8	Group think, Decision Making	Meta Analysis	Groupthink model with several changes can be used to explain and predict Generation Y behavior in a professional services company environment. Generation Y tends to experience groupthink because they have a need to remain part of a group and avoid conflict. (Hogg, 2013)
9	Nel & Pitt. 2015. The Effects Of Group Cohesiveness On Decision Performance in a Simulated Marketing Environment. South African Journal of Sociology. 21:1, 59-65	Group Cohesiveness, Decision Making	Quantitative	The research results show that there is a positive relationship between group cohesiveness and profits in a simulated marketing environment. This suggests that when group members are more cohesive, they are more likely to obtain higher benefits in decision making. (Pitf & Nel, 1990)
10	Johanna. 2016. The Drawbacks of Group Decision Making from a Psychological Aspect: The Pitfalls of Groupthink and How to Handle Them. Magyar Rendeszet. Vol. XVI. 2016/2. 67—78	Group think, Decision Making	Qualitative Descriptive	In extreme cases this can lead to major errors in decision making. By understanding the mechanisms of groupthink, these mistakes can be avoided and possible mistakes can be corrected. (Farkas, 2016)
11	Supriatin, Harti et al. 2017. The Effect of Learning Strategy Training and Group Cohesiveness on the Effectiveness of Decision Making. International Journal of Managerial Studies and Research (IJMSR). Volume 5, Issue 9	Group Cohesiveness, Decision Making	Quantitative	The research results show that teachers who have high cohesiveness and receive problem-based learning training are more effective in decision making compared to teachers who receive expository learning training. Overall, this research highlights the importance of learning strategy training and group cohesion in increasing the effectiveness of decision making in secondary school teachers. (Supriatin et al., 2017)

12	Aziz, Abdulla. 2019. Groupthink and Quality of Decision Making Process Among the Top Managers of the Public Universities of Kurdistan Region. International Conference on Accounting, Business, Economics and Politics	Group think, Decision Making	Quantitative	Findings indicate a significant positive covariance between the quality of the decision-making process and symptoms of groupthink, suggesting that preventing groupthink requires more than just changing demographics. (Aziz et al., 2019)
13	Hernandez & Ortega. 2019. Bounded Rationality in Decision Making. MOJ Current Research and Reviews. 2(1):1–8	Bounded Rationality, Decision Making	Qualitative Descriptive	The research results show that bounded rationality plays an important role in the decision-making process. The findings of this study emphasize the need to consider bounded rationality and learning processes in decision making. (Hernandez & Ortega, 2019)
14	Dhami, Sanjit et al. 2019. Heuristics and Public Policy: Decision-making Under Bounded Rationality. Studies in Microeconomics. SAGE. 7(1) 7–58	Bounded Rationality, Decision Making	Qualitative	This article discusses the findings and results of the G&O program (Gigerenzer and colleagues) in contrast to the KT&O program (Kahneman and Tversky). This highlights that the G&O program aims to show that the heuristic is good and performs better than optimization methods when ecological rationality is taken into account. (Dhami et al., 2019)
15	Royo, Carlos et al. 2022. Intentional Bounded Rationality Methodology to Assess the Quality of Decision-Making Approaches With Latent Alternative Performances. Elsevier	Bounded Rationality, Decision Making	Quantitative	When the rationality of the decision maker is different, the expected performance increase is reduced. When decision makers are highly skilled, judgments are more consistent and expected profits are greater. When the decision maker is very unexpert, the probability of rejection occurs, although this does not mean that the expected performance increase is greater. (Sáenz-Royo et al., 2023b)

16	Royo, Carlos et al. 2022. Functional Representation of the Intentional Bounded Rationality of Decision-Makers: A Laboratory to Study the Decisions a Priori. MDPI Mathematics	Bounded Rationality, Decision Making	Quantitative	The bounded rationality described here may have a promising future in the application of agent-based modeling (ABM), decision support techniques (DST), and collective decision-making mechanisms, by extending the model to the trade-offs that occur among mindset, complexity, and decision structure. (Sáenz-Royo et al., 2022)

Based on the table above, it can be seen that there is the influence of groupthink, group cohesiveness, and bounded rationality in shaping the quality of the group decision making process.

1. The Influence of Groupthink on the Quality of the Decision-Making Process

The following is a discussion of the research findings that have been presented, namely:

a. The Impact of Anxiety on the Groupthink Model
Research shows that the groupthink model develops from anxiety related to decision-making tasks in groups. This anxiety triggers an implicit motivation to reduce uncertainty, translated through the activation of general defense mechanisms. As a result, symptoms of flawed decision making may emerge. The tendency of groups to reach consensus without critical evaluation and the rejection of alternative points of view are examples of symptoms that can be detrimental to the quality of decision making.

b. The Groupthink Model in Generation Y
Further research explores the application of the groupthink model to generation Y behavior in a professional services company environment. Generation Y tends to experience groupthink due to the urge to remain part of the group and avoid conflict. The groupthink model with some changes that take into account the social dynamics and values of Generation Y, can be used to explain and predict their decision-making behavior. Awareness of these trends is important so that organizations can implement prevention strategies.

c. Potential Errors in Extreme Cases
When groupthink reaches extreme levels, major errors in decision making can arise. These errors can be detrimental to the quality of the decision-making process and the impact can be long-term. However, a deeper understanding of the mechanisms of groupthink can help identify, prevent, and correct these errors.

d. The Process-Outcome Connection in Foreign Policy Decision Making: A Quantitative Study Building on Groupthink
   The research findings shed light on the influence of groupthink on the quality of decision-making processes, particularly within the realm of foreign policy. It was found that the operational definition for the process variable was both functional and effective, resulting in satisfactory intercoder reliability assessments. Additionally, expert evaluations of the outcomes across all cases conducted by 34 different researchers in North America and Europe provided valuable insights into foreign policy decision outcomes. These findings underscore the importance of robust research methodologies and interdisciplinary perspectives in studying phenomena such as groupthink and their impact on decision-making processes. By employing rigorous methods and integrating insights from diverse sources, researchers can generate valuable knowledge that informs our understanding of decision-making dynamics and contributes to more informed policy development and implementation.

e. Groupthink and Quality of Decision Making Process Among the Top Managers of the Public Universities of Kurdistan Region
   The research findings suggest a significant positive covariance between the quality of decision-making processes and the symptoms of groupthink, indicating that preventing groupthink requires more than just demographic changes. The significant positive covariance implies that as the symptoms of groupthink become more prevalent within a group, the quality of decision-making processes tends to deteriorate. This suggests that efforts to enhance decision-making quality must address the root causes of groupthink, rather than merely focusing on surface-level demographic factors. Moreover, addressing groupthink may also necessitate changes in leadership style and organizational culture. Leaders play a crucial role in setting the tone for decision-making within a group, and their ability to promote a climate of psychological safety and intellectual humility can help mitigate the risks of groupthink. The research findings underscore the importance of recognizing and addressing the influence of groupthink on decision-making processes. By understanding the complex interplay between group dynamics and decision quality, organizations can implement more effective strategies to prevent groupthink and enhance the overall quality of decision-making. Overall, the research results highlight that groupthink has a significant impact on the quality of decision-making processes in groups. Anxiety, the motivation to reduce uncertainty, and the drive to maintain harmony can lead to suboptimal group decisions.

2. The Influence of Group Cohesiveness on the Quality of the Decision-Making Process

   The following is a discussion of the four research findings that have been presented, namely:

   a. The Effect of More Cohesive Groups on Decision Quality with Increased Group Size
      Some research shows that more cohesive groups tend to produce poorer decision quality as group size increases. This can be explained by the emergence of the concept of groupthink, where the desire to maintain group cohesiveness can inhibit criticism and variations in opinion. The research findings highlight a notable paradox regarding the influence of group cohesiveness on the quality of decision-making processes. While cohesion within groups is generally viewed as beneficial for fostering teamwork, collaboration, and camaraderie, some studies suggest that increased cohesion can actually lead to poorer decision quality, particularly as group size expands.

   b. The Role of Level of Cohesion in Moderating the Impact of Time Pressure
      Other research shows that the level of group cohesion can moderate the impact of time pressure on decision outcomes. In this context, it may happen that highly cohesive groups are able to cope with time pressure better because of mutual trust and good coordination among their members.

   c. Positive Relationship between Group Cohesiveness and Profitability in a Simulated Marketing Environment
      These findings indicate that there is a positive relationship between group cohesiveness and profitability in simulated marketing environments. This can be explained by the fact that when group members are more cohesive, they are more likely to work together effectively, share information, and integrate different perspectives.

   d. The Role of Group Cohesion and Problem-Based Learning Training in the Effectiveness of Secondary School Teacher Decision Making
      The research results show that teachers who have high cohesiveness and receive problem-based learning training are more effective in decision making compared to teachers who receive expository learning training. This conclusion highlights the importance of learning strategy training and group cohesion in improving secondary school teachers' decision-making effectiveness. The research findings underscore the significant influence of group cohesiveness on the quality of decision-making processes, particularly in the context of educational settings. Specifically, the results indicate that teachers who exhibit high levels of group cohesiveness and undergo problem-based learning (PBL) training demonstrate greater effectiveness in

decision-making compared to their counterparts who receive expository learning training.

e. Groupthink: Effects Of Cohesiveness And Problem-solving Procedures On Group Decision Making
These findings show that groups with high cohesiveness tend to have greater confidence in the decisions taken by the group. This can be the result of what is known as the "illusion of invulnerability," in which group members feel that their group cannot make mistakes or suffer negative consequences from their decisions. This can lead to decisions that are less critical or do not adequately consider risks. In addition, the lack of differences of opinion among group members and a high level of trust in group decisions were also identified as key indicators of the existence of the groupthink phenomenon in the context of this research. Groupthink occurs when efforts to reach an agreement or condition outweigh efforts to critically consider information or investigate possible alternatives. As a result, decisions made may not take into account diverse viewpoints or information, which can reduce the overall quality of the decision.

f. A Partial Test of Janis Groupthink Model: Effects of Group Cohesiveness and Leader Behavior on Detective Decision Making
The findings of this research shed light on the influence of group cohesion on the quality of decision-making processes, particularly highlighting the potential occurrence of groupthink phenomena. Groupthink, identified as a phenomenon where group members prioritize consensus over critical evaluation of information, can have detrimental effects on the quality of decisions made. In practical terms, these findings underscore the importance of managing group cohesion and considering the role of leadership styles in supporting high-quality decision-making processes. Efforts to promote diversity of opinions, facilitate open discussions, and critically evaluate information can help mitigate the risk of groupthink and enhance the quality of decisions made by the group. Additionally, attention to leadership styles is crucial, with a preference for more collaborative approaches that encourage active participation of group members to ensure a balanced and effective decision-making process. Overall, the results of research on group cohesiveness demonstrate the complexity of the relationship between group cohesion and the quality of decision making, with the influence depending on context, group size, and other factors.

3. The Influence of Bounded Rationality on the Quality of the Decision-Making Process
   The following is a discussion of the research findings that have been presented, namely:
   a. The Influence of Web Design on Student Decision Making
      Research shows that students' decision-making processes when surfing the web are influenced by various factors, such as color, design, physical limitations, and time constraints. This suggests that non-rational factors such as aesthetics and time constraints can influence the quality of decision making.

   b. The Role of Bounded Rationality in the Decision-Making Process
      The results of the second study confirmed that bounded rationality plays an important role in the decision-making process. Therefore, in a learning context, it is important to understand and take these limitations into account to improve the quality of decisions.

   c. Comparison of G&O and KT&O Programs
      Research notes differences between G&O (Gigerenzer and colleagues) and KT&O (Kahneman and Tversky) programs in the context of decision making. The G&O program shows that heuristics can perform better than optimization methods when considering ecological rationality. This shows that under certain conditions, simple decision-making strategies can provide better results.

   d. Influence of Decision Maker Expertise Level
      Research shows that a decision maker's level of rationality can influence expected performance. When decision makers are highly skilled, judgments are more consistent and expected profits are greater.

   e. The Future of Bounded Rationality in Decision Making
      The bounded rationality described in this research has potential implications for the application of agent-based models (ABM), decision support techniques (DST), and collective decision-making mechanisms. Application of this model can consider trade-offs between mindset, complexity, and decision structure.

   Through the results of this research, it can be concluded that bounded rationality has a significant role in shaping the quality of the decision-making process, and understanding these limitations is important to increase decision effectiveness.

D. Conclusions

Based on the research results, it can be concluded that group thinking, group

cohesiveness, and bounded rationality have a significant impact on the quality of the decision-making process in a group context. Findings suggest that groupthink can inhibit a group's ability to critically explore alternatives, resulting in suboptimal decisions due to conformity pressures and the drive to maintain conformity. Moreover, the relationship between group cohesiveness and the quality of decision making is complex, influenced by contextual factors such as group size and group dynamics. A deeper understanding of group cohesion can help improve the decision-making process. Finally, bounded rationality plays an important role in shaping decision quality by considering limited resources such as time, information, and cognitive abilities. This conclusion emphasizes the importance of awareness and preventative action to overcome these obstacles to improve the quality of decision making in group contexts. Thus, these findings provide valuable direction for developing strategies that are more effective in improving group decision-making processes and preventing potential errors in extreme situations.

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