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Importance of Having Effective Group Decision-Making in Organization

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Abstract

This study explores the impact of organizational GDM, focusing on group decision-making and its impact on employee engagement and effectiveness, leadership, and organizational performance. Group decision-making fosters collaboration increases creativity and enhances employee commitment. However, it faces challenges like taking too much time, while making decision collaboratively, may also create conflict, when groups are large, and many respondents are not highly interested in very large groups. Employees engagement in decision-making positively impacts on exposure of group decision making and effectiveness of group decision making. Leadership has significant positive correlation with effectiveness of the group decision making and engagement of the employee in decision making process. Most important findings are perceived effectiveness and engagement are strongly positive correlated. This indicates that individuals who find group decision-making are effective in aligning decisions and organizational goals, and improving overall performance, are more likely to hold the opinion that it fosters engaged collaboration, teamwork, knowledge sharing, and employee satisfaction in general.

Keywords: group decision-making, employee satisfaction, perceived effectiveness, engagement, organizational performance, leadership.

Zusammenfassung

Diese Studie untersucht die Auswirkungen von GDM in Organisationen und konzentriert sich dabei auf Gruppenentscheidungen und deren Auswirkungen auf Mitarbeiterengagement und -effektivität, Führung und Unternehmensleistung. Gruppenentscheidungen fördern die Zusammenarbeit, steigern die Kreativität und erhöhen das Engagement der Mitarbeiter. Allerdings gibt es auch Herausforderungen wie zu viel Zeitaufwand bei gemeinsamen Entscheidungen, was bei großen Gruppen auch zu Konflikten führen kann, und viele Befragte sind nicht sehr an sehr großen Gruppen interessiert. Das Engagement der Mitarbeiter bei Entscheidungsprozessen wirkt sich positiv auf die Sichtbarkeit von Gruppenentscheidungen und deren Effektivität aus. Führung weist eine signifikante positive Korrelation mit der Effektivität von Gruppenentscheidungen und dem Engagement der Mitarbeiter im Entscheidungsprozess auf. Die wichtigsten Erkenntnisse sind, dass wahrgenommene Effektivität und Engagement stark positiv korreliert sind. Dies deutet darauf hin, dass Personen, die Gruppenentscheidungen als effektiv bei der Abstimmung von Entscheidungen und Unternehmenszielen und der Verbesserung der Gesamtleistung empfinden, eher der Meinung sind, dass sie engagierte Zusammenarbeit, Teamwork, Wissensaustausch und Mitarbeiterzufriedenheit im Allgemeinen fördern.

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In the process of writing my thesis, I used AI technologies such as ChatGPT 4.0 for writing, Quillbot for summarization and paraphrasing, and Grammarly for text correction to enhance readability and linguistic coherence. All text has been thoroughly reviewed and modified, and I accept full responsibility for the thesis's content.

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Contents

List of Abbreviations

GDM- Group Decision-Making

CSR- Corporate Social Responsibility

EIDM- Employee Involvement in Decision-Making

IDM- Individual Decision-Making

PDM- Participation in Decision-Making

CEO- Chief Executive Officer

OS- OperatingSystem

BBC- British Broadcasting Corporation

JDI- Job Descriptive Index

1 Introduction

Groups make many decisions groups make. In order to come to decisions that are shared by all members of a group, for instance, management boards of companies and organizations, families, committees, and political parties combine the preferences of each member (Doerrenberg & Feldhaus (2023)

The ability to make decisions in a way that is both efficient and effective is an essential component of the functioning of any organization, whether it is a public institution or a private corporation (Obi & Agwu, 2017).

Many decisions in the organizations are made individually or in groups, depending on their nature and complexity. Individual managers and HR representatives are empowered to make hiring decisions, ensuring a diverse perspective and a good fit for the team and company culture. Significant decisions in organizations are usually taken by groups or within a group context. Group decision-making involves concluding the input of several individuals. A collective possesses more significant resources to address a problem than one can access alone. Ştefania Anca (2008)

Group discussions facilitate the pooling of knowledge among members. The interaction among group members generates novel ideas and insights that are unlikely to be produced by any individual member alone. Participation in a group encourages members to strive for sound decision-making and improved performance. Ştefania Anca (2008)

Individual managers and HR representatives are empowered to make hiring decisions, ensuring a diverse perspective and a good fit for the team and company culture. This individual approach can instill a sense of confidence and control in decision-makers (Sujon (2024); Group vs. Individual Decision Making, 2018).

Individual product managers or teams may make product development decisions. Although individual decision-making might accelerate time to market, group decision-making can boost creativity and innovation via diversified input, which includes a variety of perspectives, skills, and experiences (Sutevski, 2024).

When it comes to strategic planning, the collaborative approach of executive teams or groups of individuals can foster an intense sense of connection and involvement. This approach ensures more knowledge and stakeholder buy-in, fostering a sense of engagement and commitment (Group Vs. Individual Decision Making for a Business, 2018) (BizLibereTexts. (2023).

Managers may allocate project or department resources alone or alongside team members. Sujon (2024) suggests that group choices informed by everyday needs and objectives may result in more equal and effective distribution.

Operations managers may modify workflow or processes alone or alongside impacted personnel. Group participation addresses issues and leverages employee experience to increase change adoption and execution (BizLibereTexts. (2023) (Sutevski (2024). Group decision-making, such as when a cross-functional team drives CSR initiatives, can foster an intense sense of purpose and alignment. These initiatives are designed to achieve a wide effect and align with the core values of the business, fostering a sense of connection and engagement (Sutevski, 2024). This study uses a research approach that involves the distribution of structured questionnaires to a broad range of respondents, including those from diverse age groups, hierarchical positions, genders, and geographical areas all over the world, with the majority of respondents coming from Europe. While collecting answers to the questionnaire, additional questions were asked about various elements of the organizations and their participation in the decision-making process. The process of making decisions as a group is much more critical in order to strengthen the relationships that exist between members of a team. It has the potential to boost employee motivation while participating in the decision-making process, it can help cultivate trust, and group decision-making can increase the sense of ownership among group members and motivate decision-making.

However, group decisions have some drawbacks; once group size is significant, it may increase conflict among group members. It may also be more time-consuming than individual decision-making. Additionally, group decision-making can be time-consuming, leading to delays in decision and implementation; group size may affect the group members, especially female employees, who are more interested in making decisions in moderately small groups or not more than five members.

This thesis found some evidence that once more employees are engaged in group decision-making, the effectiveness of the results is more visible. Therefore, organizational performance and goals will be achieved.

1.1 Motivation

Group decision-making is a participatory process in which multiple individuals analyze problems or situations, consider, and evaluate alternative courses of action, and select a solution or solutions from among the alternatives. The success of group decision-making depends crucially on the engagement of the individuals involved, and this in turn has proven to be sensitive to the decision-making process and the dynamics generated within the group.

A good example of the challenges associated with the design of effective organizational structures, the communication barriers that can hinder collaborative endeavors across teams, and the dangers of poor strategic decision-making in organizations is the downfall of Nokia in the years 2010-2012. The company originated in Finland and became in less than a decade one of the most recognizable and valuable brands in the world, leading the mobile phone revolution. Despite its initial success and innovative character, it experienced an equally swift decline that culminated in the sale of its mobile phone business to Microsoft in 2013. Popular belief attributes Nokia's decline to its partnering with Microsoft for Windows Mobile and to the emergence of strong competitors. However, many observers have attributed its failure to internal organizational issues, failed management decisions, and restructuring attempts that mainly contributed to its decline.

Olagoke (2021) highlights the importance of a series of bad strategic decisions made by Nokia's CEO, Olli-Pekka Kallasvuo, who underestimated the impact of the iPhone and the smartphone revolution. Nokia failed to adapt to changing market trends and competition from companies like Apple, Google, and Samsung. While competitors embraced Android and innovated, Nokia stuck with its Symbian OS, refusing to adopt Android. From the users' perspective, Samala (2023) points out that the lack of innovation and failure to keep up with competitors, also regarding the design, the introduction of touchscreens and app stores, led to a decline in brand perception, affecting customer trust and loyalty.

Doz (2017) comments on the strategic organizational decisions that contributed to Nokia's downfall, mainly the reallocation of important leadership roles and the poorly implemented reorganization into a matrix structure, which led some important members of the executive team to leave the company, fostering internal tensions and the further deterioration of strategic thinking. The matrix structure adopted required organizational platforms to provide shared resources for different product lines. This meant that different groups with different priorities had to work collaboratively, sharing resources. However, the mid-level executives lacked experience and training in the integrative negotiations that would have been essential for success, leading to conflicts and difficulties in decision-making.

Picciano (2023) adds that the organizational matrix structure implemented by Nokia was a vertically oriented and attempted to optimize company operations by optimizing individual functions that did not support cross-functional communication and collaboration across functions and led to internal competition. The system did not allow the alignment of growth and innovation. This is because, managers used short-term metrics to measure the success of development projects, which coupled with a blame-based accountability system discourage developers to take risky innovative initiatives.

As pointed out by Picciano (2023), the case of Nokia’s downfall serves as an example of the dangers of not truly acknowledging that horizontal processes and projects require that multiple departments are steered and managed by cross-functional teams comprised of key stakeholders.

The BBC article by Macdonald (2014) focuses on the decision-making process. It does not take a side. According to Nobel Prize winner Daniel Kahneman, it describes the mental and emotional decision-making process. The conscious and "intuitive, quick, and automatic" elements of the mind are discussed in this topic (unconscious). A human mind consciously makes some decisions and offers some answers on multiple occasions.

Sometimes, conclusions are swift, natural, and instinctual, coming from the unconscious and automatic mind. The group's extensive decision-making process about arrangements, gifts, initiation, food, music, and more helped prove Prof. Kahneman's study on the human mind. It was evident from varied human behavior that the rapid and intuitive mind regulates our ability and decisions (Macdonald, 2014). Kahneman says, "Our views, wishes, and hopes are not necessarily based on reasons" (Macdonald, 2014). It was remarkable how much of our decision was conscious and chosen strategically. This psychological perspective of human brains upset the entire concept of the corporate setting's strategic and analytic decision-making process.

Tindale and Winget (2019) emphasize that group decisions are part of our daily lives. Even when acting alone, decision-makers seek advice. A group usually makes choices. Aggregating member preferences or judgments without member engagement or influence can generate group choices. Group agreement is reached after substantial member interaction and information exchanges. Alternative approaches, such as prediction markets, Delphi groups, and judge–adherence systems, are conceivable between these extremes. (Tindale & Winget 2019)

Broadly shows how groups, teams, and committees make most corporate decisions nowadays. Group decision-making has multiple advantages: more knowledge and skills are accessible to solve the problem; more alternatives are examined; the final choice is better understood and accepted by all group members; and all group members are more dedicated to making it work (Fred, 2011). Consequently, motivated by these writings and real-life occurrences, I have explored the issue and become interested in group decision-making for organizational success.

1.2 Background and Context

In employee involvement in decision-making (EIDM), employers allow their employees to take part in organizational decision-making. This can involve anything from providing feedback on policies to making recommendations on processes. EIDM is seen to increase employee engagement, morale, and collaboration. It can also foster creativity and help organizations to better adapt to changing market conditions. A substantial amount of research has shown that all employees must be involved in decision-making within an organization. Achieving the most efficient possible outcomes will help increase employee commitment and promote creativity and innovation within the organization. (Kuye & Sulaimon, 2011 and Bhati & Vanishree, 2021) Employees feel more ownership of the organization once they are involved in the organization's decision-making process. One of the most important aspects of a company is the relationship between its employees and management. Through employee involvement decision-making (EIDM), employers allow their employees to contribute to organizational decision-making. This allows employees to feel valued and empowered, which in turn leads to increased job satisfaction and engagement. EIDM can also help companies to make better decisions, as it considers the expertise and experience of their employees.

A key objective of EIDM is to improve the performance of an organization. Organizational efficiency and effectiveness must be assessed and improved to achieve organizational productivity. (Kuye & Sulaimon, 2011; Mohsen & Omer, 2020; and Bhati & Vanishree, 2021)

Participation of employees in decision-making fosters a sense of belonging among employees, and a positive working environment in which both management and employees are willing to contribute to healthy relationships. (Kuye & Sulaimon, 2011; Mohsen & Omer, 2020; and Charles, Francis & Zirra, 2021). When employees are included in decision-making processes, they feel more valued and appreciated. This helps to build trust and mutual respect between management and employees, which can lead to better collaboration and improved communication. Ultimately, this creates a positive workplace environment that encourages employees to feel more engaged and motivated.

Employees who are not involved in organizational decision-making will be less productive and may have conflicts with their supervisors. In contrast, most employees' involvement may improve productivity and performance within the organization. High productivity in an organization is due to employee involvement, which leads to efficiency and effectiveness. Employee involvement can also help to motivate employees, as they feel part of something bigger. This can also help to foster a culture of trust and collaboration. Finally, employee involvement can help to reduce the risk of conflicts within the organization. Participation of employees in organizational decision-making promotes peace and unity within the organization, satisfies employee desires, and increases productivity. Getting employees involved is key to them understanding the importance of creativity and applying new and improved behaviors at work (Singh,2009; Kingir and Mesci,2010).

By involving employees in decision-making processes, each employee can share their opinions with colleagues, which improves their employee-employee and manager-employee relationships and encourages teamwork. This, in turn, leads to better communication between employees and management, which is essential for successful collaboration and problem-solving. Additionally, when employees feel that they are being heard, they are more engaged and motivated to do their best work. (Kuye & Sulaimon, 2011; Mohsen & Omer, 2020; and Charles, Francis & Zirra, 2021) An excessive degree of employee involvement in the planning process, the development of alternatives, and the comparison of results will result in the highest level of satisfaction, as reported by Saha and Kumar (2007). When employees are allowed to participate in the decision-making process, they are more likely to feel that their opinions matter and that their voices are being heard. This, in turn, will lead to a sense of ownership and job satisfaction. Additionally, when employees are involved in the development of alternatives, they are more likely to have a better understanding of the overall goals and objectives, as well as the potential consequences of any decisions that are made.

It is becoming increasingly evident to managers that employees should be involved in the decision-making process. To increase employee productivity and efficiency, a growing number of companies are providing their employees with more freedom and empowerment. Meanwhile, for many other firms, employee participation does not receive the priority it deserves. (Guinot et. al; 2021) This is because many companies are still structured in a traditional, top-down manner, with managers having the final say on all decisions. This structure does not empower employees and encourages them to become disengaged from the workplace. By involving employees in the decision- making process, companies can create a sense of ownership and engagement, resulting in better morale, higher productivity, and improved efficiency. The concept of employee participation focuses on involving employees in the affairs of the organization (Cole 2005). An employee involvement process involves the involvement of employees in a participatory manner -

As a result, it is designed to maximize the potential of employees and to increase employee commitment to the organization's success (Robbins 2003).

Employees can participate directly or indirectly. Participants who participate directly concerning decisions that affect them. The employee is essentially taking over or becoming involved in certain decision-making processes that have traditionally been the responsibility of management. On the other hand, indirect participation refers to employees taking part in decision-making through delegations or representatives. (Ejere & Jarbandhan, 2019) Indirect participation allows employees to have a say on matters that affect them, while still maintaining the structure of the company. It also allows employees to participate in the decision-making process without taking ownership of it. Indirect participation is beneficial for both parties, as it allows for greater employee engagement and increases the efficiency of the organization.

When employees are more involved in decision-making processes, the higher the level of performance of the firm will be. (Abdulrahman, 2016) This also helps to foster a culture of trust and collaboration in the workplace, as employees feel like their voices are being heard. Additionally, indirect participation can help to reduce potential conflicts or disagreements between employees.

According to Sofijanova and Chatleska (2013), employee involvement entails engaging employees on the job and empowering them so that both they and the organization can maximize their performance. Participation by employees is also defined as the action or involvement of an employee in supporting a company's mission statement and core objectives and values through their contributions, innovations, expertise, and efforts in resolving problems and making decisions (Bullock & Powell, N.Y.). This involvement can be in the form of problem-solving, decision- making, and teamwork. It can also be achieved using effective communication and collaboration. Finally, employee involvement should be incentivized and rewarded to ensure long- term commitment.

Participation of employees in decision-making is one of the most effective managerial tools for restoring organizational performance. (Chimaobi & Chikamnele, 2020) When employees are involved in decision-making, they bring their unique perspectives and skills to the table. This helps to ensure that the best decisions are made that benefit the entire organization, not just the decision-makers. Additionally, when employees participate in the decision-making process, they feel more invested in the organization and its goals and are more likely to be engaged in their work.

Group decision-making (GDM) would capitalize on its members' abilities and areas of expertise. The group will likely be able to develop a more significant number of options that are of better quality than the individual if they draw into the distinctive attributes that each member of the group has. The ability to make wise decisions is essential to effective leadership.

It is an approach to problem-solving in which people work together to discuss and assess several options before selecting one or more of them as the best course of action. It is common for group decision-making to involve between two and seven members. A group's members may share similar demographics or have a wide range of backgrounds. Decision-making groups can be casual or formal, depending on the nature of the task at hand. Getting to a choice can be accomplished through a systematic or unstructured procedure. The size, demographics, structure, and purpose of a group, as well as its nature and composition, all impact how well it functions. Group decision- making, sometimes called collaborative decision-making, is when people choose among options jointly. All members of the group and social group dynamics, like social influence, contribute to the decisions. Group decisions differ from individual ones.

1.3 Main literature findings

The following steps will be taken to get an explicit finding regarding group decision-making.

- Identify potential processes that favor group decision-making over individual decision-making.
- Describe how group thinking undermines the effectiveness of group decision-making.
- Describe how a lack of information sharing might affect the effectiveness of group decision-making.
- To evaluate the impact of group decision-making processes on employee satisfaction levels within organizations.
- To assess the contribution of group decision-making to the overall performance of organizations.
- To determine the relationship between the achievement of organizational goals and employee satisfaction in the workplace.
- To investigate the influence of achieving organizational goals on the frequency and quality of knowledge sharing among employees.
- To analyze the linkage between the achievements of organizational goals and subsequent improvements in organizational performance.

- To explore the relationship between employee satisfaction and organizational performance, and how these factors interact with the achievement of organizational goals.

1.4 Research Gap

Despite its ubiquity, collaborative decision-making has drawbacks. Groups seldom outshine their star. In general, group performance does not exceed the performance of the best individual within the group. The question is what refrains groups from capitalizing on the collective skills of all its members to achieve a superior result compared to that based on individual efforts. The inefficiencies that reduce the quality of group decision-making are related to coordination issues, social loafing, group thinking, and the process structure preventing timely decisions.

Anyone who has worked in a team knows how difficult it is to coordinate the scheduling of people's work and meeting attendance. Social loafing refers to the dynamics often observed in groups, where individuals exert less effort than they would if they worked alone. Group thinking, meaning the tendency to consensus seeking, and suppressing critical thinking may prevent groups from reaching effective solutions. Group decision-making takes longer than individual decision-making because members must consider and integrate different perspectives.

This raises the question about how to determine the most appropriate decision-making process based on the specific context and nature of the decisions. For example, in an emergency, individual decision-making may be quicker and more effective, provided that the person making the decision has all the relevant knowledge and no implementation challenges are predicted.

1.5 Purpose and organization of the thesis

The purpose of this thesis is to explore and analyze the dynamics of group decision-making within organizations, focusing on processes that favor group decision-making over individual decision-making. The research evaluates the influence of group decision-making on employee satisfaction, its contribution to overall organizational performance, and the relationship between achieving organizational goals and employee satisfaction. Additionally, the thesis investigates how achieving organizational goals affects knowledge sharing and links these achievements to improvements in organizational performance. Finally, it explores the relationship between employee satisfaction and organizational performance, and how these elements interact with the attainment of organizational goals.

1.6 Pros and cons

The questionnaire highlights several positive aspects, focusing on various dimensions of group decision-making, leadership, and organizational performance. The emphasis on gathering diverse opinions from various hierarchical positions (entry-level, mid-level, and top-level) ensures a comprehensive analysis of group decision-making dynamics within organizations. Additionally, exploring knowledge sharing and leadership commitment provides valuable insights into how these factors influence decision-making outcomes.

However, the data also points to areas that could benefit from further investigation, sparking curiosity and engagement among the audience. For instance, the observation that group decision-making is more time-consuming than individual decision-making may limit the perceived efficiency of group processes. The preference of many respondents, especially female respondents, for smaller groups also raises interesting questions about the dynamics of decision-making. These aspects, while acknowledged in the questionnaire, could benefit from further investigation or alternative strategies to improve group decision effectiveness. Lastly, while the focus on group decision-making is thorough, it overlooks individual decision-making dynamics, which may be equally important in certain contexts.

2 Literature Review

2.1 Knowledge and information sharing among group members

In today's knowledge-based economy, organizations are more dependent on knowledge management. Through participation, nonhierarchically equal individuals can share their influence (Han et al., 2010). Using employee collective intelligence helps organizations improve processes, make better decisions, and foster innovation. Collaboration, shared responsibility, and trust are also created through knowledge management. A healthy balance between management and subordinate involvement in daily tasks is achieved through participative management (Wagner, 1994). According to Kuenberger, Mathieu, and Ruddy (2015), employees collaborate to accomplish workgroup organizational goals. The perceived improvement influences the perception of individual knowledge within a workgroup in work-specific knowledge and skills. (Saha & Kumar 2017). An organization's goals can be achieved through participation in decision-making (Knoop, 1995).

A sense of belonging to an organization comes from providing suggestions and participating in decision-making processes (Saha & Kumar2017). The more involved people are, the more authority they have. To make a meaningful contribution, employees also need to exchange information and knowledge (McShane & Von Glinow, 2003). The employee involvement in the GDM can be attributed to its role in knowledge management (McShane & Von Glinow, 2003). In high-tech organizations, internal power relations are carefully negotiated to facilitate innovation. The sharing of knowledge enhances the creation and utilization of knowledge. An altruistic spirit results in behavior that contributes to knowledge sharing when employees feel psychologically responsible for their organization. An altruistic spirit can be developed when job satisfaction and organizational commitment are high (Podsakoff et al., 2000; Jones & Kato, 2023). Altruistic spirit also influences employees' behavior beyond the workplace because of organizational commitment. Knowledge sharing is more likely among employees with a high altruistic spirit. (Han et al. 2010)

Knowledge and information sharing can keep up with the ever-shifting demands of the global market and act swiftly to capitalize on opportunities to thrive in this environment. Work teams must be cohesive, able to adapt quickly, and capable of making critical decisions on the fly. To achieve this, organizations must prioritize the training and development of their employees. Regular communication between teams should also be encouraged to ensure everyone is on the same page and that information can be shared and exchanged quickly. Finally, organizations should create an atmosphere of trust and respect to facilitate collaboration and knowledge exchange. The capacity to collect relevant data, develop original solutions, and develop creative ideas is greatly enhanced when making decisions in a group. Groups or situations involving groups are responsible for most organizational decisions (Park et al., 2022). Group members should be encouraged to voice their opinions and challenge each other's ideas. Leaders should create an environment of open dialogue and mutual respect. Finally, organizations should reward cooperative behavior to foster collaboration. The term "group decision-making" refers to the method by which many people contribute to a final verdict. When more people work together on a topic, more tools become available. Members of the group contribute their collective expertise through conversation. Group members collaborate to solve problems and develop solutions that could have been considered. According to Peyman et al. (2023), being part of a group motivates individuals to make better decisions and strive for improved performance. This is because when individuals work in a group, they can benefit from their peers' different perspectives and experiences. They are more likely to think outside the box and consider a broader range of possibilities than they would working alone. Additionally, working in a group can help motivate individuals to strive for better performance, as they know that they have the help of the group if they get stuck.

Decision-making or group decision-making refers to a scenario where individuals must collectively select one choice from a set of alternatives. It would be unfair to hold one person accountable for the decision because of the interplay between social group dynamics (such as social influence) and everyone in the group. Therefore, it is essential to consider the collective wisdom and experience of the group when making decisions. Additionally, it is essential to ensure that all group members have a voice and that their opinions are considered. Finally, ensuring that the decision-making process is transparent and that all members understand why the decision is being made is crucial. Decisions made by groups are not the same as those made by individuals. For example, due to humans' inherent bias, collective decisions often exceed individual members' extreme views (Akhavan et al., 2022). This is partly due to group members’ tendency to conform to the majority view. In addition, they strongly believe in their abilities to make the appropriate decision.

Additionally, group dynamics can lead to group thinking, where group members may be reluctant to challenge the majority view. They may even reach a consensus without considering all options. The exchange of information and expertise There are many benefits to using the group decision-making process, including the ability to generate creative ideas, reach a consensus, and consider multiple perspectives. The necessity for cooperation and the possibility of disagreement are two other challenges associated with collective decision-making. Notwithstanding these challenges, group decision-making can still be an excellent way to get everyone to agree. It can enhance group dynamics and decision-making (Alavi& Leidner, 2021). Group decision-making also encourages collaboration, creativity, and problem-solving skills. Additionally, it can help create better solutions because it involves all stakeholders and ensures everyone is heard.

What Sonnenwald calls "a set of events by which data is provided to others, in advance or upon demand, such that what is learned has a bearing on an individual's (or persons') perception of humanity and facilitates a common, or jointly appropriate working conceptualization of the world" is, in broad strokes, the act of sharing one's knowledge and information with others. According to this definition, information sharing has two main parts: providing others with information and collecting information already shared. Standard features of information exchange include comparable procedures. According to Hendriks (2023), for knowledge to be passed on, the people who have that knowledge, the knowledge owners, must first externalize their expertise for their knowledge to be transmitted. This means that the knowledge owners must write down or verbalize their knowledge so that others can understand it and then share it with others. Without externalizing their expertise, their knowledge would not be available to anyone else, and knowledge exchange would not be possible.

The exchange of information and knowledge gives significance to group decision-making. Decision-making models provide a structured approach to enhancing group decision-making efficiency. Decision-making models help groups identify, analyze, and evaluate potential solutions before deciding on the best action. They can also help groups evaluate the consequences of their decisions and identify potential risks. Everyone in the group needs to be ready to accept decisions as they are and help put them into action. The analysis gets more intricate when more than one decision-maker is involved. Decision-making models provide a structured approach to decision-making, allowing groups to weigh the pros and cons of potential solutions before deciding. They also provide a way to ensure that all group members are on the same page and have the same understanding of the decision. Having everyone accept the decision helps ensure that the decision is implemented quickly and successfully. Using a single person's preference structure to determine the most desired non-dominated choice is no longer the problem. The study needs to be expanded to account for conflicts arising from various interest groups having diverse aims. A *group* is defined as "two or more interrelated, engaging humans" that work together to accomplish a common goal (Lin et al., 2022). This goal is usually mutually beneficial, but conflicts can arise when one group's needs conflict. The study must explore how these conflicts are resolved to understand group collaboration dynamics better. Additionally, the study should examine how different groups are structured and organized to understand better how they manage conflict.

Group actions are called behaviors. As an example, hit. The term "group" describes individuals who join forces to accomplish a shared objective. Cooperation occurs when two or more interdependent people work together to accomplish a common goal (Mills et al., 2022). When people must choose one of the available options, they engage in group decision-making, also called collaborative decision-making. Given the complex nature of group dynamics, including social influence, and that everyone contributes to the decision-making process, it would be unfair to hold anyone responsible for the choice. Individuals and groups make decisions that are distinct from one another. People are biased, for instance. Therefore, group decisions tend to be harsher than individual ones (Nedon, 2021). Group decisions are also more likely to lead to decisions not based on facts and evidence, as people tend to make decisions based on emotion rather than facts. Group decisions are often more difficult to backtrack on, as multiple people must agree.

Two separates but connected schools of thought regarding knowledge and information exchange studies exist. While the latter has been operating since the late 1960s, the former's history of research on information exchange is more recent. According to both schools of thought, Van Beveren (2022) was an early researcher who looked at engineers' habits of seeking and sharing information. Research on knowledge sharing may be traced back to the mid-70s studies on technology transfer and innovation (Cummings, 2023) as stated by Cummings. Ineffective strategic leadership and knowledge management, information sharing has grown significantly since the 1990s. Information, knowledge, and sharing are all components of the difficult-to-define concepts of information and knowledge sharing. Information sharing is a critical enabler of organizational learning and innovation and a source of competitive advantage.

However, information sharing can also have adverse effects, such as disclosing trade secrets or confidential information. Therefore, creating an appropriate knowledge-sharing infrastructure is imperative to ensure its effectiveness. When defining the shared object of information or knowledge, academics cannot agree on a single definition. Wilson (2021) says knowing is best accomplished through mental operations, including understanding and learning. Knowing something is privy to knowledge alone; information, on the other hand, can never fully replace actual knowledge.

On the other hand, according to Wang and Raymond (2020), knowledge is "information processed by humans containing concepts, information, skills, and decisions essential for individual, collective, and organizational performance." According to this explanation, knowledge and information are distinct concepts from one another in principle but closely related. Knowledge includes more than information, as it requires understanding and interpretation. Knowledge is also context-dependent, as it is shaped by the environment and the values and beliefs of the people using it. Finally, knowledge constantly changes and evolves as new ideas and technologies emerge.

2.2 Employee participation and decision making

2.2.1 Basic definitions

Employee Participation

"Employee participation" involves all company-level employees in decision-making and development efforts. Only one thing distinguishes one firm from another—its people—so employees must be involved in various work design methods and unique events. Eventually, it is possible to replicate any of these things: the products, the service facilities, the process, or the secret ingredients. Communication, involvement, and growth are three critical challenges that employees demand that firms address. Indeed, the three factors are frequently used as indicators of the degree to which an organization has progressed in its employment relationship. Team briefings and other forms of information are often mistaken for opportunities for participation. However, participation is essentially just the sharing of information. It is the radical but gradual handing of power to individuals most intimately involved with the process.

An organization's goal setting, problem-solving, and decision-making processes are much enhanced when members actively participate (Iqbal et al., 2022). When people are emotionally and mentally invested in group activities, they are more likely to work toward common goals and take ownership of those accomplishments. Nevertheless, employee engagement is best understood as an approach to decision-making in which two or more stakeholders mutually influence one another.

Defining decision-making

The ability to make decisions is the most important task for managers of any size of the organization, whether it is a sole proprietorship or a public utility. The organization's decision-making techniques are evolving because of shifting priorities, changing contexts, and evolving workforce dynamics. In place of mindless compliance, we now guide our soldiers into combat. As a result of decision-making, creativity, and questioning, employees gain a competitive edge today (Elwyn & Miron-Shatz, 2020). Most managers admit, if they are being forthright, that their employees are generally more knowledgeable than they are. To be effective in their managerial roles, they must constantly determine what needs to be done, who will do it, where, and most importantly when it needs to be done (Locke & Schweiger, 2022).

The involvement of employees in organizational decision-making may extend their commitment and promote employee participation. When employees voice their opinions in company decisions, they are more likely to work together as a team, which benefits not only the company but also the employee-employee and manager-employee relationships. In addition, Newstrom (2022) suggests that engaging employees in the decision-making process is a win-win for organizations, while other studies see it as a risk. *Participation* is defined as an organizational process in which individuals have a role to play. Consequently, employee participation is a way for organizations to enhance employee performance by giving them decision-making authority and a fair share of responsibility. As a result of employees feeling that they are making a difference, their motivation soars, and the organization receives the benefits (Locke, 2022).

According to Cassar (2022), employee involvement in decision-making is influenced by several factors. Some of these variables include well-organized collaboration, good communication, and others. Levine (2023) found that employees highly value participation in decision-making, work happiness, and affective organizational commitment. Therefore, employers must create an environment that fosters employee involvement in decision-making. Every employee can simultaneously participate in the decision-making process, and they are constantly being asked to make decisions collaboratively, such as encouraging them to express their opinions in meetings and giving them access to relevant information.

Additionally, managers should provide feedback to employees on their contributions to ensure they feel valued and appreciated. Employee involvement in company decisions leads to higher happiness, which benefits the business through increased efficiency and productivity.

Additionally, employee involvement can lead to better customer service, as employees are more informed and passionate about the company's goals. Furthermore, employee involvement helps create a culture of trust and collaboration, ultimately leading to better business outcomes. As a mechanism for organizational success, employee participation empowers employees to make decisions and assume appropriate levels of responsibility, making them feel good about themselves and their impact on the company's performance (Kim, 2022). In the opinion of some individuals, including employees in decision-making is one of the best ways to boost organizational performance and achieve objectives. Others, however, consider it to be a potential threat. In most studies, employees who participate in the decision-making process are less likely to skip work, are more invested in their work, are more satisfied with their jobs, and are more valuable to the company. This, in turn, leads to higher productivity and profitability for the company.

Additionally, employees involved in decision-making are seen as more respected and trusted by their colleagues, which can lead to better collaboration and improved team morale. Furthermore, it can also lead to better decision-making and fewer costly mistakes. Furthermore, decision-making processes that are appropriately implemented can create an environment where employees feel heard and respected, which can also lead to improved job satisfaction.

2.2.2 Employee Participation Indicators

(i) Employee Motivation

Motivating employees has become a standard technique in many different types of businesses. Job satisfaction significantly impacts group commitment (Saha & Kumar, 2017). In "highly involved" organizations, employees are encouraged to participate and take responsibility. As a result, employees are more committed to the organization and have greater autonomy. (Amah & Ahiauzu (2014). Employee motivation is "the willingness to exert high levels of effort toward organizational goals, conditioned by the effort's ability to satisfy some individual needs." It is also defined as anything that prompts an employee to do something that will get them closer to their goal or help them with their psychological needs. The processes that explain why people exert such strong, focused, and sustained effort toward a goal are called motivation, according to Robbins and Judge (2022). The definition primarily concerns three things: extent, direction, and endurance. How hard one tries determines the intensity. Most of us focus on this aspect when discussing what motivates others. If the energy is not going somewhere that helps the company, no amount of intensity will get it where it needs to go. One aspect of motivation is its capacity to endure. This metric indicates the duration that an individual can sustain an endeavor.

What we mean by "motivations" are our desires, needs, and goals. Paying employees a competitive wage helps businesses meet their financial obligations, boosting productivity thanks to other incentives. No one works without a paycheck. Monetary compensation is a crucial component for employees and is an excellent motivator. In terms of motivation, monetary rewards are unparalleled. In addition to significantly influencing performance and productivity, Frederick Taylor argued that financial incentives were the most influential factor in boosting employee motivation in his theory.

According to studies, thanking employees makes them feel good and work more (Samad, 2022). An effective strategy for inspiring and motivating is the use of rewards. For leaders to achieve their full potential, they must inspire their teams to work harder and smarter. This can only happen when leaders exemplify excellence and inspire their followers to follow suit. Leadership and management are dynamic processes.

When people can do their duties well and efficiently, the business benefits from equality and empowerment. Building trust through actions and attitudes strengthens relationships within and outside a business, boosting morale and productivity. The means of motivation determines a company's success, regardless of how organized and industrialized it is. Managers inspire their teams by providing accurate information (Yoon, 2021). There are various approaches to comprehending the structure of an organization, and some of these approaches emphasize motivation more than others to foster relationships amongst employees at different levels. There are two main types of traditional organizational structures: centralized and decentralized. In a centralized system, upper-level managers have all decision-making power, and subordinates need to be more motivated to do their best work. Employees are encouraged to think creatively and take initiative under a decentralized structure, which allows for the distribution of decision-making power between upper and lower-level management (Flisak &Bjerkhage, 2022).

In this organizational setup, each division reports directly to a manager and is responsible for its tasks. With this setup, employees can pay zero attention to a single task at a time, which boosts productivity and efficiency because everyone knows what they are responsible for. Despite the straightforward organizational structure in which team members receive encouragement from above, managers often need help to inspire their staff due to the mountain of work that rests on their shoulders. The divisional structure is structured with multiple branches, each headed by a manager. The employees in this structure are highly motivated by local issues; they want to make their branch the best in their region. Personal traits, beliefs, and conventions are all part of an organization's culture. Discrimination exists among organizations due to their diverse cultures (Khuong & Hoang, 2022). Adequate performance, which boosts motivation and productivity, results from employees fully grasping the company's culture, which management must ensure they do.

The idea of motivation is complex, but it has the effect of keeping employees at their jobs. An organization's culture is defined by its ideals, conventions, and artifacts (Gilmer, 1964). Although some academics maintain that culture, incentives, and performance are unrelated, others maintain that the three can mutually benefit, with culture inspiring employees to do better. In a communal setting, people's thoughts, beliefs, and mentalities vary (Nguyen, 2022). The two main types of organizational elements, according to Karmani (2022), are the problematic elements (strategy, system, and structure) and the soft elements (planning, execution, and evaluation). The intangible and challenging-to-attain "soft aspects" include things like "style," "shared values," "personnel," and "skills," among others. Researchers have taken an interest in the efficacy of organizational performance.

Typically, a company's structure is dictated by its size. However, it is worth noting that corporations can employ many structures simultaneously; the specific structure an organization uses depends on the products or services it offers. The most successful structure is the one that meets that demand; there is no one best structure. One of the most effective instruments for the firm is motivation. It posits that the desire to be motivated is a physiological one. While numerous strategies exist for organizations to get a competitive edge in the talent acquisition market, including training and development programs, this essay will solely concentrate on the elements that motivate employees. Cultural diversity, which has far-reaching effects on businesses, is far from over. It lays forth the issues businesses face that have not considered this crucial aspect. Many studies have been conducted in this area recently since people have realized that motivation is a powerful tool for companies to succeed. An organization's structure directly impacts the results of its work and the opportunities it provides for employees to meet their personal needs while contributing to its success (Manzoor, 2022).

(ii) Employee Commitment

Employees demonstrating organizational commitment benefit from four organizational ingredients, including information, rewards, knowledge, and authority to make decisions (Bowen & Lawler, 1992), all of which contribute to knowledge sharing and organization effectiveness. A stronger sense of organizational identity leads to better performance, a stronger sense of job satisfaction, and a stronger sense of commitment (Han et al., 2010). Further, committed employees are more likely to stay with the company, resulting in a longer-term relationship. This can also reduce the costs of hiring and training new employees and improve morale and loyalty. Additionally, a solid organizational identity helps create a positive reputation for the company, which can help attract new customers and business partners.

Employee commitment is the comparative importance of an individual's affiliation with and participation in an individual's group" (Mowday et al., 2021). Organizational commitment, as a mental condition that connects an individual to their workplace, was described by Meyer and Herscovitch (2021). Employees' dedication is their work toward accomplishing the organization's goals. According to Ahmad and Oranye (2020), *employee commitment* can be defined as "the degree to which an individual identifies with and actively works toward the achievement of the stated objectives and values of the organization to which he or she belongs, regardless of the nature or origin of that identification." A dedicated employee has a solid connection to their employer. The three components of employee commitment are emotional, continuation, and normative commitment.

The best kind of employee engagement, affective commitment, occurs when employees voluntarily identify with, participate in, and develop an emotional connection to their employer. Employees on a project typically have a strong preference for sticking to a predetermined plan. The employee's knowledge of the expenses of quitting the company is known as their "continuance commitment." According to Meyer, Allen, and Smith (2022), there is a correlation between the perceived cost of not acting and project employees' subsequent commitment to that action.

As a employee, you may experience what is known as "Normative Commitment" when you feel obligated to stay put at your current employer. Employees on projects are motivated to remain with the company because they feel obligated to do so. Solid and efficient motivational tactics must be in place for the organization to have contented and dedicated employees (Warsi et al., 2022)

A rise in organizational productivity directly results from committed, satisfied, and great-performing employees (Samad, 2007).

Lord (2002) says staff dedication significantly impacts a company's performance. According to Mohsen et al. (2022), employee commitment and motivation are significantly related. Their findings show that organizational commitment is positively correlated with employee motivation. They contended that there is a connection between job motivation and organizational commitment.

2.2.3 Employee Participation and Organizational Performance

Employee involvement aims to increase individual and organizational performance by empowering and including people using their input. The term "employee involvement" describes a situation in which employees have more say over how they do their jobs and are involved in making decisions and solving problems. This should increase employee enthusiasm, dedication, output, and contentment on the job. "Employee participation" refers to a management strategy that allows employees a voice in workplace choices while reserving authority over day-to-day operations. A command-and-control system and a mechanical structure are antithetical to empowering employees. Modern leaders and managers, rather than micromanaging their teams, must take on the role of facilitators if they want to see results. The goal of empowerment, according to the socio-technical perspective on production methods and technology processes (Sagie & Aycan, 2023), is to maximize employee engagement, social participation, and integration within the organizational structure.

Employee empowerment is a step beyond delegation, which often needs clarification but strengthens the process of giving authority to the most qualified people. Providing employees with more leeway, independence, and control over their jobs is one definition of empowerment; another is giving them more say in important company decisions. Power dynamics are at the heart of the matter. Power dynamics have a significant role in shaping the dynamic between superiors and subordinates in every given company. The most suitable person to wield power can shift it from side to side, as power is interdependent on social ties. Depending on the context, "work autonomy" could apply to a single employee or the entire team. Management typically selects which tasks to assign, but teams have autonomy in handling them (Jones & Kato, 2023).

An employee with superior knowledge and information can be granted autonomy. Giving employees more freedom to make their own decisions is only meaningful from an employer's point of view if the employees' interests align perfectly with the company's. Reducing organizational hierarchy and increasing employee involvement can be achieved through cooperation. While employees are welcome to weigh in on decision-making in problem-solving teams, their input is limited to suggestions. Quality circles (improvement groups) are one example. When faced with a challenge, some companies go above and beyond by forming teams whose members would not only brainstorm possible solutions but also put them into action and own the consequences (Linda & Michael, 2022). Implementing self-managed teams has been a strategic decision for organizations that value employee engagement and autonomy. Teams of 10–15 employees work under the guidance of a self-manager. "Organizational performance" describes how efficiently and effectively a business carries out its day-to-day operations and achieves its goals. An organization's tangible outputs or results can be measured by comparing them to their intended ones. Organizations can use this comparison to see if they succeed in their goals. The performance evaluation is usually carried out by managers, strategic partners, or business owners. Opportunities to enhance the company's performance are identified and implemented as part of the process. They assume great responsibility from their supervisor and carry out interdependent and highly connected jobs (Longenecker, 2023). Among the many responsibilities at the disposal are operational decision-making, production planning, budgeting, resource allocation, creating work schedules, delegating tasks to team members, and coordinating with external parties like clients and suppliers. Even more so, self-managed teams decide who gets to be on the team and how they are evaluated.

Consequently, the supervisor's role is diminished if not abolished entirely. Delegating management responsibilities to employees at the most basic level is essential to the operation. How well self-managed teams perform is influenced by factors such as the kind and quantity of team norms, the tasks at hand, and the compensation system (Koys, 2021).

When it comes to performance, researchers disagree amongst themselves. Scholars in the field of organizational behavior still disagree on how to define performance. One definition of *performance* offered by Javier (2002) is the relationship between a program's or activity's economy, efficiency, and effectiveness. A definitional and conceptual difficulty has plagued the study of organizational performance. As mentioned by Raddaha et al. (2022). They claimed several instances where organizational performance needed more conceptual clarity in contemporary management. There were two domains: the one concerned with definition and the other with measurement. It was common for people to conflate performance with production.

Performance and productivity are not the same thing, as stated by Wanous et al. (2022). Productivity was a ratio that showed how much work was done in a specific time frame. The term "performance" encompasses more than just productivity; it might also refer to quality, consistency, and other aspects. Typically, productivity measurements were considered in result-oriented evaluation. Employees are expected to take the initiative, which can lead to job creation, resource mobilization, and goal setting. They are also expected to work on their engagement, impacting how other organizations are rated. According to research from a Canadian consulting business, engaged employees are more likely to go above and above, produce better results, and foster a pleasant work environment for everyone (Porter & Lawler, 2022).

On the other hand, the study's findings depend on HR managers' opinions rather than employees' actual experiences. Speaking with the employees directly rather than via intermediaries is recommended when conducting engagement assessments. Employees are in the most excellent position to provide feedback on their jobs and employers. Customer loyalty, productivity, profitability, employee and customer safety, absenteeism, loss, and disability are all strongly correlated with employee engagement, according to a study that looked at the relationship between engagement and organizational performance (Pushpakumari, 2022). According to the available data, a company's bottom line improves in direct correlation to its employees' level of involvement and commitment. Staff members who are invested in their work are less likely to skip out on shifts, are more likely to get promoted, are better able to assist customers and do their best for the company. Any company worth its salt will prioritize increasing organizational effectiveness by boosting employee engagement, productivity, and resilience in adversity (Nwachukwu, 2022).

Organizations with a strong return on equity and a performance management system that "aligns" all parts of the business, from upper management to production floor employees, were the ones that Organ and Hammer (2022) highlighted as being successful. Contrarily, it was contended that several organizations failed to present an impartial view of their performance. Financial parameters were given too much weight, with an unhealthy fixation on previous results. For the most part, performance metrics captured the inward-looking components of performance that were critical to attracting and retaining consumers or developing a sustainable competitive advantage, and they were also not connected to the overall aims and objectives of the business. After reviewing the empirical literature from 1987 to 1997, Noe et al. (2023) suggested seven scales to quantify export performance: financial, non-financial, and composite. The non-financial metrics include happiness, contentment, and goal attainment, whereas the financial ones include sales, profit, and growth. Comparatively, non-financial metrics are more subjective, whereas financial metrics are more objective.

(i) Job Satisfaction

Job satisfaction significantly impacts group commitment (Saha & Kumar, 2017). In "highly involved" organizations, employees are encouraged to participate and take responsibility. As a result, they are more committed to the organization and have greater autonomy. (Amah & Ahiauzu (2014).

Employee participation in decision-making increases employee satisfaction, productivity, and profitability. Employers can achieve organizational goals by empowering them. (Pathak & Singh (2012). Participation in decision-making allows employees to feel valued and their opinions to be considered. Increased motivation and job satisfaction lead to increased productivity. In addition, employees involved in the decision-making process are more likely to develop innovative solutions to problems, increasing profitability. This can also lead to increased loyalty, as employees are more likely to stay with an organization that values their opinions. Furthermore, empowered employees are more likely to be engaged and take the initiative in their work, leading to improved customer service. A person's level of contentment with their job measures how much they like or detest it. A rational or emotional reaction to the many parts of one's work constitutes it. It is how a person views and approaches their work. According to Sarma (2021), an individual's level of job satisfaction is determined by how they feel about several aspects of their employment, including the activities they are required to do, the environment they work in, their relationships with coemployees, and the job itself. An individual's disposition toward their work is positively impacted by their level of job satisfaction; conversely, their disposition toward their job can be negatively impacted by their dissatisfaction. Employees report higher levels of job satisfaction when they believe their work directly impacts essential outcomes. A person's perception of fulfilling his requirements concerning his work and the associated tasks is a crucial component in determining his level of job satisfaction

(Saiyaden, 2021). Organ and Hammer (2022) highlighted that contentment in one's work life reflects various attitudes, beliefs, and values. How much did an employee enjoy his employment and the activities that made up his job? Two groups of elements affect how satisfied an employee is with their job: those that are intrinsic (such as appreciation, responsibility, and tasks) and those that are extrinsic (such as pay, rules, working conditions, and corporate policies). The urge to do work one enjoys is an example of the intrinsic component, often known as internal job satisfaction. There is a connection between these elements and intrinsic drive.

On the other hand, external job satisfaction results from the advantages offered by the company to its professional employees. Nearly any aspect of work can affect a person's degree of contentment or discontentment with their job. Feeling content in one's work life is affected by many things. Just thinking about the many aspects of a happy workplace will help you remember the most important ones.

Considerations such as compensation, job duties, opportunities for advancement, quality of management, environment, and employees all fall into this category. There are five main components of work satisfaction that Smith (2022) assesses. Work on the job, current salary, chances for advancement, supervision, and employees are the five components of the job descriptive index (JDI). Satisfaction and enthusiasm for the job have far-reaching beneficial effects on businesses and their bottom lines, not to mention the obvious benefits to employees.

The health of any company is jeopardized when employees are unhappy and lack motivation. Employees are more dedicated to their organizations when they are happy. An employee who is happy in his job is more likely to stay and do his best for his employer. In contrast, an unhappy employee constantly looks for a new job and will jump at the chance to quit their current employer. In addition to raising both the quality of work and employees' productivity levels, job satisfaction also increases the intensity of employees' motivation (Aaron et al., 2022). Noe et al. (2023) found that employees are more likely to take the initiative to learn new things and apply them when they are happy. This, in turn, helps businesses gain a competitive edge. An additional powerful tactic for attracting top talent is ensuring their job happiness. This is because content employees seek to bring on board others, they know who possess the knowledge, abilities, and experience to benefit their employer. On top of that, when current employees brag about their company, potential new hires consider it an ideal workplace. As a result, their companies can entice more skilled and experienced employees.

(ii) Increased Productivity

An integral part of the company's culture now is the emphasis on productivity. A *product's productivity* can be defined as the degree to which it turns inputs like time, money, and human capital into outputs. In today's fast-paced workplace, it can be difficult for employers to gauge employees' attitudes. Based on their research, several authors have proposed definitions of employee productivity. While many studies have examined productivity, only those showing a relationship between employee productivity and specific variables have been considered for inclusion. Although it has taken on a more nuanced form, the concept of employee productivity is not novel to management theory. It is now linked to many things, including motivation, work-life balance, the internet, the service profit chain, remuneration, and the work environment. Increasing employee productivity is a growing challenge for modern businesses (Noah, 2022).

According to Miller and Monge (1986), job satisfaction brings high motivation levels and increases working capabilities at the implementation point. Job satisfaction and productivity are both strongly affected by participation, but satisfaction impacts productivity more than productivity does. (Bhatti

& Qureshi 2007) Miller and Monge found that job satisfaction was directly related to employee motivation, resulting in higher productivity. Happier employees tend to spend more time on tasks, take on more responsibilities, and have higher job satisfaction. As a result, employers should consider ways to increase job satisfaction, such as providing incentives, rewards, and recognition. Employers should also create an environment where employees feel supported, encouraged, and respected.

According to the mainstream literature, there is a correlation between employee productivity and organizational success; higher staff productivity indicates better organizational performance. *Productivity* in the workplace is defined as the degree to which employees can meet customers' needs and advance the organization's objectives. Since Ladd (2022) also used impersonal trust as a metric for employee productivity, a lack of trust between employers and employees may reduce employee output, hurting business results. In addition, Maslow's hierarchy of needs can inspire people to be productive at work by addressing their physiological, safety, security, social, self-esteem, and self-actualization needs in that order. Employees' output indicates their efficiency, defined as the time it takes to complete a task. Productive employees use their time and energy wisely to complete tasks, whereas unproductive employees waste time and money, taking longer to do the same tasks. Brownell (2022) found that employee happiness, loyalty, and productivity affect internal and external service quality. The connection between employees' satisfaction and commitment was mediated by staff productivity.

(iii) Better Profitability

Making a profit from the products or services offered to clients is a primary objective for any business. A study by Sánchez et al. (2021) found that successful businesses benefit both their industry's and the economy's prospects. Profitability emphasizes optimizing productivity, one of the most realistic and viable approaches to maximizing profit. The idea behind profitability was to foster a culture and setting that would impact employee engagement and output. The capacity of a company's leadership to maximize profits by catering to consumers' wants and requirements while also meeting the demands of the business itself (Chen et al., 2020). A more productive staff, which could lead to higher profitability and better organizational growth, is a common outcome for business leaders who are well-versed in practical ways of employee evaluation. Increased profitability and prioritizing employee engagement to retain valuable people are crucial, according to Minton-Eversole (2022). Leaders should remember that disengagement means lower earnings, so it is critical to demonstrate value and gratitude for staff through awards, recognition, and increased prospects for pay. Managers and leaders should not set their sights solely on profit as a measure of success. Equally crucial are the employee's health and advancement opportunities inside the company (Sarfaraz et al., 2022).

Clients and customers were crucial to the company's success since they bought into the goods and services given, remained loyal over the years, and ultimately helped the business maximize its earnings. Having top-notch accounting and customer relationship management software is crucial for any business wanting to accurately measure its revenues and customer costs. A wide variety of leadership styles contributed to increased staff productivity, which boosted retention and bottom-line results. Leaders in the business world may have increased their company's bottom line by creating plans to draw in and keep consumers with competitive goods and services (Stewart, 2022). A human resources manager oversaw the implementation of novel strategies to boost staff output by providing clients and customers with competitive options. Positive results were shown when employees were engaged, recognized, and given incentives, which increased productivity and profitability for the company's clients and customers. Certificates of appreciation, rewards, and employee-of-the-intellectual incentives were some of the good outcomes of employee recognition programs, which helped to retain top performers (Berginet al., 2020).

The provision of incentives, such as a reward for a half-day or a day off, while contributing to increased organizational production levels, was another beneficial effect of employee engagement. Among the many factors that motivate employees to remain loyal to their employers, Ghose and Mohanty (2022) cited incentive programs as a critical factor. As a strategic approach to keep employees productive, job satisfaction, acknowledgment, and incentives may lead to increased profitability. Leaders successfully formulated plans catering to employees' intrinsic motivational requirements. The strategic role that HR leaders play in their organizations can significantly impact the financial success of those organizations. Successful marketing, business strategy, customer retention, and profitability were developed to urge customers to support the company, according to Gowan (2023). Engagement, retention, and methods to boost productivity were the tactics. One way to get people involved was to set up group projects where managers and employees could work together. Staff were provided attractive salaries and perks as part of retention strategies. Finally, acknowledging and rewarding employees for their exceptional service or providing stock incentives might boost productivity. Insights gained from customers can help organizations increase their bottom line and help businesses achieve long-term profitability through client retention initiatives. Employees with a wide range of benefits are typically motivated to go above and beyond the company. To raise performance and profitability while staying competitive, organizational leaders launch relevant incentive programs to promote recruiting and retention efforts. The best way for CEOs of organizations to keep their productive staff around is to provide them with incentives that will impact them long after the program ends. Financial awards, advancement opportunities, paid supplemental benefits, a retirement match, and other forms of ongoing workforce development are all examples of benefit incentives that can improve employees' quality of life (Mead, 2022). Business executives who want to build stable organizations financially are fearless in looking at numbers, making trends, and staying competitive in the face of competition from other companies. Consequently, HR managers devised and implemented plans to keep employees engaged and motivated and increase their productivity through fair compensation and recognition (Gläser & Laudel, 2023).

2.3 Characteristics of Group Structure

2.3.1 Gender Influence

Research indicates that gender diversity within teams can enhance organizational performance. Teams with an equal gender mix tend to perform better in sales and profits than male-dominated teams. This balance is thought to foster better decision-making and problem-solving abilities due to the variety of perspectives and skills women bring. However, increasing the proportion of women beyond a certain point does not further enhance performance, suggesting that an optimal balance is crucial (Hoogendoorn et al. (2013).

Another study emphasizes that women often perceive themselves as less influential than men at higher organizational levels, even though their influence is comparable at the workplace level. This discrepancy might be influenced by traditional gender roles and stereotypes, which persist in many professional settings. Ensuring gender equality in participative decision-making at all organizational levels is essential for achieving a gender-inclusive workplace (Plückelmann et al. (2024).

2.3.2 Age Influence

Age diversity is another critical factor impacting organizational performance. Organizations benefit from a mix of younger and older employees as they bring different experiences, perspectives, and skills. Younger employees often contribute innovative ideas and fresh perspectives, while older employees provide experience and wisdom. This blend can enhance problem-solving capabilities and team decision-making processes (Turi et al. (2022).

Moreover, age diversity helps organizations adapt to changing demographics and market conditions. For instance, older employees staying past retirement age and young adults working part-time while studying offer a dynamic workforce that can tackle various challenges effectively. The key is fostering an environment where younger and older employees feel valued and can collaborate effectively (Turiet al. (2022).

2.3.3 Group Size Influence

(i) Communication and Participation

Alnuaimi et al. (2010) empirical evidence that as team size increases, productivity per person decreases. explained the negative effect of size on technology-supported teams' productivity by arguing that increased size makes the interaction between members more difficult and complex.

Alnuaimi et. Al (2010 argued that when team size increases, members feel that their contribution becomes less crucial to the team's success and, hence, lose motivation to contribute.

An increase in the size of the team is anticipated to have a favorable impact on dehumanization, as stated by (Alnuaimi et. Al (2010). Individuals will have more difficulty establishing personal ties with one another as the team size increases. When teammates lack personal connection, they become less individualistic toward one another, depriving them of human qualities such as sentiments and compassion. Team members in bigger teams had fewer chances to engage in talks than those in smaller teams. Insufficient involvement might hurt the contentment of team members.

Consequently, it has been discovered that a team's size decreases the communication frequency among team members. While enlarging a team might provide advantages in terms of information sharing, these advantages can be counteracted by the challenges of coordinating, communicating, and integrating socially that come with a larger team. More people on a team means more opportunities for individuals to find someone to blame when they are not doing their share. Bigger teams make it easier to find someone to blame than smaller ones. (Alnuaimi et. Al (2010))

Amir et al. (2018) provide evidence in their study that increasing the size of a group might lead to a drop in group performance for specific situations with poor demonstrability. The performance of a group, specifically the impact of group size on performance, is influenced by the complexity of both the solution and the verification process. Significantly, they demonstrate that when issues have very poor demonstrability, enlarging the group might harm group performance. Amir et al. (2018)

Effective Communication in Smaller Groups: The communication and engagement of smaller groups, generally consisting of five to seven individuals, is improved, and equitable participation is ensured. The group size allows for more meaningful interactions and enables all members to contribute effectively, ultimately improving the quality of decision-making. (Hsieh & Yang, 2020) (Gaba and Joseph (2023) (Elizabeth and Chattopadhyay, (2009).

Social Sensitivity: A higher level of social sensitivity is exhibited by smaller groups, which means that members are more attentive to each other's emotional cues and viewpoints. This helps to build an environment that is conducive to collaboration, which in turn improves decision-making. (Hsieh & Yang, 2020) (Gaba and Joseph (2023).

(ii) Collective Intelligence

Optimal Group Size for Collective Intelligence: A group's collective intelligence, which is particularly important for completing a wide range of activities, reaches its highest point in groups of moderate size. To maximize this collective intelligence, groups of around five people can strike a balance between various ideas and effective coordination. (Hsieh & Yang, 2020) (Elizabeth, and Chattopadhyay, (2009)

(iii) Diversity and Expertise

Diverse Perspectives in Larger Groups: Larger groups bring a wider variety of viewpoints and areas of expertise, which is advantageous for addressing complicated problems and fostering creativity. The variety of perspectives represented in bigger groups might result in more all-encompassing and well-rounded conclusions. (Hsieh & Yang, 2020) (Gaba and Joseph (2023) (Elizabeth and Chattopadhyay, (2009).

Resource Pooling: Having more members results in an excellent reservoir of information and abilities, which may be beneficial when dealing with complex problems requiring diverse perspectives and cooperative solutions. (Gaba and Joseph (2023) (Elizabeth and Chattopadhyay, (2009).

(iv) Challenges with Larger Groups

Coordination Difficulties: As the number of individuals in a group grows, difficulties in coordinating and communicating become more apparent. Managing larger groups can provide challenges in ensuring equitable participation, resulting in disputes and inefficiencies during decision-making. (Gaba and Joseph (2023) (Elizabeth and Chattopadhyay, (2009).

Social Loafing: When more people are in a group, they may feel less responsible for their contributions, resulting in social loafing, when individuals make less effort. This phenomenon can have a detrimental effect on group performance and the quality of judgments. ((Hsieh & Yang, 2020) (Elizabeth and Chattopadhyay, (2009).

(v) Task Dependency

Complex Tasks: For jobs that need a wide range of talents and intensive processing of information, slightly more prominent groups, with up to 10 members, tend to be more productive. This scale enables the consolidation of diverse knowledge bases and experience to tackle complex challenges effectively. (Elizabeth, and Chattopadhyay, (2009).

Quick Decision-Making: For jobs that need a wide range of talents and intensive processing of information, slightly more prominent groups, with up to 10 members, tend to be more productive. This scale enables the consolidation of diverse knowledge bases and experience to tackle complex challenges effectively. (Elizabeth, and Chattopadhyay, (2009).

Effective Conflict Resolution: Since the likelihood of conflict grows with the size of the group, good conflict management is vital. Decentralizing information, establishing coalitions, and resolving disagreements using informal rather than formal methods can improve decision-making effectiveness in bigger groups. (Gaba and Joseph (2023).

Group Size and Efficiency: Research by Hackman and Vidmar (1970) found that a group consisting of around five people, Through the management of the number of social contacts and the maintenance of productive group dynamics, you may maximize the enjoyment and efficacy of your members across a variety of chores. (Hsieh & Yang, 2020).

3 Survey Study

3.1 Survey Description

For the thesis a structured questionnaire was developed with a mix of closed-ended and 5-point Likert-item questions. Questions about perceptions, experiences, organizational satisfaction, organizational performance, and benefits of group decision-making were included. In the process of developing the questions we ensured that these were clear, concise, and aligned with the research objectives. Five-point Likert items typically include the following options: (1) **Strongly Agree**: The respondent completely agrees with the statement. (2) **Agree**: The respondent agrees with the statement. (3) **Neither agree nor disagree**: The respondent neither agrees nor disagrees with the statement or is indifferent. (4) **Disagree**: The respondent disagrees with the statement. (5) **Strongly Disagree**: The respondent completely disagrees with the statement.

3.1.1 Data Collection

The data for this study was collected using an online survey designed via Google Forms. The survey link was distributed through various channels, including WhatsApp groups, Facebook, and direct communication with individuals. Special efforts were made to reach participants from diverse backgrounds, including different regions, age groups, and organizational roles. This approach ensured a broad representation of perspectives across various industries and demographic profiles.

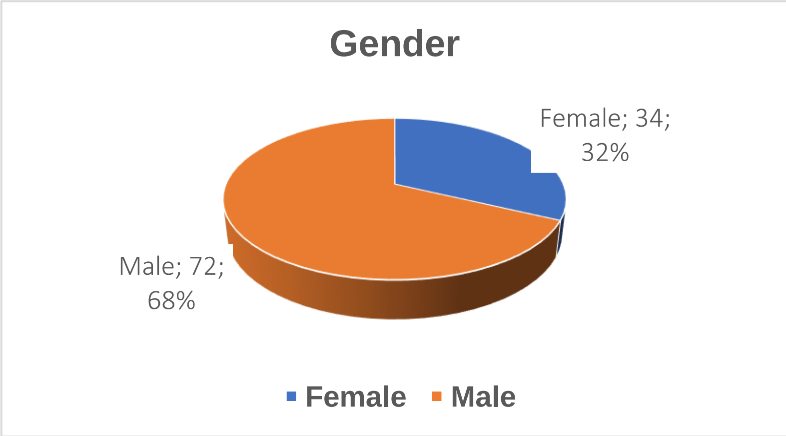
The survey consisted entirely of close-ended questions, and participants were required to respond to all questions to submit the form, eliminating the possibility of missing data. The questions were based on a 5-point Likert scale, with the following response options:

1. Strongly Agree (1)
2. Agree (2)
3. Neither Agree Nor Disagree (3)
4. Disagree (4)
5. Strongly Disagree (5)

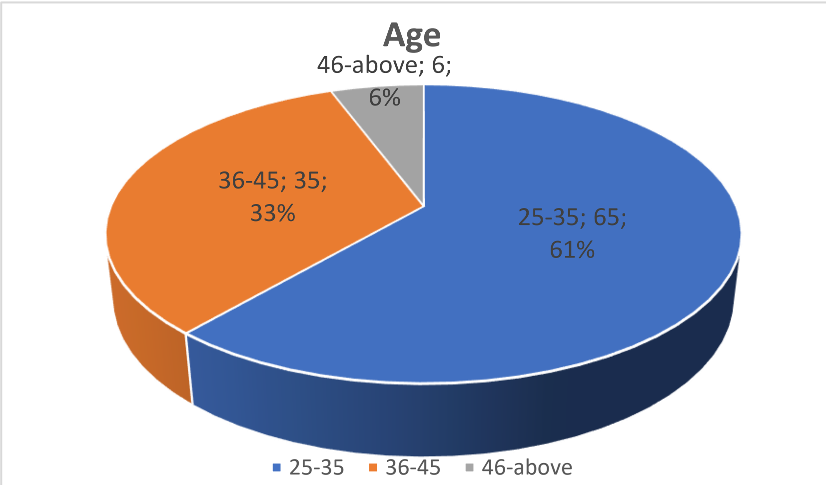
This scale was used to measure participants' attitudes and perceptions on various aspects related to the study's objectives. The mandatory nature of the responses helped ensure that all data collected were complete and consistent, allowing for reliable statistical analysis.

3.2 Descriptive analysis

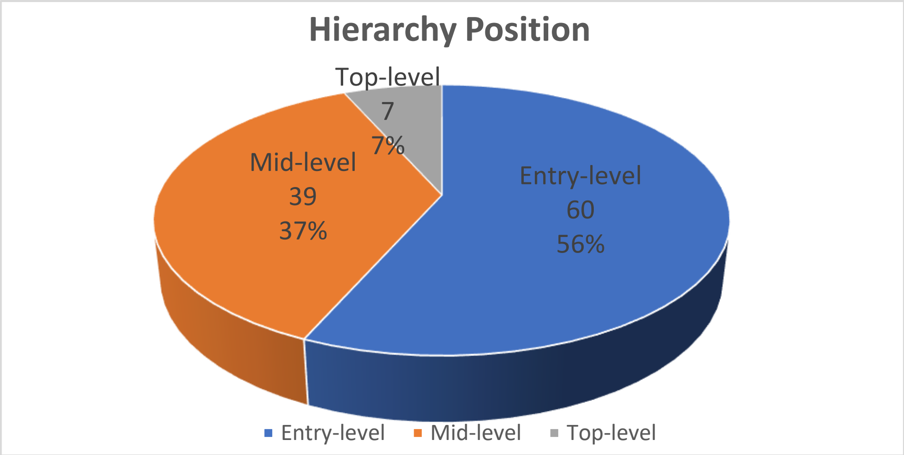
The questionnaire has a total of 106 respondents. There are 72 individuals, accounting for 69.9% of the total, who are male. Additionally, 34 individuals, making up 32.1% of the total, are female.



Out of the total respondents, 65 (61.3%) were between the ages of 25 to 35, 35 (33%) were between the ages of 36 to 45, and only 6 (5.7%) respondents were over the age of 46.



Out of the total respondents, 60 (56.6%) are entry-level employees from various areas and industries, 39 (36.8%) are mid-level employees, and just 7 (6.6%) are top-level employees.



There were 15 participants from the Tourism and hospitality industry, 16 participants from the Information Technology and software sector, 15 participants from the financial services, 16 participants from Customer Care and retail services, 8 participants from Logistics and Supply Chain, 6 participants from healthcare, 6 participants from Real Estate, and 3 participants from Ready Made Garments, 5 Pharmaceutical, and 4 Education. There are 10 individuals are engineering and manufacturing and two from the airport service industry.

A total of twenty-six respondents from Portugal accounted for 24.5% of the sample, with the majority located in Lisbon. Out of the total responders, 13 (12.3%) were from Bangladesh, 14 (13.2%) were from Germany, 14 (13.2%) were from Austria, and 6 (5.7%) were from both India and the USA. There were an equal number of responders, namely 5 (4.7%) from the Czech Republic and Spain.

There were three replies from the UK, accounting for 3.7% of the total. Additionally, there were two respondents from Australia and Malta, representing 1.9% of the total. Lastly, one responder from Canada Estonia, Finland, Nigeria and Poland made up 0.94% of the total.

3.3 Variables

From the 29 individual questions (please see questionnaire in appendix section), there are a total of six variables after being merged. The first variable is the exposure, followed by effectiveness, engagement, group size, Challenges, and Leadership.

3.4 Research Questions

RQ1: How does exposure to group decision-making enhance engagement and satisfaction?

This research question aims to investigate how employees are exposed to make decision that increase the employee's engagement and satisfaction as well. It explores whether involving employees in decision-making processes leads to higher levels of job satisfaction and a more positive work environment.

RQ2: To what extent does group decision-making is used in an organization is an effective way of making decisions for achieving goals, making good decisions?

This question examines the degree to which group decision-making is used in an organization is an effective way of making decisions for achieving goals, making good decisions. It seeks to determine if there is a measurable impact on organizational effectiveness, productivity, and success when decisions are made collaboratively rather than individually.

RQ3: How does group decision-making to be effective for achieving goals and also tend to think that group decision-making enhances engagement and satisfaction?

This research question focuses on understanding how the attainment of organizational goals correlates with employee satisfaction. It looks at whether employees feel more satisfied and motivated when the organization meets its objectives and how goal achievement impacts their perception of the workplace.

RQ4: How does effective group decision making enhance knowledge sharing among employees?

This question explores the effect of reaching organizational goals on the willingness and frequency of employees to share knowledge. It investigates if success in achieving goals fosters a culture of collaboration and information exchange among staff members.

4. Main Results

4.1 Summary statistics

Table 1: *Demographic summaries with frequencies and percentages.*

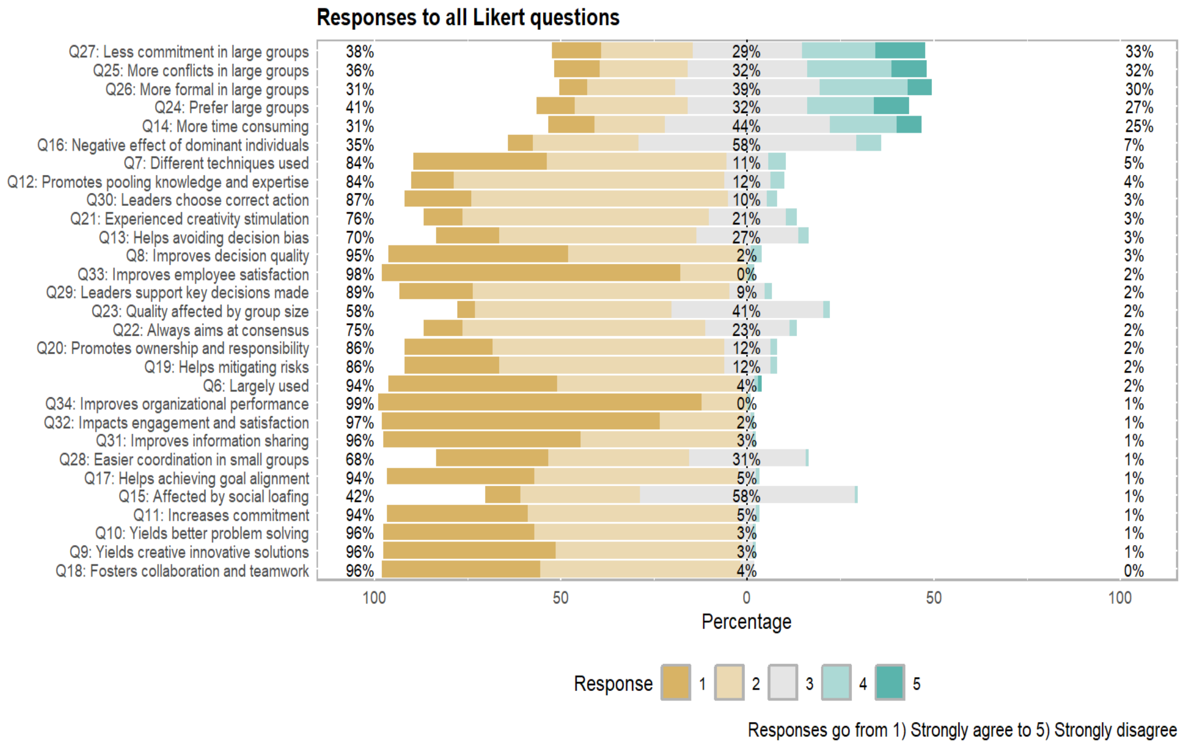
Variable	N	Percent
Gender	106	
... Female	34	32%
... Male	72	68%
Age	106	
... 25-35	65	61%
... 36-45	35	33%
... 46 and above	6	6%
Hierarchy	106	
... Entry	60	57%
... Mid	39	37%
... Top	7	7%
Sector	106	
... Customer and Retail Services	16	15%
... Education	4	4%
... Engineering and Manufacturing	10	9%
... Financial Services	15	14%
... Healthcare	9	8%
... IT and Software	16	15%
... Logistics and Supply Chain	8	8%
... Other	2	2%
... Pharmaceutical	5	5%
... Real Estate	6	6%
... Tourism and Hospitality	15	14%
Country	106	
... Australia	2	2%

Variable	N	Percent
... Austria	14	13%
... Bangladesh	13	12%
... Canada	1	1%
... Czech Republic	5	5%
... Estonia	1	1%
... Finland	1	1%
... France	1	1%
... Germany	14	13%
... India	6	6%
... Italy	2	2%
... Lithuania	1	1%
... Malta	2	2%
... Nigeria	1	1%
... Poland	1	1%
... Portugal	26	25%
... Spain	5	5%
... UK	3	3%
... USA	7	7%

The core of the survey consisted of a collection of 29 Likert items asking questions related to different aspects of group decision-making. A summary of all the answers to the individual Likert items is provided in Figure 1.

In the diagram we see that most respondents tend to either strongly agree or agree with most of the questions. However, there is a set of questions related to the effect of group size on decision-making with a higher fraction of neutral or disagreeing answers. Looking carefully at these questions, one can see that they contain either negative formulations or highligh negative aspects of group decision-making. These effects will become clear later, when we explore internal consistency, reliability, and perform correlation analysis.

Figure 1: *Summary of all responses to all individual Likert itemsIn*



4.2 Reliability analysis

A survey on the importance of having effective group decision-making in organizations was conducted with N=106 respondents. The survey consisted of 29 Likert items and the value for Cronbach's alpha for the set of Likert questions was $\alpha = 0.83$ indicating good internal consistency. Since some of the items were negatively correlated with the principal component, they were automatically reversed for the calculation.

1. Automatically reversed item: These questions were negatively correlated with the first principal component and thus automatically reversed to improve internal consistency. This makes sense, as they likely express negative aspects of group decision-making.
    - Q14: More time consuming
    - Q25: More conflicts in large groups
    - Q26: More formal in large groups
    - Q27: Less commitment in large groups
    - Q28: Easier coordination in small groups
2. Items showing weaker correlation with overall scale:
    - Q15: Affected by social loafing
    - Q16: Negative effect of dominant individuals

The details that follow on this issue don't need to be included in the manuscript (just for your information)

raw_alpha	std.alpha	G6(smc)	average_r	S/N	ase	mean	sd	median_r
0.83	0.84	0.91	0.16	5.4	0.024	2.1	0.31	0.16

95% confidence boundaries

lower alpha upper

Feldt	0.77	0.83	0.87
Duhachek	0.78	0.83	0.87

Reliability if an item is dropped (note the items marked with a negative signed were automatically reverted)

	raw_alpha	std.alpha	G6(smc)	average_r	S/N	alpha se	var.r	med.r
Q6: Largely used	0.82	0.84	0.90	0.15	5.1	0.025	0.027	0.16
Q7: Different techniques used	0.82	0.84	0.91	0.15	5.1	0.025	0.027	0.16
Q8: Improves decision quality	0.82	0.84	0.91	0.15	5.1	0.025	0.027	0.16
Q9: Yields creative innovative solutions	0.82	0.83	0.91	0.15	5.0	0.025	0.027	0.15
Q10: Yields better problem solving	0.82	0.84	0.91	0.16	5.2	0.025	0.027	0.16
Q11: Increases commitment	0.82	0.84	0.91	0.16	5.3	0.024	0.027	0.16
Q12: Promotes pooling knowledge and expertise	0.82	0.84	0.91	0.16	5.1	0.025	0.027	0.16
Q13: Helps avoiding decision bias	0.82	0.84	0.91	0.16	5.2	0.025	0.026	0.16
Q14: More time consuming (-)	0.84	0.85	0.91	0.17	5.7	0.023	0.023	0.17
Q15: Affected by social loafing	0.83	0.85	0.91	0.17	5.6	0.023	0.025	0.16
Q16: Negative effect of dominant individuals	0.83	0.85	0.91	0.16	5.5	0.024	0.025	0.16
Q17: Helps achieving goal alignment	0.82	0.83	0.91	0.15	5.0	0.025	0.027	0.16
Q18: Fosters collaboration and teamwork	0.82	0.84	0.91	0.16	5.2	0.025	0.027	0.16
Q19: Helps mitigating risks	0.82	0.83	0.91	0.15	5.1	0.025	0.027	0.16
Q20: Promotes ownership and responsibility	0.82	0.84	0.91	0.16	5.2	0.024	0.027	0.16

Q21: Experienced creativity stimulation	0.82	0.84	0.91	0.16	5.2	0.024	0.026	0.16
Q22: Always aims at consensus	0.82	0.84	0.91	0.16	5.2	0.025	0.027	0.16
Q23: Quality affected by group size	0.82	0.84	0.91	0.16	5.3	0.024	0.027	0.16
Q24: Prefer large groups	0.81	0.83	0.90	0.15	5.0	0.026	0.027	0.15
Q25: More conflicts in large groups (-)	0.82	0.84	0.91	0.16	5.3	0.025	0.024	0.16
Q26: More formal in large groups (-)	0.82	0.84	0.90	0.16	5.2	0.026	0.024	0.16
Q27: Less commitment in large groups (-)	0.82	0.84	0.91	0.16	5.3	0.025	0.024	0.16
Q28: Easier coordination in small groups (-)	0.82	0.85	0.91	0.16	5.5	0.024	0.025	0.17
Q29: Leaders support key decisions made	0.82	0.84	0.91	0.16	5.3	0.024	0.026	0.16
Q30: Leaders choose correct action	0.82	0.84	0.91	0.16	5.3	0.024	0.026	0.16
Q31: Improves information sharing	0.82	0.84	0.91	0.16	5.3	0.024	0.027	0.16
Q32: Impacts engagement and satisfaction	0.82	0.83	0.90	0.15	5.1	0.025	0.026	0.16
Q33: Improves employee satisfaction	0.82	0.84	0.90	0.15	5.1	0.025	0.025	0.16
Q34: Improves organizational performance	0.82	0.83	0.90	0.15	4.9	0.025	0.025	0.15

4.3 Internal consistency of the aggregated variables

The Likert items can be classified according to different aspects of group decision-making to construct a set of Likert scales. Here are the ones considered for the analysis. The specific questions included in each scale appear in Table 2.

1. **Exposure:** These questions ask about respondents' exposure to and use of group decision-making in their organizations. It captures how much experience they have with group decision-making.
2. **Effectiveness:** This category includes questions that reflect the perceived quality, outcomes, and problem-solving capacity of group decision-making. The category includes distinct aspects of effectiveness, related to the innovative potential of group decisions, as well as their accuracy or alignment with goals. Effectiveness includes questions related to the overall ability of group decision-making to improve organizational performance, enhancing the quality of decisions, avoiding decision bias, mitigating risks, helping align decisions with organizational goals, promoting creativity and problem-solving abilities.
3. **Engagement:** These questions relate to the individual emotional and behavioral responses to group decision-making, related to satisfaction, and engagement, also capturing the group dynamics around collaboration, teamwork, information flow, and knowledge sharing.
4. **Group size:** This category focuses on how the size of the group impacts decision-making. Many of the questions are phrased negatively. We will see that some of them have to be inverted to capture the way respondents view the impact of group size in a more reliable and coherent way.
5. **Challenges:** These questions capture challenges beyond size-related issues. They highlight perceived difficulties in group decision-making such as longer decision time needed, social loafing, or bias towards dominant group members.
6. **Leadership:** These questions emphasize the role of leadership in group decision-making. Keeping them separate as the impact of leadership may interact with some of the other categories.

Internal consistency results are based on Cronbach's alpha within each category of aggregated variables (Likert scale). Higher alpha indicates better internal consistency, generally interpreted as follows:

- Below 0.6: Poor reliability
- 0.6–0.7: Acceptable reliability
- 0.7–0.8: Good reliability
- Above 0.8: Very good reliability

The following table summarizes how the questions were grouped into the different categories, together with the results of Chronbach's alpha that reflect internal consistency of each category.

Table 2: *Internal consistency based on Chronbach's alpha*

Category	**Questions**	**Cronbach's alpha**	**Reliability**
Exposure	Q6, Q7	0.6599305	acceptable
Effectiveness	Q8, Q9, Q10, Q13, Q17, Q19, Q21, Q34	0.7419368	good
Engagement	Q11, Q12, Q18, Q20, Q22, Q31, Q32, Q33	0.6517653	acceptable
Group size	Q23, Q24, Q25, Q26, Q27, Q28	0.7965120	very good
Other challenges	Q14, Q15, Q16	0.6184348	acceptable
Leadership	Q29, Q30	0.6828741	acceptable

For the category group size, some the following items were negatively correlated with the first principal component and were automatically reversed for the calculation:

- Q23: Quality affected by group size
- Q24: Prefer large groups

4.4 Correlation analysis

The relationships between the six categories were evaluated using Pearson's correlation to assess the strength and direction of these relationships. The results appear in Table 3 with p-values expressed with the asterisks. The degree of correlation is evaluated following Cohen’s guidelines for Pearson’s correlation, which is applied to the absolute value of the correlation coefficient r as follows:

- Weak correlation if $0.10 \leq |r| < 0.30$.
- Moderate correlation if $0.30 \leq |r| < 0.50$.
- Strong correlation if $r \geq |0.50|$.

Table 3 below shows the degree of pairwise correlation between the different Likert scales defined. We highlight the most significant and their implications further down.

Table 3: *Pearson's correlation coefficient matrix*

Likert scales	Exposure	Effectiveness	Engagement	Group size	Challenges	Leadership
Exposure		0.4***	0.49***	-0.26*	0.05	0.14
Effectiveness	0.4***		0.67***	-0.31**	0.13	0.4***
Engagement	0.49***	0.67***		-0.23	0.17	0.34***
Group size	-0.26*	-0.31**	-0.23		0.23	0.06
Challenges	0.05	0.13	0.17	0.23		0.11
Leadership	0.14	0.4***	0.34***	0.06	0.11	
Note: *p<0.1; **p<0.05; ***p<0.01						

Exposure and Effectiveness (r = 0.4, p < 0.01): There is a moderate, positive correlation between exposure to group decision-making and perceived effectiveness. This suggests that individuals who have greater exposure to group decision-making processes in their organizations tend to perceive them as more effective, meaning that group decision-making helps enhance organizational performance.

Exposure and Engagement ($r = 0.49$, $p < 0.01$): There is a moderate, positive correlation between exposure and engagement. Individuals who have been more exposed to group decision-making processes in their organizations tend to hold the opinion that it increases committed engagement, collaboration and teamwork, promotes knowledge sharing and a sense of ownership and responsibility for the decisions made, enhancing employee satisfaction.

Effectiveness and Engagement ($r = 0.67$, $p < 0.01$): There is a strong, positive correlation between perceived effectiveness and engagement. This indicates that individuals who find group decision-making are effective in aligning decisions and organizational goals, and improving overall performance, are more likely to hold the opinion that it fosters engaged collaboration, teamwork, knowledge sharing, and employee satisfaction in general.

Effectiveness and Leadership ($r = 0.40$, $p < 0.01$): A moderate, positive correlation between effectiveness and leadership suggests that effective group decision-making is associated with good leadership practices.

Engagement and Leadership ($r = 0.34$, $p < 0.01$): This moderate, positive correlation indicates that increased engagement in group decision-making processes is associated with stronger leadership involvement. We see the correlation is not so strong as between Engagement and Effectiveness.

Exposure and Group Size (r = -0.26, p < 0.1): The results suggest the existence of a weak to moderate negative correlation between exposure and group size, indicating that individuals with greater exposure to group decision-making processes in their organization are aware of the shortcomings associated to larger group size. This correlation is smaller than most of the other ones in the table and is only significant at a lower level (10%).

Effectiveness and Group Size (r = -0.31, p < 0.05): This moderate, negative correlation shows that respondents expect group decision-making to be less effective in reaching organizational goals and enhance performance, as group sizes increases.

Engagement and Group Size (r = -0.23, p >0.1): A weak, negative correlation between engagement and group size suggests that larger groups may slightly reduce engagement levels. However, this correlation is not significant.

Other important comments: The correlation between **challenges** and other factors such as exposure, effectiveness, and engagement are weak and non-significant (p > 0.1), indicating no significant or strong relationship between the recognized challenges of group decision-making and the other factors is perceived.No significant correlations were found between **leadership** and group size or challenges.

4.5 Regression analysis

In this section multiple regression analysis will be used to check the following hypothesis.

- **Hypothesis 1:** Greater exposure to group decision-making processes is associated with higher perceived effectiveness.
- **Hypothesis 2:** Greater exposure to group decision-making processes is associated with higher levels of engagement.
- **Hypothesis 3:** Engagement mediates the relationship between exposure and perceived effectiveness.

The strategy will be as follows. First, we explain effectiveness using all other Likert scales except engagement. This will allow to check in particular if exposure is significant **(Hypothesis 1)**. In a second step, we will see if a similar model also works for engagement, and we can find a significant explanatory power of exposure on engagement **(Hypothesis 2)**. After that, we will consider one more model explaining effectiveness using all Likert scales, now including engagement. For this model, we will check if including engagement implies that other scales, in particular exposure, lose predictive power. This will be suggestive of **Hypothesis 3**.

Model A

Consider first the following model explaining perceived effectiveness of group decision-making using exposure, group size, leadership, and other perceived challenges.

$$\text{Effectiveness} = \alpha + \beta_1 \cdot \text{Exposure} + \beta_2 \cdot \text{Group Size} + \beta_3 \cdot \text{Leadership} + \beta_4 \cdot \text{Challenges} + \varepsilon$$

Table 4 presents the results of Model A. All factors except for other challenges (not related to group size) are highly statistically significant. In particular, exposure is a significant positive predictor of perceived effectiveness with p-value < 0.01 and $\beta_1 = 0.156$ positive. This supports **Hypothesis 1** and can be interpreted as follows. Those respondents more frequently exposed to group decision-making in their organizations tend to perceived it as effective to align decisions with organizational goals and make high quality decisions, based on creative and innovate solutions. It is also interesting to see that aspects related to group size have a negative impact on perceived efficiency, while leadership has a positive effect. We computed the variance inflation factor (VIF) values for each predictor to check for multicollinearity issues. All of them were close to 1 (clearly below 5), indicating non multicollinearity.

Table 4: *OLS regression explaining perceived effectiveness of group decision-making*

Model A	*Dependent variable:*
	Perceived effectiveness
Exposure	0.156^{***}
	(0.048)
Group size	-0.152^{***}
	(0.044)
Leadership	0.250^{***}
	(0.056)
Other challenges	0.087^{*}
	(0.049)
Constant	1.186^{***}
	(0.205)

Observations	106
R^2	0.364
Adjusted R^2	0.338
Residual Std. Error	0.303 (df = 101)
F Statistic	14.428^{***} (df = 4; 101)
Note:	*p<0.1; **p<0.05; ***p<0.01

Model B

Consider now the following model explaining perceived effectiveness of group decision-making using exposure, engagement, group size, leadership, and other perceived challenges. Here, we have added engagement to the other factors in Model A.

$$\text{Effectiveness} = \alpha + \beta_1 \cdot \text{Exposure} + \beta_2 \cdot \text{Engagement} + \beta_3 \cdot \text{Group Size} + \beta_4 \cdot \text{Leadership} + \beta_5 \cdot \text{Challenges} + \varepsilon$$

Table 5 above presents the results of Model B. Engagement is a strong positive predictor of perceived effectiveness of group decision-making. Note $\beta_2 = 0.582$ (p-value < 0.01). However, the coefficient for exposure is much lower than in Model A and it is no longer significant when engagement is included. Group size and leadership remain significant and have the same signs as in Model A. Other challenges are not significant. The adjusted R^2 has increased, indicating a better fit than Model A. The VIF values are all below 2, so no multicollinearity is shown. The fact that engagement is so significant and a strong predictor, while exposure loses significance when engagement is introduced weakens Hypothesis 1 and is indicative of Hypothesis 3, stating that engagement mediates the relationship between exposure and perceived efficiency.

Table 5: OLS regression explaining perceived effectiveness including engagement

Model B	*Dependent variable:*
	Perceived effectiveness
Exposure	0.042
	(0.046)
Engagement	0.582***
	(0.099)
Group size	-0.103***
	(0.039)
Leadership	0.154***
	(0.051)
Other challenges	0.040
	(0.043)
Constant	0.573***
	(0.206)
Observations	106
R^2	0.528
Adjusted R^2	0.504
Residual Std. Error	0.262 (df = 100)
F Statistic	22.338*** (df = 5; 100)
Note:	*p<0.1; **p<0.05; ***p<0.01

Model Engagement

We are now considering a model to explain engagement using the other Likert scales in our data. The intention is to see if engagement is enhanced by exposure. This would mean that individuals who have been exposed to group decision-making processes in their organizations are more likely to have the opinion that group decision-making increases collaborative engagement, commitment and responsibility for the decisions taken, promoting knowledge sharing and improving employee satisfaction. The model considered is similar to Model A but has engagement as dependent variable. The results appear in Table 6 below.

$$\text{Engagement} = \alpha + \beta_1 \cdot \text{Exposure} + \beta_2 \cdot \text{Group Size} + \beta_3 \cdot \text{Leadership} + \beta_4 \cdot \text{Challenges} + \varepsilon$$

Table 6: *OLS regression explaining engagement in group decision-making*

Model Engagement	*Dependent variable:*
	Engagement
Exposure	0.195^{***}
	(0.042)
Group size	-0.083^{**}
	(0.039)
Leadership	0.165^{***}
	(0.049)
Other challenges	0.081^{*}
	(0.043)
Constant	1.054^{***}
	(0.179)
Observations	106
R^2	0.354
Adjusted R^2	0.328
Residual Std. Error	0.264 (df = 101)
F Statistic	13.829^{***} (df = 4; 101)

Note: $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

Table 6 shows that that all Likert scales except other challenges are highly significant and have the expected signs. In particular, the parameter of exposure is $\beta_1 = 0.195$ (p-value < 0.01), indicating that those respondents with more exposure to group decision-making processes in their organizations tend to hold a higher level in the opinion that there is more commitment, teamwork, engaged participation, and satisfaction in group decision-making. This supports Hypothesis 2. As for the case of effectiveness, the effects of group size, which is considered to be a challenge, has a significant negative effect, while leadership has a significant positive effect. Other challenges do now show such high significance. The adjusted R^2 is comparable to that of Model A. Also here, we computed the VIF values for all predictors and obtained values close to 1, with no indication of multicollinearity.

6 Conclusions

Hypothesis 1: Greater exposure to group decision-making processes is associated with higher perceived effectiveness. This hypothesis is supported in Model A. However, in Model B, the effect of exposure on effectiveness is mediated by engagement.

Hypothesis 2: Greater exposure to group decision-making processes is associated with higher levels of engagement. This is supported by the significant positive relationship between exposure and engagement in the model for engagement.

Hypothesis 3: Engagement mediates the relationship between exposure and perceived effectiveness. This is indicated by the mediation analysis that consisted in the inclusion of engagement in the regression equation explaining effectiveness, which significantly reduced the effect of exposure on effectiveness to non-significance, indicating mediation.

The key findings supported by the correlation and regression analysis are the following. Exposure enhances engagement. This means that respondents who have been exposed more often to group decision-making processes in their organizations tend to have the opinion that this increases commitment, fosters collaboration and teamwork, promotes ownership and responsibility of the decisions made, aims at consensus, promotes knowledge sharing and information flow, ultimately improving employee satisfaction.

Elements related to group size as perceived negatively and show a significant negative impact on perceived effectiveness and engagement. Given the size of the coefficient, the negative impact perceived by group size tends to be smaller than exposure or engagement.

Leadership positively influences both engagement and perceived effectiveness, highlighting its importance in group decision-making.

Other challenges like the fact that decisions are more time consuming, and may be affected by social loafing, as well as biased towards those imposed by dominant group members, seem to be of less concern for the respondents of the survey. This factor has much lower significance than all the other ones and seems to play only a marginal role.

The analysis is limited to simple OLS regression and only indicative of the mediation effect. It could have been enriched by considering interaction variables. Other more comprehensive methods to analyze these effects would have included mediation analysis (Baron and Kenny, 1986), or structural equation modeling (SEM) which would allow to model multiple relationships simultaneously (see e.g. Kline, 2015).

5.1 Summary of the Key findings

Cronbach's alpha for the set of Likert questions is $\alpha = 0.83$ means a good internal consistency.

Correlations among variables:

Exposure and Effectiveness has ($r = 0.4$, $p < 0.01$): its a moderate, positive correlation between exposure to group decision-making and perceived effectiveness.

Exposure and Engagement ($r = 0.49$, $p < 0.01$): There is a moderate, positive correlation between exposure and engagement.

Effectiveness and Engagement (r = 0.67, $p < 0.01$): There is a strong, positive correlation between perceived effectiveness and engagement.

Effectiveness and Leadership (r = 0.40, $p < 0.01$): A moderate, positive correlation between effectiveness and leadership suggests that effective group decision-making is associated with good leadership practices.

Engagement and Leadership (r = 0.34, $p < 0.01$): This moderate, correlation is not so strong as between Engagement and Effectiveness.

Exposure and Group Size (r = -0.26, $p < 0.1$): Moderate negative correlation between exposure and group size.

Effectiveness and Group Size (r = -0.31, $p < 0.05$): This moderate, negative correlation between effectiveness and group size.

Engagement and Group Size (r = -0.23, $p > 0.1$): A weak, negative correlation between engagement and group size.

Hypothesis:

Hypothesis 1: Greater exposure to group decision-making processes is associated with higher perceived effectiveness. This hypothesis is supported in Model A. However, in Model B, the effect of exposure on effectiveness is mediated by engagement.

Hypothesis 2: Greater exposure to group decision-making processes is associated with higher levels of engagement. It's a significant positive relationship between exposure and engagement in the model for engagement.

Hypothesis 3: Engagement mediates the relationship between exposure and perceived effectiveness. This is indicated by the mediation analysis that consisted in the inclusion of engagement in the regression equation explaining effectiveness, which significantly reduced the effect of exposure on effectiveness to non-significance, indicating mediation.

5.2 Limitations of the Study

The study has limitations regarding the generalizability of its results. It primarily draws on a sample of specific industries and geographic regions, which may only partially represent broader organizational contexts. Majority of the respondents are male, represent 72 out of 106 and its 68% of 100%. A significant number of the respondents are in the 25-35 age group and represent 61% of 100%. As well as regarding hierarchy position, entry level employees are the majority in this questionnaire, 60 respondents out of 106 and represent 57%. Moreover, relying on self-reported data can introduce biases such as social desirability. Future research could benefit from expanding the sample and using mixed methods to triangulate findings.

5.3 Recommendations for Future Research

Future research should explore the role of group decision-making in various organizational settings and industries. Studies could also investigate how different leadership styles influence the decision-making process. Additionally, future research might examine the long-term impacts of decision-making on organizational performance and how technological tools can support these processes.

Optimize Group Decision-Making Processes: While group decision-making proves effective, its time-consuming nature can be mitigated by introducing streamlined decision-making frameworks that reduce coordination delays and avoid social loafing.

Enhance Leadership Training: Since leadership is pivotal in influencing knowledge sharing and employee satisfaction, organizations should invest in leadership development programs that promote openness, communication, and collaboration.

Foster Knowledge-Sharing Mechanisms: As knowledge sharing correlates strongly with performance, organizations should create formal knowledge-sharing platforms that encourage employees to share expertise and information, further enhancing organizational learning.

Focus on Group Size and Composition: Given the mixed responses on group size, future studies should focus on **optimal group sizes** and how diversity within groups (e.g., age, expertise, and gender) impacts the decision-making process.

Promote Employee Participation: Continue prioritizing **employee engagement** in decision-making, as it directly influences satisfaction and organizational goals. More participatory processes could lead to improved outcomes.

Appendix

Questionnaire:

SA-Strongly Agree (1)

A- Agree (2)

N- Neither agree nor disagree (3),

D- Disagree (4)

SD- Strongly Disagree (5)

Variables:

1. Exposure (Q6, Q7)

2. Effectiveness (Q8, Q9, Q10, Q13, Q17, Q19, Q21, Q34)

3. Engagement (Q11, Q12, Q18, Q20, Q22, Q31, Q32, Q33)

4. Group Size (Q23, Q24, Q25, Q26, Q27, Q28)

5. Other Challenges (Q14, Q15, Q16)

6. Leadership (Q29, Q30)

1. Category: Exposure

Questions	SA	A	N	D	SD	Total	Mean	Mode	Sum
6. Within the company where you work, groups are largely used for making decisions.	48	52	4	1	1	106	1,63	2	173
7. Does the organization where you work apply different group decision-making techniques (Nominal Group Technique, Delphi Method, Brainstorming Sessions, Discussion Management with Thought Exchange)?	38	51	12	5	0	106	1,85	1	196

2. Category: Effectiveness

Questions	SA	A	N	D	SD	Total	Mean	Mode	Sum
8. To what extent do you agree that group decision-making **improves the quality** of decisions in your organization?	51	50	2	3	0	106	1,59	1	169
9. In your opinion, does group decision-making lead to more creative and	49	53	3	1	0	106	1,58	2	168

innovative solutions compared to individual decision-making?									
10. Do you believe that group decision-making results in better problem-solving outcomes than individual decision-making?	43	59	3	1	0	106	1,64	2	174
13. To what extent do you think that group decision-making can help avoid the risk of making biased decisions?	18	56	29	3	0	106	2,16	2	229
17. Do you believe that group decision-making helps in achieving better alignment with organizational goals?	42	58	5	1	0	106	1,67	2	177
19. To what extent do you think that group decision-making helps in identifying and mitigating potential risks?	27	64	13	2	0	106	1,91	2	202
21. While participating in decision-making groups, I have often found that creativity is stimulated.	11	70	22	3	0	106	2,16	2	229
34. In your opinion, does group decision-making contribute to improved organizational performance?	92	13	0	1	0	106	1,15	1	122

3. Category: Engagement:

Questions	SA	A	N	D	SD	Total	Mean	Mode	Sum
11. Do you believe that group decision-making increases commitment to decisions among group members?	40	60	5	1	0	106	1,69	2	179
12. Does group decision-making in your organization promote the pooling of diverse knowledge and expertise?	12	77	13	4	0	106	2,08	2	221
18. Do you think that group decision-making fosters a culture of collaboration and teamwork in your organization?	45	57	4	0	0	106	1,61	2	171
20. Do you believe that group decision-making promotes a sense of ownership and responsibility among group members?	25	66	13	2	0	106	1,92	2	204

22. The method used for group decision-making always aims to reach a consensus.									
31. Do you believe that group decision-making increases more knowledge and information sharing among group members?	56	46	3	1	0	106	1,52	1	161
32. Do you believe group decision-making impacts employee engagement and satisfaction within the organization?	79	24	2	1	0	106	1,29	1	137
33. Do you believe that group decision-making can improve employee satisfaction?	85	19	0	2	0	106	1,24	1	131

4. Category: Group Size

Questions	SA	A	N	D	SD	Total	Mean	Mode	Sum
23. The number of group members affects the quality of the decisions made.	5	56	43	2	0	106	2,40	2	254

24. I prefer large groups to make decisions.	11	32	34	19	10	106	2,86	3	303
25. Within large groups, there are more conflicts.	13	25	34	24	10	106	2,93	3	311
26. If the group is large, the relationships between members are more formal.	8	25	41	25	7	106	2,98	3	316
27. Attention and individual commitment are lower in large groups than in small groups.	14	26	31	21	14	106	2,95	3	313
28. For small groups, group operation and coordination are easier.	32	40	33	1	0	106	2,03	2	215

5. Category: Challenges

Questions	**SA**	**A**	**N**	**D**	**SD**	**Total**	**Mean**	**Mode**	**Sum**
14. Do you believe that group decision-making processes are more time-	13	20	47	19	7	106	2,88	3	305

consuming than individual decision-making processes?									
15. In your experience, does social loafing affect the effectiveness of group decision-making in your organization?	10	34	61	1	0	106	2,50	3	265
16. To what extent do you think that dominant individuals can negatively influence the group decision-making process?	7	30	62	7	0	106	2,65	3	281

6. Category: Leadership

Questions	**SA**	**A**	**N**	**D**	**SD**	**Total**	**Mean**	**Mode**	**Sum**
29. Leaders at your company show commitment and support for key decisions once they are made.	21	73	10	2	0	106	1,93	2	205
30. Leaders at your company chose the right course of action when making key decisions.	19	73	11	3	0	106	1,98	2	210

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