

# Cultural Influences on Problem Solving and Decision-Making in Student Projects: A Comparative Study between Indonesia and Germany

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## Article Info

## Abstract

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Differences in cultural dimensions across countries can influence approaches and behavior patterns in education. Therefore, this study aims to analyze the influence of culture on problem-solving and decision-making in student projects in Indonesia and Germany. A comparative approach between the two countries identifies significant cultural differences in power distance, individualism, masculinity, uncertainty avoidance, long-term orientation, and indulgence. The research method used is a qualitative approach with descriptive analysis. Data was collected through interviews and observations of students involved in the project. The study results show that cultural differences affect students' approaches to problem-solving and decision-making. In Indonesia, group cooperation and conformity to social norms play an important role, while independence and critical thinking are prioritized in Germany. The implications of this research are the importance of increasing cultural awareness, developing collaborative skills, increasing independence and critical thinking, and empowering students with cultural knowledge. By understanding cultural differences and taking the right steps, educators can create an inclusive learning environment and prepare students to face the challenges of an increasingly globalized world.

## 1. INTRODUCTION

Today's modern way of life relies heavily on education as the main foundation for improving a country's human resources (De Wit *et al.*, 2021; Marinoni *et al.*, 2020). Education is crucial in shaping individuals into educated, skilled, and competitive members of society (Marinoni *et al.*, 2020). Through education, a person can acquire the knowledge, skills, and attitudes needed to participate actively in modern society (Marinoni *et al.*, 2020; Katzman *et al.*, 2020). However, cultural differences in education, especially across countries, refer to variations in behavior patterns between various cultural groups (Riwukore *et al.*, 2021). Culture is an integral part of life that influences values, beliefs, and behavior (Bailey *et al.*, 2019; Ivancovsky *et al.*, 2019). Certain cultural dimensions encourage the development and expression of creativity. Shaped by various factors, including history, religion, language, and geography. Cultural differences significantly impact different countries' educational approaches, methods, and experiences (Ivancovsky *et al.*, 2019). In addition, cultural differences for each student in education can significantly impact decision-making and project completion (Yuldashov *et al.*, 2021). Cultural differences affect each

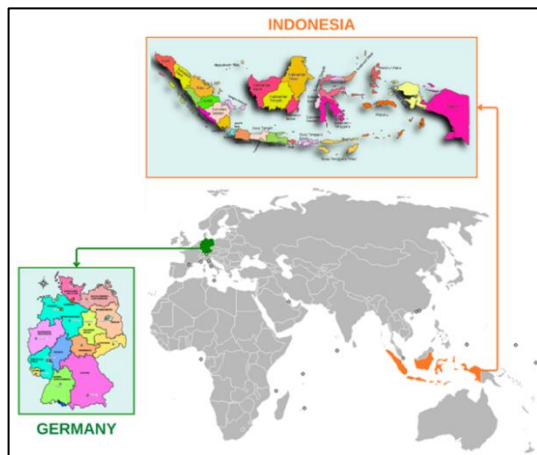
individual's views, values, attitudes, and communication patterns, which affects how they process information, think, and interact in an educational environment (Ivancovsky *et al.*, 2019).

Culture significantly impacts education (Hofstede, 2009; Ismail *et al.*, 2022). Culture is key in forming student identity (Ismail *et al.*, 2022). The cultural values and norms that students receive from their families and communities influence their perceptions of education, their goals in learning, and their expectations of the educational process. Each culture has a unique approach to education and learning (Pushkarev *et al.*, 2019). For example, a culture that emphasizes cooperation and collectivist values encourages students to study in groups or teams, while a culture that emphasizes individualism encourages students to learn independently. Understanding students' learning preferences stemming from their culture can help teachers and educational institutions adopt appropriate strategies and methods (Pushkarev *et al.*, 2019; Yudono *et al.*, 2021). In addition, culture plays a role in communication and interaction between students, teachers, and educational institutions. Every culture has communication norms that affect the way people interact, convey messages, and respond to situations

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in educational contexts (Kwangmuang *et al.*, 2021). For example, some cultures are more inclined towards direct and explicit verbal communication, while other cultures are more inclined to use indirect communication or are slower to get the message across.

In the context of an increasingly globalized world, student projects in education often bring together individuals from diverse cultural backgrounds, creating unique opportunities and challenges in problem solving and decision making (Da's *et al.*, 2019; Achmad *et al.*, 2023a). Understanding the influence of culture on these important aspects is essential for effective collaboration and successful project outcomes (Hu *et al.*, 2023; Abel *et al.*, 2020). Indonesia and Germany were chosen as the focus of this study due to differences in cultural contexts and educational systems. Figure 1 displays a map of the location of Indonesia and Germany.



**Figure 1.**  
Map of Indonesia and Germany

Based on Figure 1, Indonesia, located in Southeast Asia, is a plural country with a rich cultural heritage and a collectivistic society (Sagitaningrum *et al.*, 2016; Achmad *et al.*, 2023). Germany, located in Western Europe, strongly emphasizes individualism and technological progress (Dickinson, 2013). Indonesia and Germany represent different cultural contexts with different values, norms, and communication styles (Artina *et al.*, 2020). Indonesian culture is characterized by collectivism, emphasizing group harmony, social relations, and a preference for indirect communication (Sagitaningrum *et al.*, 2016). On the other hand, German culture leans towards individualism, valuing independence, direct communication, and analytical thinking (Dickinson, 2013). Cultural differences can significantly influence how students solve problems and make decisions within project teams, potentially causing variations in outcomes and processes. Cultural values, beliefs, communication styles, and social

norms shape individual perceptions, preferences, and behavior in various situations, including the educational environment. These cultural nuances can lead to misunderstandings, conflicts, and inefficiencies in decision-making and problem-solving processes (Bailey *et al.*, 2019; Ivancovsky *et al.*, 2019). For example, differences in communication styles and decision-making norms can result in misinterpretation or difficulty reaching a consensus within student teams.

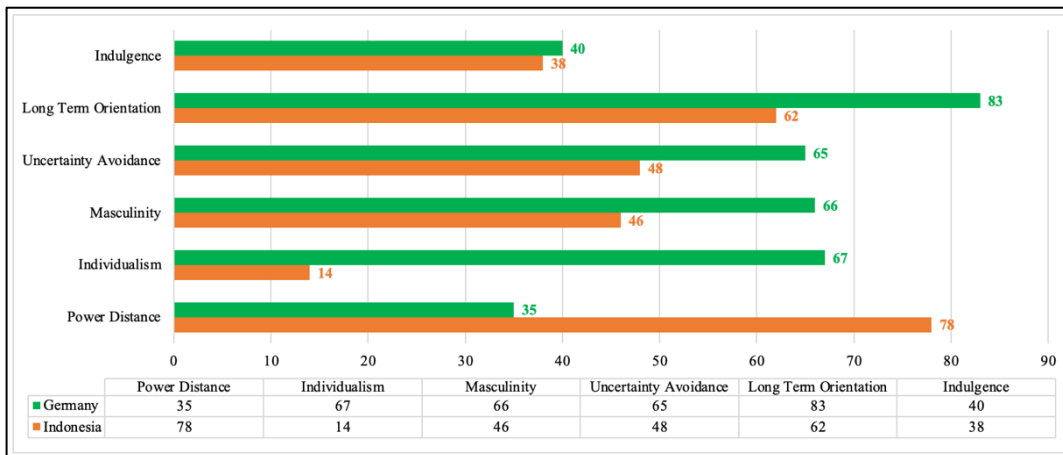
To overcome this challenge, it is important to use appropriate strategies and methods for decision making and problem solving in educational contexts. By examining the influence of culture on problem solving and decision making in these two countries, this study aims to provide insight into the dynamics of cross-cultural student projects and explain strategies for improving project performance. Ultimately, this research aims to understand the challenges of cultural differences in decision making and problem solving in an educational context. Some existing literature on the influence of culture in education mainly focuses on general cultural dimensions and their implications for teaching and learning (Oxenswärdh *et al.*, 2020; Pan *et al.*, 2021). However, there is a visible gap when examining the influence of culture-specificity on problem-solving and decision-making processes in student projects, particularly in comparing Indonesia and Germany. Therefore, this study will focus on various aspects, including communication styles, problem perception, information processing, decision-making strategies, and conflict-resolution methods. By identifying effective strategies and methods, educators and stakeholders can foster an environment that embraces cultural diversity and maximizes the potential for successful decision making and problem solving (Sutarto *et al.*, 2020; Lapitan *et al.*, 2021). This research will use a comparative study design, employing qualitative methods to collect data from student participants in both countries. We will explore cultural factors that influence problem-solving and decision-making approaches in student projects by conducting interviews, surveys, and observations.

The findings of this research have major implications for academia and practice. Understanding the influence of culture on problem solving and decision making can assist educators, project supervisors, and team members in developing effective strategies for enhancing collaboration and achieving project success in multicultural settings. Furthermore, insights from this research can contribute to the existing literature on cross-cultural project management, provide a foundation for further research and promote intercultural understanding in academic settings.

## 2. METHODOLOGY

This study analyzes the influence of culture on problem solving and decision making to provide an understanding of the challenges posed by cultural differences in decision making and problem solving in an educational context. Thus, appropriate strategies and methods are obtained in decision making and problem solving. This research focuses on Indonesia and Germany because the research team has a collaborative study program. The research methodology used in this study is a qualitative method with a descriptive analysis approach. Qualitative methods are used to understand students' experiences, views, and perceptions regarding decision making and problem solving in student projects (Sugiyono, 2013). A descriptive analysis approach describes the cultural characteristics, decision-making strategies, and problem-solving patterns associated with the two countries.

Data collection uses primary and secondary data. Primary data was collected through in-depth interviews with students involved in student projects in Indonesia and Germany. In addition, participatory observation can also be carried out to gain a contextual understanding of the student project situation. Secondary data was obtained through literature studies from several data sources, journals, and related articles relevant to the problem. The framework for analyzing the cultural influences of Indonesia and Germany is based on comparative data from Indonesia and Germany (Hofstede Insights, 2023). Hofstede Insights is a well-known and internationally recognized data source for studying cultural differences between countries. This framework analyzes how the cultural dimensions identified by Hofstede Insights, such as individualism versus collectivism, power distance, avoided uncertainty, and time orientation, affect decision making and problem solving in the educational context, which will be shown in Figure 2.



**Figure 2.**  
Hofstede Insights Framework Analysis Results

Based on Figure 2, the country comparison data from Hofstede Insights provides a solid basis for comparing students' cultural values, attitudes, and behavior in Indonesia and Germany. This study explored cultural differences that influence decision-making and problem-solving strategies in student projects by utilizing this data.

## 3. RESULT AND DISCUSSION

Research on the influence of culture on problem solving and decision making in student projects is carried out using a comparative study between Indonesia and Germany. This study explores how cultural differences influence problem-solving and decision-making approaches among students in both countries to provide an understanding of the challenges posed by cultural differences in decision-making and problem-

solving in educational contexts. The data used to analyze cultural influences is in Table 1. The data were collected through interviews and observations, and the analysis was based on a comparison of the findings.

### 3.1 Power Distance

The power distance dimension is related to the fact that there is inequality in society. In education, power distance refers to tolerance and acceptance of differences in power between teachers and students, project leaders and members, leaders, and subordinates in the educational environment (King *et al.*, 2023). Differences in the level of Power Distance between Indonesia and Germany can influence approaches and behavior patterns in education. In a culture with high power distance in Indonesia, with a score of 78 (Hofstede Insights, 2023),

students tend to respect and obey teachers as authorities who have higher knowledge and experience. Students are expected to follow the teacher's instructions without asking questions, and more active participation is less emphasized. On the other hand, a culture with low power distance in Germany, with a score of 35 (Hofstede Insights, 2023), encourages a more egalitarian relationship between teachers and students. Students are valued as individuals who have valuable opinions and contributions. They can express their opinions, ask questions, and participate in decision-making processes.

### 3.2 Individualism

Individualism is one of the cultural dimensions put forward by Geert Hofstede. This dimension reflects the extent to which a society prioritizes individual interests compared to collective or group interests. In Indonesia, with only 14 individualist values (Hofstede Insights, 2023), a country with a more collectivist culture, group and togetherness values are very important in education. Students tend to prioritize group interests over individual interests, and there is an emphasis on cooperation, mutual assistance, and respect for teacher authority. A more teacher-centered approach to learning and group-oriented teaching is common in Indonesian education. In Germany, with an individualism score of only 67 (Hofstede Insights, 2023), which has a more individualistic culture, there is a greater emphasis on individual autonomy, freedom of expression, and respect for personal freedom (Artina *et al.*, 2020). Students tend to be more concerned with individual needs and goals in the learning process. They are encouraged to develop independent skills, think critically, and take initiative in achieving their personal goals. A more student-centered approach to learning, open discussion, and active participation in the learning process are hallmarks of the German educational environment.

### 3.3 Masculinity

The cultural masculinity or perfectionist dimension reflects the extent to which a society values traditional masculine values such as ambition, assertiveness, power, and competition. Differences in masculinity between Indonesia and Germany can influence the dynamics of education and students' behavior patterns (Voegel *et al.*, 2022). Indonesia's masculinity score is 46 (Hofstede Insights, 2023), thus considered low masculinity. In Indonesia, status and visible symbols of success are indeed important, but it is not always material gain that brings motivation. Often a person's position holds something more important to them because of the Indonesian concept called prestige or prioritizing outer

appearance (Artina *et al.*, 2020). In Indonesia's education context, students are expected to demonstrate a strong ambition to succeed, compete well, and achieve a position of excellence. There is an emphasis on individual achievement and differences in social status based on academic or other merit. The education system encourages competition between students for higher rankings and achievements. In Germany, which has a more feminine culture, values such as cooperation, diversity, and work-life balance can be emphasized in education. Therefore, the masculinity value of Indonesia is 66 (Hofstede Insights, 2023). In the educational environment in Germany, cooperation and collaboration between students are encouraged, where building harmonious and mutually supportive relationships is important. Individual achievement is still important, but it is not always centered on competing against one another. Her inner work-life balance and concern for social aspects are also valued.

### 3.4 Uncertainty Avoid

The uncertainty avoidance dimension reflects how society tends to avoid uncertainty, set rigid rules, and feel uncomfortable with unexpected changes and uncertainties (Voegel *et al.*, 2022). Differences in uncertainty avoidance between Indonesia and Germany can affect approaches and behavior patterns in education. In Indonesia, which has a culture with a lower level of uncertainty avoidance with a score of 48 (Hofstede Insights, 2023), there is more openness to uncertainty and change in education (Artina *et al.*, 2020). Students tend to be more used to learning approaches that are more explorative, flexible and allow them to think critically and independently. They can be more comfortable being unstructured and deal with uncertainty more easily. In Germany, which has a culture with a high level of uncertainty avoidance, with a score of 65 (Hofstede Insights, 2023), there is a tendency to avoid uncertainty and want clear and structured rules in education. Students expect clear and detailed instructions, follow set rules, and seek certainty in educational environments. Unexpected changes or too much flexibility in the learning process is uncomfortable and can cause anxiety.

### 3.5 Long-term Orientation

The long-term orientation dimension reflects the extent to which a society has a long-term orientation toward the future, traditional values, and adherence to social norms (King *et al.*, 2023). Differences in the level of long-term orientation between Indonesia and Germany can influence approaches and behavior patterns in education. In Indonesia, which has a moderate

level of long-term orientation, namely 62 (Hofstede Insights, 2023), there is respect for tradition, stability, and maintaining existing cultural values (Artina *et al.*, 2020). In education, this can be reflected in an emphasis on education centered on traditional values, such as discipline, respect for teachers, and an emphasis on learning that supports long-term sustainability and success. Education is often seen as a long-term investment for a better future. In Germany, which has a high level of long-term orientation of 83 (Hofstede Insights, 2023), there is a strong focus on planning for the future, innovation, and adapting to change. In the educational context, this is reflected in a more open approach to change, exploration of new ideas, and an emphasis on skills relevant to the future job market. Education in Germany is often driven by efforts to prepare students for a dynamic and changing future.

### 3.6 Indulgence

The indulgence dimension reflects how much a society tends to allow and value personal enjoyment, freedom of expression, and pleasure in everyday life (Miao *et al.*, 2020). The two countries have almost the same score, namely 38 for Indonesia and 40 for Germany (Hofstede Insights, 2023), so there is no significant difference. However, even though there is a slight difference in the level of Indulgence between Indonesia and Germany, this can influence approaches and behavior patterns in education.

Indonesia, which has a low level of Indulgence, emphasizes self-control, emotional control, and strict social norms. In education, this can be reflected in the emphasis on discipline, strict rules, and values of obedience. Students follow the rules strictly, refrain from free expression, and prioritize obedience to authority. In Germany, which also has relatively low levels of Indulgence, there is respect for discipline and social norms, but with a little more room for individual freedom and openness to self-expression. In education, this can be reflected in a more inclusive approach, encouragement of creativity, and respect for individual opinions and opinions. Students are given more freedom to express themselves, contribute their ideas, and participate in the learning process.

The exposure to the differences in each cultural dimension between Indonesia and Germany, especially in terms of power distance, individualism, masculinity, uncertainty avoidance, long-term orientation, and indulgence, can then be identified through observation and in-depth interviews with students from Indonesia and Germany so that some of the differences influencing decision-making in the educational context can find solutions and integration of these differences (Artina *et al.*, 2020). The integration results, which include differences in each cultural dimension, are shown in Table 1.

**Table 1.**

The results of the cultural dimension analysis from Indonesia and Germany.

Cultural Dimension	Indonesia	Germany	Integration
Power Distance	There are high levels of differences between individuals in social and educational hierarchies. Students are more likely to respect the teacher's authority and passively receive knowledge and information. Teacher-student interaction tends to be hierarchical.	There are lower levels of differences in social and educational hierarchies. Students tend to be considered as partners in the learning process. Teacher-student interaction is more egalitarian, encouraging students to think critically, ask questions, and participate actively.	Creating an inclusive environment where all group members' voices are valued and considered in decision-making. Encourage students to participate actively in the learning process and provide space for them to talk, ask questions, and share opinions. Build an environment that supports dialogue, collaboration, and shared decision-making between teachers and students.
Individualism	Collectivism values are more dominant, where decisions tend to be influenced by social and group norms.	Students are more likely to make decisions based on individual thinking and personal needs.	Facilitate open discussion, promote critical thinking, and allow students to express their preferences individually. In addition, each member pays attention to individual needs to explore their interests and talents individually.
Masculinity	The tendency of students not to overthink about perfectionism or low femininity can influence a more cooperative and collaborative approach to decision-making.	Masculinity or perfectionist values are more dominant, emphasizing power, domination, and competition. Students pursue individual success and compete competitively.	Build a learning environment that encourages all students, regardless of gender, to develop their skills and talents according to individual interests and abilities. Encourage students to understand and appreciate individual differences and overcome gender stereotypes.

**Table 2. ( Continuation )**

The results of the cultural dimension analysis from Indonesia and Germany.

Cultural Dimension	Indonesia	Germany	Integration
Uncertainty Avoidance	Students tend to feel uncomfortable with uncertainty and choose established solutions.	High scores on this dimension make students more open to uncertainty and ready to explore new options.	Develop adaptability, flexibility, and ability to deal with uncertainty to better manage stress and failure. Every student needs to be involved in activities that enhance adaptability, such as problem-solving, decision-making, and critical thinking skills.
Long Term Orientation	Students tend to consider short-term goals, such as passing an exam or completing an assignment right away. Career development is not a major focus, and the adoption of traditional values can play a significant role in education.	Develop adaptability and flexibility to deal with uncertainty to better manage stress and failure. Every student needs to be involved in activities that enhance adaptability, such as problem-solving and decision-making	In education, it is important to teach students the importance of planning for their future and developing long-term goals. Teachers can provide comprehensive career education and help students understand the long-term consequences of their decisions.
Indulgence	Students tend to respect collectivity values, prioritize social harmony, and emphasize respect for existing rules and norms. Self-expression can be more limited and seen as less important.	Students have slightly more freedom of expression and personal fulfillment compared to Indonesia. They are more open to expressing opinions, pursuing personal interests, and developing individual identities.	Building an inclusive environment to create a school environment that supports self-expression and freedom of expression and encourages diversity of opinions and perspectives. In addition, building spaces for open discussion, listening to and respecting students' views, and facilitating activities that encourage self-expression, such as art, music, or social activities.

#### 4. CONCLUSION

This study aims to compare the influence of culture on problem solving and decision making in student projects between Indonesia and Germany. Based on the results of this study, it can be concluded that culture significantly influences problem solving and decision making in student projects in Indonesia and Germany. Differences in cultural values, such as collective versus individualistic approaches and emphasis on social harmony versus rationality, influence the way students face and solve problems and make decisions. In Indonesia, group cooperation and adjustment to social norms are important in problem solving and decision making. Meanwhile, in Germany, independence, and critical thinking influence decision-making. Educators and education policy makers need to understand and accommodate these cultural influences to create an inclusive and effective learning environment. Adopting a balanced approach between cooperation and independence and facilitating understanding and appreciation of different cultural perspectives can enhance students' problem-solving and decision-making skills in these two countries.

This research has significant implications in educational contexts, especially in problem solving and decision making of students in their projects. By understanding the influence of culture in this regard, educators and education policymakers can take more effective steps in

facilitating student-centered learning. There are several implications of this research. First, increase cultural awareness. Educators can better understand cultural differences and increase students' awareness of cultural diversity in educational settings. This can help create an inclusive environment where students respect and understand one another's cultural perspectives. Second, the development of collaborative skills. The emphasis on a collective approach to problem-solving in Indonesia shows the importance of developing cooperative and collaborative skills among students. Through well-designed group projects, students can learn to work together, consider the perspectives of others, and achieve better results together. Third, increasing independence and critical thinking. In Germany, where an individualistic approach is predominant, educators can encourage students to develop independence, critical thinking, and personal initiative in problem solving and decision making. Encouraging students to develop analytical skills and creative thinking can help them become more independent and ready to face real-world challenges. By recognizing and addressing cultural differences in problem solving and decision making, educators can create more inclusive learning environments and prepare students to become competent and culturally sensitive leaders in an increasingly globalized world.

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