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Analysis of Mathematical Significance in Everyday Economics: Exploration of Relevant Data and Findings

Análisis de la Significancia Matemática en la Economía Cotidiana: Exploración de Datos y Hallazgos Relevantes

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Abstract

In everyday life, mathematics is omnipresent, even if it often goes unnoticed. Its value is especially noteworthy in the economic sphere, where it is vital to prosperity in a variety of fields. From basic monetary transactions to investment strategies, mathematics is essential for success. This relevance is evident in financial decision making, which impacts individuals and society. The study focused on how mathematics intertwines with everyday finance, highlighting its influence on economic choices. Using a quantitative approach and surveys of 63 university students, it was identified that a high percentage recognize the importance of mathematics in common financial situations. It is concluded that mathematics is crucial for interpreting data, advancing technology and scientific issues, and building solid foundations in economics. A mastery of these skills provides advantages in today's competitive and dynamic financial environment. In summary, mathematics is fundamental to economic decisions and plays an essential role in shaping a successful financial future.

Keywords: mathematics, economic decisions, daily life.

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Resumen

En la vida diaria, las matemáticas son omnipresentes, aunque a menudo pasen desapercibidas. Su valor es especialmente destacable en el ámbito económico, donde son vitales para la prosperidad en diversos campos. Desde transacciones monetarias básicas hasta estrategias de inversión, las matemáticas son esenciales para el éxito. Esta relevancia se evidencia en la toma de decisiones financieras, que impactan a individuos y a la sociedad. El estudio se enfocó en cómo las matemáticas se entrelazan con las finanzas cotidianas, destacando su influencia en las elecciones económicas. Utilizando un enfoque cuantitativo y encuestas a 63 estudiantes universitarios, se identificó que un alto porcentaje reconoce la importancia de las matemáticas en situaciones financieras comunes. Se concluye que las matemáticas son cruciales para interpretar datos, avanzar en tecnología y cuestiones científicas, y construir bases sólidas en el ámbito económico. Un dominio de estas habilidades brinda ventajas en el competitivo y dinámico entorno financiero actual. En resumen, las matemáticas son fundamentales en las decisiones económicas y poseen un rol esencial en la formación de un futuro exitoso en el ámbito financiero.

Palabras clave: matemáticas, decisiones económicas, vida cotidiana.

Introduction

Mathematics is a judicious science that begins with the study of geometric figures and calculus with numbers. There is no generally accepted definition of mathematics, today it is often described as the science that uses logic to study the properties and patterns of abstract structures created by logical definitions.

According to Cantoral (2016), everyday life, or quotidianity, is the space in which each of us has to confront with our own gender identity and with practices coming from the social context that fortify the central elements of our identity or force us to honestly question ourselves and others (p. 72).

It is essential to define mathematics precisely: it is the science that through logical reasoning studies relationships and properties between geometric figures, symbols or numbers. This analogy between elements is found in simple, everyday activities as well as in complex processes and daily problems. The field of mathematics can be divided into four broad categories: Arithmetic, related to numbers; Algebra, related to structures; Geometry, related to segments and figures; and Statistics, related to data analysis.

The main objective of this research is to analyze and highlight the importance of mathematics in everyday life, highlighting its relevance in different aspects of today's society, from the perspective of university students; identifying and describing the various contexts in which mathematics is present in everyday life, covering areas such as personal finance, statistics, measurements, geometry, among others; exploring and analyzing concrete examples that illustrate the application of mathematical concepts in

common situations of daily life, highlighting their usefulness and relevance, and; evaluating the perception and appreciation of university students towards mathematics in their daily lives, analyzing their degree of awareness of the importance of this discipline and their ability to recognize and use mathematical concepts in different areas of their personal and professional environment.

In a broad sense, the acquisition and improvement of mathematical knowledge is related to the progress of the cognitive and intellectual aspects below:

- Analytical thinking: can define thoughts designed to divide the expression that constitutes something, for example, an argument. Thus, the relationship between them can be determined and conclude that the reliability or rejection of the objects of analysis. This process is exactly what follows when solving mathematical problems.
- Orderly reasoning: facing life's problems implies a coherent analytical process that requires the ability to organize ideas and express them adequately in order to more effectively solve any setback, no matter how small.
- Mental agility: once you have developed the above skills, the ease and speed with which you can approach any situation requiring probability calculation, logical thinking and decision making is greatly increased.

"Mathematics is omnipresent in the understanding of our planet and the organization of our civilization." (UNESCO, 2023). In medicine it is increasingly common to perform studies that involve some kind of image and every day the techniques to capture them improve, for example, CT scans. In this process, in addition to the technology used, efficient, fast and reliable algorithms are required to analyze the data generated by the device and produce an image from which we can interpret health or disease. The mathematics used to generate this image are highly complex and are constantly being renewed to improve the results.

According to Pineda (2009), in telecommunications it is important to transmit data between two locations efficiently, quickly and securely. The tools used in the design and execution of algorithms require a formidable mathematical work. Programs are continually tested to detect failures and updated to improve services, all of which are aimed at making them faster, more efficient and secure (p. 5).

Computers and the means of communication and information have created a magnificent couple around the Internet, where we can perform a great number of actions such as buying, selling, communicating, working, making transactions, searching for information about anything, reading news, books, documents, magazines. A great responsible is the progress of technology, but another is the amount of mathematical tools that are developed in parallel.

The analysis of mathematical relevance in everyday economic life encompasses a wide range of crucial concepts, among which supply and demand models, as studied by Arya & Larner (2009)play a fundamental role. These models provide a structured framework

for appreciating how prices, quantities of goods and services available and required interact with each other and how these interactions influence market equilibrium.

Through the use of mathematical tools such as graphs and equations, economists can quantify these relationships and explore various scenarios. This approach not only facilitates more informed decision making at the microeconomic and personal level, but also at the macroeconomic level, influencing policy formulation and anticipating future economic trends.Mathematical analysis of supply and demand models uncovers hidden patterns within economic data, thus contributing to a deeper understanding of how everyday economic factors interact and how they ultimately shape overall economic outcomes.

The influence of mathematics on decision making, in the context of John Nash's game theory, proves to be a revolutionary approach that illuminates the complexity of strategic interactions. This theory provides a rigorous mathematical framework for analyzing situations in which the decisions of one individual are interconnected with the decisions of others. Through concepts such as Nash equilibrium, this theory sheds light on how rational agents make decisions by considering the actions and reactions of other participants.

According to López-Dóriga's clarifications (2015)game theory demonstrates that mathematics is not only a tool for quantifying economic outcomes, but also for exploring how individual choices impact collective outcomes. By providing mathematical models that capture the complexity of strategies and relationships between players, Nash game theory has transformed the understanding of decision making in fields such as economics, politics and biology.

Thanks to this perspective, mathematics becomes a powerful tool for analyzing and forecasting how individual actions can influence the overall dynamics of a situation, and how a stability can be reached in which no player has an incentive to change his choice given the behavior of others, known as the Nash equilibrium concept.

The influence of mathematics in the calculation of interest and discount rates is undeniable and essential for the functioning of modern finance, a fact that is evidenced in the material developed by Juan Carlos Cevallos Hoppe (2020)The use of mathematical formulas and equations allows financial institutions, companies and individuals to accurately and efficiently calculate the cost of money over time. In the case of interest rates, mathematics makes it possible to determine how much interest will be paid or earned over a specific period, considering variables such as initial principal, interest rate and time. Similarly, in discount calculations, mathematics makes it possible to evaluate the present value of future cash flows, taking into account the discount rate and the time period.

The application of mathematics in these calculations enables informed decisions in crucial areas such as investment, borrowing and financial planning. In addition, these mathematical tools are also fundamental to monetary policy design, financial asset valuation and risk management. Ultimately, the influence of mathematics in interest and

discount rate calculations is a pillar upon which the foundations of sound and strategic financial decision making are built in today's economic world.

The analysis of mathematical significance in everyday economics, as we have explored throughout this review, reveals the profound and versatile impact of mathematics on our daily lives and decision making in a variety of fields. From the study of geometric figures to solving complex economic problems, mathematics offers a universal language for understanding and quantifying patterns, relationships, and phenomena in our environment. This influence extends to vital areas such as medicine, finance, telecommunications and economics, where mathematics enables more accurate diagnoses, informed financial decisions and modeling of strategic interactions. Nash game theory exemplifies how mathematics not only quantifies outcomes, but also reveals patterns of human and strategic behavior. Interest and discount rate calculations demonstrate how mathematics is essential in financial valuation and risk management. Ultimately, the constant presence of mathematics in our everyday lives is a reminder of its power to improve decision making and enrich our understanding of the world around us. Mathematics is indeed a ubiquitous tool that empowers us to deftly navigate the economic and social complexity of our civilization.

Materials and methods

This research is based on a quantitative approach with an exploratory descriptive scope, using the survey technique, the instrument was designed with a Likert scale associating the criteria Strongly disagree, Disagree, Neither agree nor disagree, Agree, and Strongly agree to values from 1 to 5, This tool evaluates the perception and appreciation of university students towards mathematics in their daily lives, addressing their awareness of the importance of mathematics, their ability to recognize situations in which mathematical concepts are applied, and their level of confidence and ability to use these skills in different areas of their lives.

The survey underwent a content validation process, in which expert teachers in the area of mathematics and statistics reviewed and evaluated the relevance and pertinence of the questions, and adjustments were made based on their recommendations.

Starting with a finite population of 480 university students, the sample is calculated using the equation:

$$n = \frac{N * {Z_\propto}^2 * p * q}{[d^2 * (N-1)] + [{Z_\propto}^2 * p * q]} \quad (1)$$

Knowing that: N is the total population (480), $Z_\propto$ is equal to 1.96 if the safety is 95%, p is the expected proportion being 5% recommended (0.05), q is equal to 1 minus p (0.05), i.e. 0.95 and d is the precision which, like the expected proportion of 5%, is recommended, a sample of 63 individuals is obtained.

Results

The results obtained from this research are detailed below:

Table 1. *Mathematics is fundamental to my academic and professional development.*

Options	Percentages
Strongly disagree	5,4%
Disagree	7,1%
Neither agree nor disagree	10,7%
Agreed	42,9%
Totally agree	33,9%
Total	100%

This question explores respondents' perception of the importance of mathematics to their academic and professional development. Overall, the results suggest that a majority of respondents (both those who "agree" and "strongly agree") recognize the importance of mathematics in their academic and professional development. However, there is also a significant proportion of respondents who do not share this view or do not have a definite opinion on the matter. This may indicate a variety of perspectives and attitudes toward mathematics among survey participants.

Table 2. *I recognize the presence of mathematical concepts in everyday situations.*

Options	Percentage
Strongly disagree	5,4%
Disagree	3,6%
Neither agree nor disagree	17,9%
Agreed	57,1%
Totally agree	16,1%
Total	100%

Question 2 explores respondents' perception of their ability to recognize the presence of mathematical concepts in everyday situations: A small percentage of respondents (5.4%) expressed that they do not recognize the presence of mathematical concepts in everyday situations at all. This could indicate that some respondents are not aware of how mathematics is involved in their daily lives. Another minority group (3.6%) disagreed with the statement. This percentage is even lower than in the previous category. There may be different reasons for this, such as lack of attention to mathematical details in their environment. A significant proportion of respondents (17.9%) do not have a clear opinion on whether or not they recognize the presence of mathematical concepts in everyday situations. This could suggest some uncertainty in their ability to identify mathematical elements in their daily lives. A considerable percentage of respondents (57.1%) agree that they recognize the presence of mathematical concepts in everyday situations. This indicates that the majority of participants feel that they can identify how mathematics is present in different aspects

of their daily lives. A notable percentage (16.1%) strongly agree that they recognize the presence of mathematical concepts in everyday situations. This reinforces the idea that a substantial proportion of respondents are aware of the influence of mathematics in their daily lives. In summary, the results suggest that the majority of respondents feel that they can recognize the presence of mathematical concepts in everyday situations. However, there is also a significant portion who are unsure or do not share this opinion. This may indicate a variety of levels of awareness and understanding of the influence of mathematics in everyday life among the survey participants.

Table 3. *I feel confident in applying mathematical skills in different areas of my life.*

Options	Percentage
Strongly disagree	1,8%
Disagree	8,9%
Neither agree nor disagree	14,3%
Agreed	60,7%
Totally agree	14,3%
Total	100%

This question probes respondents' confidence in applying mathematical skills in various areas of their life: A small percentage of respondents (1.8%) expressed that they do not feel at all confident in applying mathematical skills in different areas of their life. This may indicate a lack of confidence in their mathematical abilities and a possible need for support or reinforcement in this area. Another minority group (8.9%) disagreed with the statement. Although this percentage is higher than in the previous category, it is still relatively low. There may be personal reasons or experiences that contribute to this lack of confidence. A significant proportion of respondents (14.3%) do not have a clear opinion about whether or not they feel confident in applying mathematical skills in different areas of their lives. This may reflect some hesitancy or ambivalence about their level of mathematical confidence. A considerable percentage of respondents (60.7%) agree that they feel confident in applying mathematical skills in different areas of their life. This suggests that most participants feel confident in their ability to use mathematics in various situations. A notable percentage (14.3%) strongly agree that they feel confident in applying mathematical skills in different areas of their lives. This figure reinforces the idea that a substantial portion of respondents are confident and comfortable with applying mathematics in different contexts. In summary, the results indicate that the majority of respondents feel confident in applying mathematical skills in various areas of their lives. Although there is a minority group that does not share this confidence, most appear to be comfortable using mathematics in everyday and broader situations.

Table 4. *Mathematics is essential for making informed decisions in daily life.*

Options	Percentage
Strongly disagree	3,6%
Disagree	10,7%
Neither agree nor disagree	25,0%
Agreed	46,4%
Totally agree	14,3%
Total	100%

This question assesses respondents' perception of the importance of mathematics in making informed decisions in daily life: A small percentage of respondents (3.6%) strongly disagree with the statement that mathematics is essential for making informed decisions in daily life. This could indicate that some respondents do not see a direct relationship between mathematics and decision making. Another minority group (10.7%) disagrees with the statement. Although this percentage is higher than in the previous category, it is still relatively low. There may be diverse perspectives on the role of mathematics in decision making. A significant proportion of respondents (25.0%) do not have a clear opinion on whether mathematics is essential for making informed decisions. This may suggest some hesitancy or lack of clarity about the connection between mathematics and decision making. A substantial percentage of respondents (46.4%) agree that mathematics is essential for making informed decisions in daily life. This suggests that a majority consider mathematics to play an important role in informed decision making. A notable percentage (14.3%) strongly agree that mathematics is essential for making informed decisions. This reinforces the idea that a significant portion of respondents value the importance of mathematics in the decision-making process.

In summary, the results indicate that the majority of respondents see a connection between mathematics and informed decision making in everyday life. Although there are some dissenting voices, the prevailing view is that mathematics plays a fundamental role in informed decision making in different contexts.

Table 5. *I consider mathematics to be a key tool for logical reasoning.*

Options	Percentage
Strongly disagree	5,4%
Disagree	7,1%
Neither agree nor disagree	10,7%
Agreed	50,0%
Totally agree	26,8%
Total	100%

This question explores respondents' perception of whether they consider mathematics to be a key tool for logical reasoning: A small percentage of respondents (5.4%) strongly disagree with the idea that mathematics is a key tool for logical reasoning. This may suggest that some participants do not see a direct relationship between mathematics and the development of logical reasoning. Another minority group (7.1%) disagrees with the statement. Although this percentage is higher than in the previous category, it

is still relatively low. There may be different views on how mathematics influences logical reasoning. A significant proportion of respondents (10.7%) do not have a clear opinion on whether mathematics is a key tool for logical reasoning. This may reflect some indecision or lack of certainty about the relationship between mathematics and logic. A substantial percentage of respondents (50.0%) agree that mathematics is a key tool for logical reasoning. This suggests that a majority consider that mathematics plays an important role in the development of logical thinking. A notable percentage (26.8%) strongly agree that mathematics is a key tool for logical reasoning. This reinforces the idea that a substantial portion of respondents value the relationship between mathematics and logic.

In summary, the results indicate that the majority of respondents see a connection between mathematics and logical reasoning. Although there are some dissenting opinions, the prevailing view is that mathematics plays an important role in the development of logical thinking.

Table 6. *I am comfortable solving problems that require mathematical skills.*

Options	Percentage
Strongly disagree	7,1%
Disagree	12,5%
Neither agree nor disagree	19,6%
Agreed	41,1%
Totally agree	19,6%
Total	100%

This question explores respondents' comfort in solving problems that require mathematical skills: a small percentage of respondents (7.1%) strongly disagree with the statement that they are comfortable solving problems that require mathematical skills. This may indicate that some participants do not feel confident in tackling mathematical problems. Another minority group (12.5%) disagrees with the statement. Although this percentage is higher than in the previous category, it is still relatively low. There may be a variety of reasons for this lack of comfort, such as lack of confidence in one's own mathematical abilities. A significant proportion of respondents (19.6%) do not have a clear opinion about whether or not they feel comfortable solving problems that require mathematical skills. This may suggest some hesitancy or ambivalence about their comfort level with mathematical problems. A substantial percentage of respondents (41.1%) agree that they are comfortable solving problems that require mathematical skills. This suggests that a significant portion of participants feel confident in approaching mathematical situations. A notable percentage (19.6%) strongly agree that they feel comfortable solving problems that require mathematical skills. This reinforces the idea that a substantial proportion of respondents feel comfortable and competent when facing mathematical challenges.

In summary, the results indicate that a majority of respondents feel comfortable solving problems that require mathematical skills. Although there are some dissenting voices, the prevailing view is that many participants feel confident in solving mathematical problems.

Table 7. *I use mathematics to manage my budget and handle my personal finances.*

Options	Percentage
Strongly disagree	7,1%
Disagree	5,4%
Neither agree nor disagree	8,9%
Agreed	53,6%
Totally agree	25,0%
Total	100%

Through this question we analyze whether respondents use mathematics to manage their budget and personal finances: A small percentage of respondents (7.1%) completely disagree with the statement that they use mathematics to manage their budget and personal finances. This may suggest that some participants do not consider mathematics to be a useful tool in their financial management. Another minority group (5.4%) disagrees with the statement. This percentage is even lower than in the previous category. There may be various reasons for this, such as a preference for other methods of financial management. A significant proportion of respondents (8.9%) do not have a clear opinion on whether or not they use mathematics to manage their budget and personal finances. This may reflect some hesitancy or ambivalence about the role of mathematics in financial management. A substantial percentage of respondents (53.6%) agree that they use mathematics to manage their budget and personal finances. This suggests that the majority of participants consider mathematics to be a useful tool in managing their financial affairs. A notable percentage (25.0%) strongly agree that they use mathematics to manage their budget and personal finances. This reinforces the idea that a substantial portion of respondents value the relationship between mathematics and personal financial management.

The results indicate that the majority of respondents use mathematics to manage their budget and personal finances. Although there are some dissenting opinions, the prevailing view is that mathematics is a valuable tool in day-to-day financial management.

Table 8. *I understand how mathematical concepts are applied in practical situations.*

Options	Percentage
Strongly disagree	7,1%
Disagree	3,6%
Neither agree nor disagree	8,9%
Agreed	62,5%
Totally agree	17,9%
Total	100%

This question explores whether respondents understand how mathematical concepts are applied in practical situations: A small percentage of respondents (7.1%) strongly disagree with the statement that they understand how mathematical concepts are applied in practical situations. This may suggest that some participants do not feel confident in the connection between mathematical concepts and their application in real life. Another minority group (3.6%) disagrees with the statement. Although this percentage is still lower than in the previous category, it is still relatively low. There may be a variety of reasons for this lack of understanding, such as a limited view of how mathematics applies in practical situations. A significant proportion of respondents (8.9%) do not have a clear view on whether or not they understand how mathematical concepts apply in practical situations. This may suggest some indecision or lack of clarity as to their level of understanding of the practical application of mathematics. A substantial percentage of respondents (62.5%) agree that they understand how mathematical concepts apply in practical situations. This suggests that a majority of participants feel that they understand the relationship between mathematics and its use in everyday life. A notable percentage (17.9%) strongly agree that they understand how mathematical concepts apply in practical situations. This reinforces the idea that a substantial portion of respondents have a solid understanding of how mathematics is used in practical contexts, the majority of respondents feel that they understand how mathematical concepts apply in practical situations. Although there are some dissenting opinions and one group that is unsure, the prevailing view is that many participants understand the practical application of mathematics in their daily lives.

Table 9. *Mathematics helps me interpret statistical data and graphs.*

Options	Percentage
Strongly disagree	5,4%
Disagree	3,6%
Neither agree nor disagree	8,9%
Agreed	58,9%
Totally agree	23,2%
Total	100%

The question in question explores whether mathematics helps respondents interpret statistical data and graphs: A small percentage of respondents (5.4%) strongly disagreed with the statement that mathematics helps them interpret statistical data and

graphs. This may suggest that some participants do not see a direct relationship between mathematics and the interpretation of statistical information. Another minority group (3.6%) disagrees with the statement. Although this percentage is still lower than in the previous category, it is still relatively low. There may be different reasons for this perception, such as a limited view of how mathematics is applied in statistical interpretation. A significant proportion of respondents (8.9%) do not have a clear opinion on whether or not mathematics helps them in interpreting statistical data and graphs. This may reflect some hesitation or lack of certainty about the role of mathematics in statistical interpretation. A considerable percentage of respondents (58.9%) agree that mathematics helps them interpret statistical data and graphs. This suggests that the majority of participants consider mathematics to be a valuable tool for analyzing statistical information. A notable percentage (23.2%) strongly agree that mathematics helps them interpret statistical data and graphs. This reinforces the idea that a substantial portion of respondents value the relationship between mathematics and statistical interpretation, respondents believe that mathematics is useful for interpreting statistical data and graphs. Although there are some dissenting voices and a group that is unsure, the predominant view is that mathematics plays an important role in interpreting statistical information.

Table 10. *I believe that mathematics is essential for developing critical thinking skills.*

Options	Percentage
Strongly disagree	3,6%
Disagree	5,4%
Neither agree nor disagree	19,6%
Agreed	55,4%
Totally agree	16,1%
Total	100%

The results of question No.10 explores whether respondents believe that mathematics is essential for developing critical thinking skills: A small percentage of respondents (3.6%) strongly disagree with the statement that mathematics is essential for developing critical thinking skills. This may suggest that some participants do not see a direct connection between mathematics and critical thinking. Another minority group (5.4%) disagrees with the statement. Although this percentage is still lower than in the previous category, it is still relatively low. There may be different views on how mathematics influences the development of critical thinking. A significant proportion of respondents (19.6%) do not have a clear opinion on whether or not mathematics is essential for developing critical thinking skills. This may reflect some indecision or ambivalence about the relationship between mathematics and critical thinking. A considerable percentage of respondents (55.4%) agree that mathematics is essential for developing critical thinking skills. This suggests that the majority of participants consider that mathematics plays an important role in the formation of critical thinking. A notable percentage (16.1%) strongly agree that mathematics is essential for developing critical

thinking skills. This reinforces the idea that a substantial portion of respondents value the relationship between mathematics and critical thinking.

Table 11. *I use mathematical concepts to make decisions in my personal and professional life.*

Options	Percentage
Strongly disagree	12,5%
Disagree	7,1%
Neither agree nor disagree	10,7%
Agreed	25,0%
Totally agree	44,6%
Total	100%

Source: own elaboration

The results of this question examine whether respondents use mathematical concepts to make decisions in their personal and professional lives: A significant percentage of respondents (12.5%) strongly disagree with the statement that they use mathematical concepts to make decisions in their personal and professional lives. This may suggest that some participants do not consider mathematics relevant to their decisions. Another minority group (7.1%) disagrees with the statement. Although this percentage is still lower than in the previous category, it is still relatively low. There may be various reasons for this perception, such as a preference for other ways of making decisions. A significant proportion of respondents (10.7%) do not have a clear opinion on whether or not they use mathematical concepts to make decisions in their personal and professional lives. This may reflect some indecision or ambivalence about the relationship between mathematics and decision making. A considerable percentage of respondents (25.0%) agree that they use mathematical concepts to make decisions in their personal and professional lives. This suggests that a considerable segment of the participants consider that mathematics influences their decision-making process. A significant percentage (44.6%) strongly agree that they use mathematical concepts to make decisions in their personal and professional lives. This reinforces the idea that a substantial portion of respondents value the relationship between mathematics and decision making.

In summary, the results indicate that a majority of respondents use mathematical concepts to make decisions in their personal and professional lives. Although there are some dissenting voices and a group that is unsure, the prevailing opinion is that mathematics plays an important role in everyday decision making.

Table 12. *Mathematics provides me with tools to solve problems efficiently.*

Options	Percentage
Strongly disagree	3,6%
Disagree	5,4%
Neither agree nor disagree	19,6%
Agreed	55,4%
Totally agree	16,1%
Total	100%

Source: own elaboration

The results of the question that asks whether respondents believe that mathematics provides them with tools to solve problems efficiently reveal that: A small percentage of respondents (3.6%) strongly disagree with the statement that mathematics provides them with tools to solve problems efficiently. This may suggest that some participants do not see a direct relationship between mathematics and efficient problem solving. Another minority group (5.4%) disagrees with the statement. Although this percentage is still lower than in the previous category, it is still relatively low. There may be different perspectives on how mathematics influences problem solving. A significant proportion of respondents (19.6%) do not have a clear opinion on whether or not mathematics provides them with tools to solve problems efficiently. This may suggest some hesitation or lack of certainty about the role of mathematics in problem solving. A considerable percentage of respondents (55.4%) agree that mathematics provides them with tools to solve problems efficiently. This suggests that the majority of participants consider mathematics to be valuable for effectively addressing problems. A notable percentage (16.1%) strongly agree that mathematics provides them with tools to solve problems efficiently. This reinforces the idea that a substantial portion of respondents value the relationship between mathematics and efficient problem solving. In summary, the results indicate that the majority of respondents believe that mathematics provides them with tools to solve problems efficiently. Although there are some dissenting opinions and a group that is unsure, the predominant opinion is that mathematics plays an important role in effective problem solving.

Table 13. *It is easy for me to apply mathematical skills in the field of technology and computing.*

Options	Percentage
Strongly disagree	3,6%
Disagree	10,7%
Neither agree nor disagree	26,8%
Agreed	42,9%
Totally agree	16,1%
Total	100%

Source: own elaboration

This question seeks to inquire whether respondents find it comfortable to apply mathematical skills in contexts related to technology and computer science, it makes it evident that: A small percentage of respondents (3.6%) strongly disagree with the statement that they find it easy to apply mathematical skills in technology and computer-related settings. This may suggest that some participants do not see a direct relationship or do not experience ease in applying math skills in these areas. Another minority group (10.7%) disagrees with the statement. Although this percentage is higher than in the previous category, it is still relatively low. There may be different views on the ease of applying mathematics in technology and computer science. A significant proportion of respondents (26.8%) do not have a clear opinion on whether or not they find it easy to apply mathematical skills in technology and computing. This may suggest some hesitancy or lack of experience in this area. A considerable percentage of respondents (42.9%) agree that they find it easy to apply mathematical skills in the area of technology and computer science. This suggests that a significant portion of the participants consider mathematical skills to be relevant and applicable in these fields. A notable percentage (16.1%) strongly agree that they find it easy to apply mathematical skills in the field of technology and computer science. This reinforces the idea that a substantial portion of respondents feel an effective connection between math skills and these fields.

In summary, the results indicate that a majority of respondents believe that they find it easy to apply mathematical skills in the field of technology and computer science. Although there are some dissenting opinions and a group that is unsure, the prevailing view is that many people find math skills appropriate and useful in these contexts.

Table 14. *Mathematics is important for understanding and using measurements in everyday life.*

Options	Percentage

Strongly disagree	3,6%
Disagree	10,7%
Neither agree nor disagree	8,9%
Agreed	50,0%
Totally agree	26,8%
Total	100%

Source: own elaboration

From the question that explores whether respondents consider mathematics important for understanding and using measurements in everyday life, it is noted that: A small percentage of respondents (3.6%) strongly disagree with the statement that mathematics is important for understanding and using measurements in everyday life. This may suggest that some participants do not see a direct relationship between mathematics and understanding and using measurements. Another minority group (10.7%) disagreed with the statement. Although this percentage is higher than in the previous category, it is still relatively low. There may be different perspectives on the importance of mathematics in the context of everyday measurements. A significant proportion of respondents (8.9%) do not have a clear opinion on whether or not mathematics is important for understanding and using measurements in everyday life. This may reflect some hesitation or lack of certainty about the relationship between mathematics and measurements. A considerable percentage of respondents (50.0%) agree that mathematics is important for understanding and using measurements in everyday life. This suggests that the majority of participants consider mathematics to be fundamental to understanding measurement concepts. A notable percentage (26.8%) strongly agree that mathematics is important for understanding and using measurement in everyday life. This reinforces the idea that a substantial portion of respondents value the relationship between mathematics and the use of measurements.

In summary, the results indicate that the majority of respondents believe that mathematics is important for understanding and using measurements in everyday life. Although there are some dissenting opinions and a group that is unsure, the predominant opinion is that mathematics plays a key role in understanding measurements in everyday life.

Table 15. *I find mathematics useful for understanding and analyzing trends in different fields.*

Options	Percentage

Strongly disagree	5,4%
Disagree	8,9%
Neither agree nor disagree	12,5%
Agreed	48,2%
Totally agree	25,0%
Total	100%

Source: own elaboration

This question that explores, whether respondents find mathematics useful for understanding and analyzing trends in different fields, it is claimed that: A small percentage of respondents (5.4%) strongly disagree with the statement that mathematics is useful for understanding and analyzing trends in different fields. This may suggest that some participants do not see a direct relationship between mathematics and understanding trends in various areas. Another minority group (8.9%) disagrees with the statement. Although this percentage is higher than in the previous category, it is still relatively low. There may be different views on the role of mathematics in interpreting trends. A significant proportion of respondents (12.5%) do not have a clear opinion on whether or not mathematics is useful in understanding and analyzing trends in different fields. This may suggest some hesitation or lack of certainty as to the relationship between mathematics and trend analysis. A considerable percentage of respondents (48.2%) agree that mathematics is useful for understanding and analyzing trends in different fields. This suggests that a significant portion of the participants consider mathematics to be valuable for interpreting patterns and trends in various areas. A significant percentage (25.0%) strongly agree that mathematics is useful for understanding and analyzing trends in different fields. This reinforces the idea that a substantial portion of respondents value the relationship between mathematics and trend interpretation.

In summary, the results indicate that a majority of respondents believe that mathematics is useful in understanding and analyzing trends in different fields. Although there are some dissenting opinions and a group that is not sure, the predominant opinion is that mathematics plays an important role in interpreting trends in various areas. The question asking whether respondents feel able to use mathematics to solve problems in their daily lives shows that: A significant percentage of respondents (7.1%) completely disagree with the statement that they feel able to use mathematics to solve problems in their daily lives. This may suggest that some participants do not feel confident in their ability to apply mathematics in everyday situations. Another minority group (5.4%) disagrees with the statement. Although this percentage is still lower than in the previous category, it is still relatively low. There may be different levels of confidence in the ability to solve problems using mathematics. A significant proportion of respondents (21.4%) do not have a clear opinion about whether or not they feel able to use mathematics to solve problems in their daily lives. This may reflect some hesitation or lack of confidence

in applying mathematics. A considerable percentage of respondents (51.8%) agree that they feel able to use mathematics to solve problems in their daily lives. This suggests that a majority of participants are confident in their ability to apply mathematics in practical situations. A significant percentage (14.3%) strongly agree that they feel able to use mathematics to solve problems in their daily lives. This reinforces the idea that a substantial portion of respondents have high confidence in their ability to apply mathematics in their daily lives.

This question explores whether respondents believe that mathematics is essential for the development of new technologies and scientific advances: A small percentage of respondents (5.4%) strongly disagree with the statement that mathematics is essential for the development of new technologies and scientific advances. This may suggest that some participants do not see a direct relationship between mathematics and technological and scientific progress. Another minority group (5.4%) disagrees with the statement. Although this percentage is the same as in the previous category, it is still relatively low. There may be different perspectives on the role of mathematics in technological and scientific development. A significant proportion of respondents (14.3%) do not have a clear opinion on whether or not mathematics is essential for the development of new technologies and scientific advances. This may reflect some indecision or lack of certainty as to the relationship between mathematics and technological and scientific progress. A considerable percentage of respondents (48.2%) agree that mathematics is essential for the development of new technologies and scientific advances. This suggests that a significant portion of the participants consider that mathematics plays a fundamental role in technological and scientific progress. A significant percentage (26.8%) strongly agree that mathematics is essential for the development of new technologies and scientific advances. This reinforces the idea that a substantial portion of respondents value the relationship between mathematics and technological and scientific progress.

From the results obtained in the question exploring whether respondents believe that mathematics is relevant in financial decision making and business management, it can be stated that: A small percentage of respondents (5.4%) completely disagree with the statement that mathematics is relevant in financial decision making and business management. This may suggest that some participants do not see a direct relationship between mathematics and financial and business management. Another minority group (7.1%) disagrees with the statement. Although this percentage is slightly higher than in the previous category, it is still relatively low. There may be different views on the role of mathematics in financial decision making and business management. A significant proportion of respondents (7.1%) do not have a clear opinion on whether or not mathematics is relevant in financial decision making and business management. This may reflect some indecision or lack of certainty as to the relationship between mathematics and financial and business management. A considerable percentage of respondents (50.0%) agree that mathematics is relevant to financial decision making and business management. This suggests that a majority of the participants consider mathematics to be valuable to the financial and business domain. A significant percentage (30.4%) strongly agree that mathematics is relevant to financial decision

making and business management. This reinforces the idea that a substantial portion of respondents value the relationship between mathematics and financial and business management.

The results of the question that explores whether mathematics helps respondents understand and apply geometry concepts in their daily lives reveals that: A small percentage of respondents (3.6%) strongly disagree with the statement that mathematics helps them understand and apply geometry concepts in their daily lives. This may suggest that some participants do not see a direct relationship between mathematics and the application of geometric concepts in daily life. Another minority group (12.5%) disagrees with the statement. Although this percentage is higher than in the previous category, it is still relatively low. There may be different levels of awareness of how mathematics relates to everyday geometry. A significant proportion of respondents (21.4%) do not have a clear opinion on whether or not mathematics helps them understand and apply geometry concepts in their daily lives. This may reflect some hesitation or lack of certainty about the relationship between mathematics and practical geometry. A substantial percentage of respondents (46.4%) agree that mathematics helps them understand and apply geometry concepts in their daily lives. This suggests that a majority of the participants believe that mathematics has a positive impact on their understanding and application of geometry in their daily lives. A significant percentage (16.1%) strongly agree that mathematics helps them understand and apply geometry concepts in their daily lives. This reinforces the idea that a substantial portion of respondents value the relationship between mathematics and geometry in their daily lives.

Finally the question exploring whether respondents believe that having strong math skills gives them an advantage in the job market reveals that: A small percentage of respondents (3.6%) strongly disagree with the statement that having strong math skills gives them an advantage in the job market. This may suggest that some participants do not see a direct relationship between math skills and advantage in the job arena. Another minority group (5.4%) disagrees with the statement. Although this percentage is higher than in the previous category, it is still relatively low. There may be different opinions on how mathematical skills relate to advantage in the labor market. A significant proportion of respondents (12.5%) do not have a clear opinion on whether or not having strong math skills provides a labor market advantage. This may reflect some hesitancy or lack of certainty about the relationship between math skills and job success. A substantial percentage of respondents (51.8%) agree that having strong math skills gives them an advantage in the labor market. This suggests that a majority of participants consider mathematical skills to be valuable for excelling in the professional arena. A significant percentage (26.8%) strongly agree that having strong math skills gives them an advantage in the job market. This reinforces the idea that a substantial portion of respondents value the relationship between math skills and success in the job market.

Conclusions

Based on the results drawn from the questions related to the Analysis of Mathematical Significance in Everyday Economics: Exploration of Relevant Data and Findings and in keeping with the overall goal of examining and emphasizing mathematical relevance in various domains of today's society from the perspective of college students, substantial conclusions emerge:

The findings reflect a widespread recognition among students of the importance of mathematics in their daily routine, especially in the financial sphere. A majority of respondents indicated that mathematics is essential to their academic training and future career path. In addition, a notable percentage of participants consider mathematics fundamental to making informed decisions, developing critical thinking skills, and understanding measurements and trends in various fields.

The results also suggest that a significant proportion of respondents are aware of the presence of mathematical concepts in everyday situations, particularly in relation to finance. This awareness demonstrates that college students are sensitive to how mathematics is applied in their daily affairs, from financial management to the interpretation of economic data. In addition, there is a consensus that mathematics is valuable for solving problems efficiently and for interpreting statistical data and graphs.

An important finding is that the majority of participants strongly believe that possessing solid mathematical skills gives an advantage in the labor market, especially in economic and financial contexts. This perception underlines the importance of mathematics not only in academic settings, but also in preparation for professional life. In addition, confidence in the application of mathematical skills in various areas suggests that students recognize how mathematics contributes to personal development and problem solving in diverse situations. Taken together, the results obtained in the various questions reveal a strong and consistent appreciation of the importance of mathematics in the daily lives of university students, especially in the economic and financial context. These findings effectively support the overall research objective and highlight how mathematics plays an integral role in various aspects of contemporary society, especially in economic decision making.

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