

The Relationship Between Mathematics in Daily Life and Social Networks

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Abstract

Mathematics is not merely a subject studied in schools and colleges; it is an essential part of everyday human life. From shopping and financial planning to travelling, time management, communication, business, and decision-making, mathematical concepts are continuously used in our daily activities. In the contemporary digital era, Social Networks have become an important part of human interaction. Platforms such as Facebook, Instagram, WhatsApp, YouTube, and X have transformed the way people communicate, share information, and establish social connections.

Mathematics also plays an important role in the functioning and analysis of Social Networks. Followers, Likes, Shares, Comments, Views, Reach, Engagement Rate, Percentage, Average, Ratio, Probability, and Data Analysis are all associated with mathematical and statistical concepts. Social Network platforms generate enormous quantities of data every day, and this data is analyzed using mathematical and statistical techniques to understand user behavior, preferences, trends, and patterns.

The present research paper attempts to examine the relationship between mathematics in daily life and Social Networks. It focuses on the practical application of mathematical concepts in digital communication and discusses the importance of Mathematical Literacy and Digital Literacy, particularly among students. The study argues that mathematics has become an integral part of modern digital life and that understanding mathematical information is essential for the responsible and effective use of Social Networks.

Keywords: Mathematics, Daily Life, Social Network, Social Media, Statistics, Percentage, Data Analysis, Digital Literacy, Mathematical Literacy

INTRODUCTION

Mathematics has always been an important part of human civilization. From ancient systems of counting and measurement to modern computing and artificial intelligence, mathematics has contributed significantly to the development of human society. Although mathematics is generally considered a classroom subject, its applications can be found in almost every aspect of everyday life.

People use mathematics while purchasing goods, calculating discounts, preparing household budgets, managing savings, calculating interest, planning journeys, measuring time and distance, comparing prices, and analyzing information. Students use mathematics while calculating marks, percentages, averages, and academic performance. Thus, mathematics is not limited to mathematical equations and formulas; it is a practical tool for understanding and managing everyday life. At the same time, the rapid growth of digital technology has transformed social interaction. Social Networks have become an important part of modern communication. People use Social Network platforms to communicate with friends and family, participate

in communities, share photographs and videos, obtain information, promote businesses, and access educational resources.

At first glance, mathematics and Social Networks may appear to be two unrelated areas. However, a closer examination reveals a strong relationship between them. Social Networks operate on large amounts of numerical data. Followers, Likes, Views, Shares, Comments, Engagement Rates, Reach, and other numerical indicators are used to measure the performance and popularity of digital content.

For example, if a social media post receives 5,000 views and 500 likes, mathematics can be used to calculate the percentage of viewers who responded positively to the post. Similarly, the average number of views received by a content creator over several days can be calculated using the concept of Average. Therefore, mathematics has become an important part of the digital and social environment in which modern individuals live.

The increasing use of Social Networks has created a new environment in which individuals are constantly exposed to numerical information. People frequently encounter numbers relating to Followers, Likes, Views, Subscribers, Shares, Ratings, Prices, Discounts, and advertisements.

Students, in particular, are active users of digital platforms. Therefore, they need the ability to understand and interpret numerical information presented through these platforms.

The study is significant because it attempts to establish a connection between mathematics taught in educational institutions and the mathematics encountered in everyday digital life. If students understand that mathematical concepts are directly related to Social Networks and digital technology, mathematics can become more meaningful and practical for them.

The study also highlights the importance of combining Mathematical Literacy with Digital Literacy. A digitally literate person should not only know how to use technology but should also be able to understand, interpret, compare, and critically evaluate numerical information.

Mathematics is used in numerous activities of daily life. Some important applications are discussed below.

Mathematics in Shopping

Shopping is one of the simplest examples of the practical application of mathematics. Consumers frequently calculate prices, discounts, taxes, quantities, and total expenditure.

For example, if a product costs ₹2,000 and a shop offers a 20% discount:

Discount = ₹2,000 × 20/100 = ₹400 Therefore:

Final Price = ₹2,000 – ₹400 = ₹1,600

This simple example demonstrates the practical use of percentages in everyday decision-making.

Mathematics in Financial Planning

Household financial planning requires mathematical calculations. Income must be divided among food, education, transportation, housing, savings, investments, and other expenses.

Budgeting involves addition, subtraction, percentages, ratios, and comparisons. Understanding these mathematical concepts helps individuals make better financial decisions.

Mathematics in Time and Travel

Mathematics is also used when planning journeys. The relationship between distance, speed, and time can be expressed as:

Time = Distance ÷ Speed

If a vehicle travels 120 kilometers at a speed of 60 kilometers per hour:

$$\text{Time} = 120 \div 60 = 2 \text{ hours}$$

Thus, mathematical calculations help people plan their journeys and manage their time.

Mathematics in Education

Students use mathematics while calculating examination marks, percentages, averages, rankings, and academic progress.

For example, if a student obtains 80, 70, 75, 85, and 90 marks in five subjects:

$$\text{Average} = (80 + 70 + 75 + 85 + 90) \div 5$$

$$\text{Average} = 80$$

This demonstrates how mathematical concepts are directly connected with students' academic lives.

Social Networks and use of Mathematics

A social network is a system that connects individuals, groups, organizations, and communities through various forms of social interaction and relationships. With the growth of digital technology, social networks have evolved into versatile platforms that enable people to communicate, share photographs, videos, and information, participate in online groups and communities, build professional and personal connections, promote products and services, access educational resources, and express their ideas and opinions. They also provide opportunities for people with common interests to interact and develop virtual communities. Thus, social networks have moved beyond their original role as communication platforms and have become significant tools in education, business, marketing, entertainment, information dissemination, and community development.

Mathematics is closely connected with the functioning and analysis of Social Networks.

Followers and Connections

The number of Followers is one of the most visible numerical indicators on many Social Network platforms. For example, if one individual has 5,000 Followers and another has 10,000 Followers, mathematical comparison can be used to understand the difference.

The second individual has:

$$10,000 - 5,000 = 5,000 \text{ more Followers}$$

Such numerical comparisons are commonly made in the digital environment. Social Network platforms use Likes, Views, Shares, and Comments as numerical indicators of user interaction.

Suppose a post receives:

- 5,000 Views
- 500 Likes

A simple Like-to-View percentage can be calculated as:

$$500 \div 5,000 \times 100 = 10\%$$

Therefore, Likes represent 10% of the total Views in this example. This demonstrates how percentages can be used to understand digital engagement.

Average and Data Analysis

Suppose a video receives the following Views over five days:

Day Views

Day 1 1,000

Day 2 1,500

Day 3 2,000

Day 4 2,500

Day 5 3,000

The average number of Views is:

$$\text{Average} = (1,000 + 1,500 + 2,000 + 2,500 + 3,000) \div 5$$

$$\text{Average} = 2,000 \text{ Views}$$

This allows the content creator to understand the general performance of the content.

Social Networks and Statistics

Statistics plays an important role in understanding Social Network data.

Millions of users generate data through their online activities every day. This data can be analyzed to identify patterns, trends, preferences, and behaviors.

Statistical concepts can help in:

- measuring user engagement;
- comparing different posts;
- analyzing audience behavior;
- identifying popular content;
- studying changes in user activity;
- analyzing advertising performance;
- understanding demographic patterns; and
- identifying emerging trends.

Concepts such as Mean, Median, Mode, Percentage, Ratio, Probability, and Graphical Representation can therefore be connected with Social Network data.

Social Networks and Probability

Probability refers to the likelihood or possibility of an event occurring. In digital environments, probability and predictive analysis can be used to estimate possible user preferences and patterns. For example, if a user repeatedly watches educational videos, interacts with educational content, and searches for academic topics, systems may predict that similar content will be relevant to that user.

Although such systems involve advanced mathematics and computer science beyond simple probability calculations, the basic idea of predicting the likelihood of an event is closely related to mathematical reasoning.

This demonstrates that mathematical concepts are present even when users are simply scrolling through digital content.

Mathematics, Social Networks and Students

Students are among the most active participants in the digital environment. They use Social Networks for communication, entertainment, educational content, online classes, assignments, and information sharing.

For example, if a student spends three hours every day on social media, the weekly usage is:

$$3 \times 7 = 21 \text{ hours}$$

Thus, the student spends approximately 21 hours per week on social media. Such calculations can help students understand the importance of time management.

Mathematical Literacy and Digital Literacy

Mathematical Literacy refers to the ability to apply mathematical knowledge and reasoning to real-life situations. Digital Literacy refers to the ability to effectively and responsibly use digital technologies and information.

In the modern world, these two forms of literacy are increasingly interconnected.

Consider an online advertisement stating:

“50% Discount + Extra 20% Discount.”

A consumer needs mathematical understanding to determine whether the discounts are applied sequentially or simply added together. Therefore, mathematical knowledge helps individuals make informed decisions in digital environments.

Positive and Negative Aspects of Social Networks

Social Networks provide several benefits. They facilitate communication, educational interaction, information sharing, business promotion, professional networking, and community development.

However, excessive and uncritical use of Social Networks can also create challenges. These include misinformation, excessive screen time, distraction, privacy concerns, and reduced productivity.

Mathematics can even be used to analyse some of these behaviors. For example, if a student spends three hours per day on social media:

Daily usage = 3 hours

Weekly usage = 21 hours

Monthly usage (approximately) = 90 hours

Such numerical analysis can help individuals understand how much time is being devoted to digital activities and encourage better time management.

Mathematics and Social Networks are deeply connected with modern everyday life. Mathematics is not restricted to numbers, formulas, and equations found in textbooks. It is a practical tool used for shopping, budgeting, travelling, education, decision-making, and digital communication. Social Networks have created a digital environment in which people continuously encounter numerical information. Followers, Likes, Views, Shares, Comments, Percentages, Engagement Rates, and other forms of data have become part of everyday digital interaction. Understanding these numbers requires mathematical and statistical thinking.

For students, the relationship between mathematics and Social Networks provides an opportunity to connect classroom learning with real-life experiences. When mathematical concepts are taught through familiar digital examples, students may develop a better understanding of the practical value of mathematics.

The study therefore concludes that mathematics is not separate from modern digital life; rather, it is an essential component of the Social Network-based world. Mathematical Literacy, together with Digital Literacy, can help individuals interpret information, make informed decisions, manage their time, and participate more effectively in contemporary society.

In the future, education should increasingly connect mathematical concepts with real-world digital situations. Such an approach can make mathematics more meaningful, practical, and relevant to the needs of the twenty-first century.

References

1. Boyd, Danah M., and Nicole B. Ellison. "Social Network Sites: Definition, History, and Scholarship." *Journal of Computer-Mediated Communication*.
2. Castells, Manuel. *The Rise of the Network Society*. Wiley-Blackwell.
3. Devlin, Keith. *The Math Gene: How Mathematical Thinking Evolved and Why Numbers Are Like Gossip*. Basic Books.
4. Moore, David S., George P. McCabe, and Bruce A. Craig. *Introduction to the Practice of Statistics*. W. H. Freeman.
5. OECD. *PISA Mathematics Framework and Mathematical Literacy*. OECD Publishing.
6. Rosen, Kenneth H. *Discrete Mathematics and Its Applications*. McGraw-Hill.
7. UNESCO. *Education in a Digital World*. UNESCO Publications.
8. Government of India. *National Education Policy 2020*. Ministry of Education,