

Informatics in the Fields of Medicine and Healthcare, Economics, Business

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Abstract

Informatics is a rapidly growing field that encompasses the use of information technology to collect, store, process, and analyse data. The field of informatics has made significant contributions to the fields of medicine and healthcare, as well as to economics. In this article, we will explore the ways in which informatics has impacted these fields, and the future potential for further development.

Keywords: Business • Panel data models • Economics

Introduction

Informatics in medicine and healthcare

The healthcare industry is generating vast amounts of data on a daily basis. From patient records to clinical trial results, the volume and complexity of this data are increasing exponentially. The use of informatics has enabled healthcare providers to process this data more efficiently, providing better patient care and reducing costs. One way in which informatics has impacted the field of medicine is through the use of electronic health records (EHRs). EHRs have replaced paper-based records, allowing healthcare providers to access patient information more quickly and easily. EHRs also allow healthcare providers to share patient information securely, improving coordination of care between providers [1].

Another area in which informatics has impacted healthcare is through the use of clinical decision support systems (CDSS). CDSS uses algorithms to analyse patient data and provide clinicians with evidence-based treatment options. This has resulted in more accurate diagnoses and improved patient outcomes. Informatics has also played a significant role in medical research. The use of big data and machine learning has enabled researchers to analyse vast amounts of data, identifying new patterns and insights that can inform medical treatment and care [2].

Literature Review

The field of telemedicine has also been impacted by informatics. Telemedicine allows healthcare providers to connect with patients remotely, providing care without the need for in-person visits. This has proven particularly valuable in rural or underserved areas, where access to healthcare providers may be limited. Overall, the use of informatics in medicine and healthcare has improved patient outcomes, reduced costs, and increased efficiency. As the field continues to grow, there is great potential for further development in areas such as precision medicine, genomics, and population health management.

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Informatics in economics

The field of economics has also been impacted by the use of informatics. The use of data analytics and machine learning has enabled economists to analyse vast amounts of data, identifying trends and patterns that can inform policy decisions. One way in which informatics has impacted economics is through the use of predictive analytics. Predictive analytics uses statistical algorithms to analyse data and identify trends, enabling economists to make predictions about future economic events. This can inform policy decisions and help governments and organizations prepare for potential economic disruptions. Another area in which informatics has impacted economics is through the use of block chain technology. Block chain is a decentralized ledger that allows for secure, transparent transactions. This has the potential to transform financial services, enabling faster and more secure transactions, reducing costs, and improving efficiency [3].

The field of data science has also impacted economics. Data science uses statistical methods and machine learning algorithms to analyse large datasets, enabling economists to identify patterns and insights that can inform policy decisions. Data science has also enabled economists to analyse unstructured data, such as social media and news articles, to identify trends and inform economic forecasting. Finally, the use of informatics has impacted the field of marketing and advertising. The use of big data and machine learning has enabled marketers to analyse vast amounts of data, identifying consumer behaviour patterns and preferences. This has enabled more targeted and effective advertising, increasing the return on investment for marketing campaigns. Economics is a social science that studies the production, consumption, and distribution of goods and services. It is concerned with understanding how individuals, businesses, and governments make decisions and interact with each other in the marketplace. In this article, we will explore the fundamental concepts of economics and their applications in the real world [4].

Supply and demand

One of the most basic concepts in economics is supply and demand. Supply refers to the quantity of goods and services that producers are willing and able to sell, while demand refers to the quantity of goods and services that consumers are willing and able to buy. The interaction between supply and demand determines the price of goods and services in the market. When the supply of a good or service exceeds demand, the price tends to decrease, and when demand exceeds supply, the price tends to increase. The equilibrium price is the price at which the quantity supplied equals the quantity demanded. Changes in either supply or demand can shift the equilibrium price and quantity. For example, if there is a sudden increase in demand for a particular product, such as smartphones, but the supply remains constant, the equilibrium price will increase. Conversely, if there is a decrease in demand, such as during an economic recession, the equilibrium price will decrease [5].

Microeconomics and macroeconomics

Economics can be divided into two broad areas: microeconomics and macroeconomics. Microeconomics focuses on the behaviour of individuals, households, and firms in the market. It examines how consumers make purchasing decisions, how firms determine pricing and production, and how markets allocate resources. Macroeconomics, on the other hand, studies the economy as a whole. It examines broad economic indicators such as gross domestic product (GDP), inflation, and unemployment. Macroeconomists are interested in understanding the overall health of the economy, as well as how government policies can influence economic growth and stability [6].

Gross domestic product

Gross domestic product (GDP) is a key indicator of a country's economic performance. It measures the total value of goods and services produced within a country over a specified period, typically a year. GDP is often used to compare the economic performance of different countries and to track changes in economic growth over time. GDP can be divided into four components: consumption, investment, government spending, and net exports. Consumption refers to the amount of money spent by households on goods and services. Investment refers to the amount of money spent by firms on capital goods, such as machinery and equipment. Government spending refers to the amount of money spent by the government on public goods and services, such as education and healthcare. Net exports refer to the difference between a country's exports and imports.

Inflation and unemployment

Inflation is the rate at which prices for goods and services increase over time. It is typically measured using the consumer price index (CPI), which tracks changes in the prices of a basket of goods and services that are commonly purchased by consumers. Inflation can have significant impacts on the economy, including reducing purchasing power, increasing the cost of borrowing and affecting international trade. Unemployment is another important economic indicator. It measures the percentage of the workforce that is currently unemployed and actively seeking work. High levels of unemployment can have significant social and economic costs, including reduced consumer spending and lower economic growth.

Discussion

International trade is an important component of the global economy. It refers to the exchange of goods and services between countries. International trade can have both positive and negative impacts on the economy, depending on the circumstances. On the one hand, international trade can increase economic growth and create jobs by opening up new markets for goods and services. It can also increase competition and drive innovation, leading to lower prices and better quality products.

Conclusion

The use of informatics has impacted the fields of medicine, healthcare,

and economics in significant ways. In medicine and healthcare, informatics has enabled healthcare providers to provide better patient care, reduce costs, and increase efficiency. In economics, informatics has enabled economists to analyse vast amounts of data, inform policy decisions, and transform financial services.

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Conflict of Interest

None.

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