Systems for Managing Information & Making Business Decisions

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Abstract: In light of its capacity for decision-making, the function of management information systems is described and examined. With an emphasis on automated decision making, the decision-making process and its effect on top-level management in a business organization are explained. Six recommendations are made to improve the effectiveness of MIS in the decision-making process after discussing its shortcomings and difficulties.

INTRODUCTION

Expert Systems, Management Information Systems, and Transactional Processing Systems are the three types of systems that can be used to conceptualize information systems. Executive Information Systems and Decision Support Systems are two examples of the many subsets of MIS. It is best to consider the function of MIS in decision support within the framework of the subset known as Decision Support System (DSS). A DSS is a computer-based system (an application programme) that can analyze organizational (or business) data and deliver it to the user in a way that makes business decisions easier and more successful. It functions primarily as an informational application that relies on data entered before when responding to a query. As an illustration, a decision support system could offer:

• Projected revenue statistics based on new product sales assumptions
• Comparable sales data for the previous week/month
• The effects of various decision-making options in light of prior knowledge.

The broad areas of IS and DSS might occasionally overlap, and a DSS may be able to visualize information using an expert system or artificial intelligence (AI). The DSS is typically utilized by individuals at various levels within a company organization. Front line supervisors utilize DSS for daily operational decisions, middle management deploys it for tactical decisions, and top level management uses it for strategic decisions.

As a result, the decision-making process in any business is a crucial component for both organizations and individuals because both depend heavily on these decisions to survive in the fiercely competitive world of entrepreneurship. More significantly, the Management Information System, or MIS, has become a more prevalent tool for decision-making and institutionalization. DSS, which support informed decision-making, are a part of MIS. Notwithstanding the significant advantages of utilizing MIS in decision-making, some detractors have apparently been stating slowly but steadily that MIS has unavoidable negative impacts on businesses and should be utilized with caution or avoided altogether.

To describe MIS, it must first be broken down into the three components that make it up: management, information, and systems. Management is the process by which managers plan, organize, start, and control operations within their enterprises, according to this line of thinking. Basically, there must be subjects or workers to manage for a management to exist. It is further mentioned that information typically refers to data that has been evaluated. In other words, data that is analyzed utilizing business laws, principles, and theories put forward by various macroeconomists resulted in information (with regard to business).

A system is defined as "A collection of components working towards a single goal." Business systems typically comprise of smaller systems, or "subsystems," that all work together to ensure the

MACHINE LEARNING APPLICATIONS IN THE EDUCATION AND HEALTH SECTOR

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Abstract: Whether it is a hospital management system or a learning management system, practically every system, application, and algorithm in use today incorporates machine learning. The focus of this article is on how machine learning is used in daily life, how to choose the best ML technique for your system or application, and several social networking applications that employ ML as part of its back-end algorithm. This study article aims to comprehend machine learning as well as its use in the sectors of health and education.

Keywords: Machine learning, health sector, education, empirical study, algorithms.

Introduction

The branch of artificial intelligence that teaches a machine how to learn is known as machine learning or ML for short. The computer can automatically learn without being explicitly programmed because of the topic of study. The emphasis of the machine learning curriculum is on data availability and use for learning, pattern recognition, and decision-making without human intervention. The impact of machine learning has been felt in almost every facet of our lives. Through online retailers like Amazon, a large number of individuals are familiar with machine learning. Amazon uses a recommendation system to provide more items to customers based on their past purchases.

Anyone who orders a cab through Uber or Ola will receive information about everything, including the distance from the present location, the anticipated arrival time, the car's details, the driver's details, etc. Through machine learning, the programme gives the user access to this data.

Governance of Artificial Intelligence for Business

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Abstract: Although the governance of artificial intelligence (AI) is extensively debated on a philosophical, sociological, and legislative level, few publications specifically target businesses. By drawing a conceptual framework from the literature, we fill this gap. We break down "AI governance" along the axes of who, what, and how "is governed" into the governance of data, machine learning models, and AI systems. This breakdown makes it possible for current governance arrangements to evolve. Measuring the value of data and developing new AI governance roles are fresh, business-specific issues.

Keywords: Machine Learning, Artificial Intelligence, IT Governance, Governance Framework, Data Governance.

INTRODUCTION

With expected spending of about 100 billion US dollars by 2023, up from 38 billion in 2019, artificial intelligence (AI) has become a crucial area of study and application (Shirer & Daquila, 2019). AI demonstrates intelligent behaviour in various ways, opening for a wide range of effective and economical applications. Although AI uses a variety of methodologies, in this study we define AI as systems that learn from samples, i.e., these systems rely on models from a sub branch of AI referred to as "machine learning." Deep learning is one of the machine learning (ML) techniques that uses data to infer decision-making behaviour. Since learning from data rather than extracting and applying domain expert rules produces AI systems of greater performance at comparatively low costs, it is responsible for the majority of AI triumphs. In many application areas, such as job recruitment (Pan et al., 2022), credit scoring (H. Wang et al., 2019), designing floorplans for microchips (Khang, 2021), managing predictive maintenance strategies (Arena et al., 2022), autopilots in aviation (Garlick, 2017), or autonomous driving, AI

has demonstrated remarkable success (Meske et al., 2022). (Grigorescu et al., 2020). As a result, AI is a focus for many firms, and research indicates that 90% of CEOs believe that AI presents a business opportunity that is essential to the success of their organization (Ransbotham et al., 2019). At the same time, just 10% of CEOs claim that integrating AI has resulted in a major financial gain (Ransbotham et al., 2020). As a result, there is still a great deal of uncertainty around the efficient use of AI technology to create value in enterprises and the precise way to employ the technology to make profits for organizations.

Despite the fact that AI is not a new concept, its recent technical and legal developments are astounding (Burt, 2021), and they are likely to continue moving quickly for some time. Fast AI development makes it challenging for businesses to stay up with and discover effective governance systems to gain economically from AI. Companies must also abide by a growing number of rules pertaining to data, ML models, and AI systems. Furthermore, AI demonstrates traits that make it both desirable and difficult to rely on, for instance:

(1) Even for applications where AI's models are simple to construct, the output of the technology is frequently challenging to understand (Adadi & Berrada, 2018). (e.g., using AutoML or adapting existing models). It is challenging to understand why AI makes a particular choice or how an AI system functions in general. Meeting regulatory standards and upgrading systems beyond what is already known are made difficult by a lack of understanding.

(2) AI generates unanticipated outcomes that are partially out of an organization's control. It displays unpredictable, "ethics"-illiterate, data-driven behaviour that results in new security,

E – Commerce & Its Impact on Business Performance

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Abstract: In the modern business environment, e-commerce has proven to be one of the most successful business strategies and has offered many advantages to companies. The main objective of this study is to evaluate how E-commerce affects business performance. The global marketplace, the absence of time restrictions, improved customer connection building, lower fixed costs, and other important effects are just a few.

Keywords: E-commerce, business performance, business impact.

Introduction

With time, the business environment has grown more complex, making it crucial for companies to maintain developing and adapting to new developments. In the past, a number of business models and strategies were created, and among them, e-commerce has emerged as a crucial and important component. E-commerce is a business strategy that enables businesses and people to buy and sell goods online. The importance of having an online presence has increased dramatically in the modern day, and businesses are increasingly looking to incorporate the internet into their daily operations. Businesses now have the chance to sell their goods to a large range of customers as well as market their goods and services online thanks to the existence of e-commerce.

Businesses-to-business, consumer-to-business, and business-to-consumer are the three main types of e-commerce that are used in the modern world. Organizations have benefited greatly from the presence and growth of e-commerce, which has also had a variety of effects.

The purpose of this study is to discover and evaluate the effects that e-commerce has on organizational performance. The research is likely to focus on the potential that Ecommerce offers to organizations and how they may take use of these chances to improve their overall performance. The goal is to further demonstrate the importance of e-commerce and its ramifications in the modern environment, as well as to identify the difficulties it faces and comprehend the dynamics around those difficulties.

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A General Study Analysis on Green Marketing

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Abstract

The needs of consumers are unlimited in nature, while the resources which we have are scarce in nature.

The concept of green or ecological marketing calls upon its importance in this modern era of business. Man has used all the available resources up to the maximum extend selfishly.

In the modern era of globalization, industrial growth has increased the demands and wants of the population and it has become a symbol of economic development. But it has resulted in the exploitation of the natural resources as well as the environment which in turn has disturbed the ecological balance. To preserve the environment and maintain a healthy balance in the ecosystem green marketing has become the need of the present time.

Companies have started marketing themselves as green companies by engaging their businesses to follow ethical and green practices while dealing with customers, suppliers, dealers and employees.

Keywords: *Green Marketing, Environmentally friendly, Environmental Marketing, Ecological Marketing*

Introduction

According to the **American Marketing Association,** green marketing can be stated as "Green Marketing is the marketing of products that are presumed to be environmentally safe". Thus green marketing incorporates a broad range of activities, including product modification, changes to the production process, packaging changes, as well as modifying advertising.

Green marketing is also known as Environmental Marketing which can be stated as, the promotion of environmentally friendly products, services, and initiatives. More specifically, green marketing refers to a broad range of environmentally friendly practices and strategies. Some green marketing examples include:

- Creating eco-friendly products
- Using eco-friendly product packaging made from recycled materials
- Reducing greenhouse gas emissions from production processes
- Adopting sustainable business practices
- Marketing efforts communicating a product's environmental benefits
- Investing profits in renewable energy or carbon offset efforts

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On fuzzy small and pseudo projectives – a conditioned class of fuzzy projective modules

Abstract: In this work, we examine fuzzy pseudo projective modules, a generalization of fuzzy projective modules. Among other intriguing findings, we obtain a surprising theorem proving the equality of fuzzy projective and pseudo-projective modules over semisimple rings. We also propose the idea of fuzzy small pseudo-projective modules based on fuzzy pseudo-projective modules and present some fascinating results in this area.

Keywords: Fuzzy small projectives, fuzzy split, fuzzy pseudo-projective, fuzzy exact sequences and fuzzy small pseudo-projective modules

MSC 2010: 94D05, 03B52, 03E72

1 Introduction

Cartan and Eilenberg introduced projective modules [2]. After that, Banaschewski [1] focused on projective modules and developed several relevant findings. Since then, researchers have been attempting to widen the application of this idea, leading to the emergence of words like quasi-pseudo-, pseudo-semi-, and small pseudo-projective modules. Concerning a generalization of projective modules, Talebi and Gorji [10] discussed pseudo-projective modules. Simple and semisimple modules were created in 2008 by Michielsen [6] to give a new direction to the aforementioned existing ideas. When Prof. L. A. Zadeh first used the term "fuzzy" in 1965, it was extended to several algebraic structures, giving them a new extension in the field of fuzzy. For instance, modules became fuzzy modules, whereas projective modules became fuzzy projective modules. By fuzzing up many well-known results, conclusions, and features connected to these ideas, we have attempted to extend and explain the traditional conception of pseudo-projective and small pseudo-projective modules during this research.

The ideas discussed in this paper can be used to define global and Goldie's dimension in terms of fuzzy pseudo-projective-injective and small pseudo-projective modules. Additionally, the global dimension can be converted to the Gorenstein dimension across Gorenstein rings. The readers are persuaded to learn more about this topic and apply it

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A SYSTEMATIC REVIEW OF ARTIFICIAL INTELLIGENCE TECHNIQUES IN LUNG CANCER DETECTION AND ACCURATE DIAGNOSIS

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Abstract

Lung cancer, which has the greatest fatality rate of any cancer kind, is the most serious form of the disease. Many lives may be saved by early detection. Along with breast cancer in women and prostate cancer in men, lung cancer is the second most frequent kind of cancer. According to the International Association of Cancer Society's (IACS) projections, there will be approximately: •131,880 lung cancer fatalities (119,100 in men and 116,660 in women) •235,760 new cases of lung cancer (69,410 in men and 62,470 in women). Due to its tiny size and placement of the glands, lung cancer is asymptomatic in its early stages on a CT scan. Symptoms only arise when the illness is at a more advanced stage. Early detection techniques like computed tomography (CT) and magnetic resonance imaging (MRI) are common medical practices that increase patient survival. Prior intelligent techniques relied on manually created feature extraction techniques like Sequential Flood Feature Selection Algorithms (SFFSA) or Genetic Algorithms (GA), which may assist in producing the best possible features. Deep learning technology has recently been applied in CAD systems to automatically extract picture characteristics, and several medical image processing tools have proven successful as a result.

Keywords: Lung Cancer, Fatality Rate, CAD Systems, Artificial Intelligence.

Introduction

The leading cause of cancer-related fatalities in the United States and throughout the globe is lung cancer [1]. Lung cancer also has one of the biggest global public health costs. Analysis of the expenses of healthcare for Medicare participants revealed that surgery, which is anticipated to cost $30,000 over a 15-year period, incurred the greatest expenditures [2]. With an average life expectancy of 14 months after diagnosis, individuals getting chemotherapy and radiation treatment faced costs of $4000-$8000 each month [2]. In Europe, 60 out of every 100,000 persons are predicted to have lung cancer. It is projected that the patient's post-intervention healthcare and management expenditures would be 17,000 Euros annually [3].

A high-risk population's mortality rate was reported to be reduced by 20% by low-dose computed tomography (LDCT) examination as opposed to the usual chest X-ray by the National Lung Screening Trial (NLST) [4]. Additionally, low-dose CT has a detection rate for lung cancer screening that is 2.6 to 10-fold higher than chest radiography [5]. Early diagnosis is the key to lowering lung cancer-related fatalities, and this depends on quick and accurate lung nodule identification and meticulous chest CT scan inspection to confirm malignancy - a procedure that takes a lot of time and effort on the part of radiologists and doctors.

In accordance with a recent research, doctors spend 75% of each patient visit on tasks other than face-to-face interactions with patients, such as using the electronic medical records (EMR) [6].

Studies have also shown that doctors from different specialities spend up to 2 hours on administrative tasks for every hour they treat patients in the office. This is followed by an additional 1 to 2 hours of work after clinic, most of which is spent on the electronic medical record (EMR) [7].

Due to the time needed for the first inspection and analysis of CT scans, it is likely - though not proven - that these numbers are much higher for doctors screening patients at risk for lung cancer.

Oncologists, compared to other doctors and other oncology care professionals (nurses, psychologists, and social workers), were verified by Dr.Flanou to be most at risk for burnout at the 18th World Conference on Lung Cancer (WCLC), with a reported incidence between 35 and 60%. Burnout increases the likelihood of mental health problems in 20–35 percent of those who experience it, and among doctors it is linked to less patient empathy and worse levels of care [8]. Therefore, it is crucial to look into any option that might lessen the amount of labour that physicians must do for the sake of both patients and doctors. An example of such a solution is artificial intelligence (AI) automated CT lung cancer diagnosis, which may be used to help doctors and so lessen their workload, improve hospital

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51

A Novel Optimized Algorithm to Improve Data Security and Privacy in Cloud Environment

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Abstract. As the number of people who rely on cloud services grows, so does the need of ensuring their data is safe. The storing of data is one of the most common applications of cloud computing. Users of cloud services have access to a vast capacity for data storage. Users may save and access their data whenever and wherever they choose, which makes it a more dependable and adaptable service. It is a kind of technology that is always expanding. These days, many businesses have begun to use cloud storage because of the various benefits it offers. Even though cloud computing is becoming more popular due to its usefulness and appeal, there are still challenges with data protection, including data security, data privacy, and other related concerns. The lack of privacy and security of data that is kept in the cloud is a significant obstacle for the development of cloud computing. Each piece of data fragment is encrypted using a distinct hybrid security algorithm as part of this application's approach to controlling data loss based on a variety of variables. This approach is tested in a simulated private cloud that stores a significant quantity of data that includes both text and media files. When compared to the current framework, the results were much superior in terms of data size after encryption, storage duration, and data loss. We named our securing technique of data fragments as Frag-Secure. Using the existing random fragmentation technique and the non-fragmentation approach as comparison points, the performance of this proposed framework is analysed over a range of parameters. As study shows that, the suggested Frag-Secure framework performs even better than non-fragmented frameworks.

Key words: Cloud data security, data privacy, optimization, cloud services.

1. Introduction

The cloud is one of the most prominent technologies in the modern day because of the various businesses and organisations that rely on its offers and services [1]. Market research and analysis indicate that demand for cloud services will continue to rise [2]. There are several services, including platform, infrastructure, and software, that benefit from the cloud's ability to lower their associated costs. Many businesses have begun using cloud services as a result, and for good reason. It is more cost-effective since it increases efficiency, requires less money to set up and maintain, and provides services quickly [3]. After registration to a "cloud computing" facility provides highly flexible resources over the Internet, as well as many forms of customer service on a "pay as you go" basis [1-3].

When it comes to the many services offered by the cloud, cloud storage is among the most popular. The quantity and quality of data storage have both increased because of the widespread adoption of cloud-based services like DropBox, iCloud, and Google Drive in recent years [4]. Cloud storage is the backbone technology that allows for a unified sharing and interaction experience across users, apps, and devices in a global network [5]. Today, cloud computing is as commonplace as the use of publicly provided utilities like electricity and water. A large number of individuals and businesses because of its cheap price, good reputation, great capacity, and stability prefers it. The service is also very flexible and exclusive [6].

The cloud delivers its services based on five characteristics, including multitenancy, elasticity, pay as you go, scalability, and self-provisioning of resources [7]. Improvements in computing power, disc storage, virtualization technology, Internet connectivity, and the availability of fast, inexpensive servers have all contributed to the cloud's growing credibility as a viable option for many businesses [4][8]. Distributed capacity

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A Systematic Literature Review on Financial Technology (Fintech) Trends and Challenges

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Abstract: It is well known that new technology takes time to make its place in the market, and digital transformation is one among them. Everything that we see today is becoming digital even the finance sector too. The development of digital transformation has also unmistakably fostered the emergence of fintech (financial technology) initiatives, which are considered as some of the most significant innovations in the financial industry. Fintech research is still in its early stages, though. Fintech provides a range of services, including e-aggregators, e-trading, e-insurance, funding, payment (including electronic wallets), and cryptocurrencies like Bitcoin. The opportunity to examine the challenges and trends in fintech research in greater detail is provided by this research paper. This study's goals are to: (1) evaluate the present state of the art in financial technology research; (2) identify research gaps in the field; and (3) outline challenges and trends for potential future research. The study presented in this paper offers a theoretical framework for information systems-based fintech research, including the definition and advancement of fintech technological ideas. To validate the calibre of the literature and analysis, this study employed the systematic Kitchenham technique to literature review together with theme analysis, meta-analysis, and observation.

Keywords - fintech, financial technology, financial technology trends, fintech challenges

I. INTRODUCTION

Technology is used to boost financial processes in a new financial industry known as fintech [1]. Additionally, according to Leong and Sung (2018), fintech may be defined as "any innovative ideas that improve financial service processes by proposing technology solutions in accordance with different business situations" [2]. Fintech emerged as a result of advancements in e-finance and mobile technology for financial institutions during the global financial crisis of 2008. One distinguishing aspect of this expansion was the integration of e-finance innovation, internet technology, social networking services, social media, artificial intelligence (AI), and huge analytic data [3]. Many well-established financial institutions, especially banks, are under pressure as a result to develop more practical business plans [4]. Additionally, entrepreneurs viewed this as an opportunity to enter the financial services industry [5].

Start-ups in the fields of e-commerce and financial technology (fintech) are relevant to this research. Financial technology, or fintech, is one of the biggest innovations in the financial services industry and is supported by regulation, public policy, information technology, and economic sharing [3]. Banks and fintech companies both place a high focus on lending and payment services in their business plans. Additionally, it encompasses security (such as cyber security), and crowdsourcing, virtual currencies, and personal financial advisory services [6].

Zavolokina et al. examine how people see fintech. The term "fintech" may be viewed as the use of information technology in the fields of finance, financial innovation, and digital innovation, in addition to start-ups (the financial services sector outside of banks) [7]. There are six fintech business models: capital markets, lending, wealth management, payment, insurance services, and crowdfunding [3].

The obstacles for organisations increase with the amount of growth of financial technology services. Communities have expressed concern about moral hazards, loan defaults, and knowledge asymmetry about online loan services [8]. Additionally, a case of Bitcoin-based money laundering [8] has drawn a lot of interest. Regulators must thus carefully consider how to incorporate this innovation into the legislation. Regulators encourage financial industry innovation and implement the principles of risk management and consumer protection in order to produce safe and adequate financial services [4].

The history of technological innovation in the financial sector began with the acceptance of checks as a form of payment in 1945. The Bank of America issued the first credit card in 1958, and the usage of ATMs for financial transactions began in 1967. A debit card was afterwards offered as a means of transaction. The introduction of Internet banking coincided with the growth of the Internet in the 1990s. The 2000s saw