

Review Article

Innovation and Technology in Management

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How to cite this article:

Singh K. Innovation And Technology In Management. J Adv Res Microelec VLSI 2024; 7(1): 22-26.

Date of Submission: 2024-03-17

Date of Acceptance: 2024-04-23

A B S T R A C T

This research paper will give you information on information and technology in management. Time is the main asset for any management, and accuracy is the need of the time. The biggest business tycoons, like Reliance, Tata, and ADANI, have developed empires with good accuracy. The biggest example of innovation is MBA CHAIWALA's "Banks. First, it has improved the customer experience by providing convenient and accessible banking services through mobile devices and computers. Customers can now access their accounts, transfer funds, and pay bills from anywhere at any time. Second, digital technology has increased operational efficiency for financial institutions by enabling faster transaction processing and reducing the costs associated with physical branches. Third, digital technology has allowed banks to offer personalized services to customers through data analytics and machine learning algorithms. Last, digital technology has enhanced security measures and prevented fraud through biometric authentication and real-time monitoring.

Keywords: Innovation, Management, Technology, Machine Learning, Digital Technology

Literature Review

Alvin Eugene Toffler (October 4, 1928 – June 27, 2016) was an American writer, futurist, and businessman known for his works discussing modern technologies, including the digital revolution and the communication revolution, with an emphasis on their effects on cultures worldwide. He is regarded as one of the world's outstanding futurists.

- The new innovation is required to make a business stable, like the ideas By what technique can we handle this problem? Innovation and technology help to improve the management efficiency of enterprises. The application of scientific and technological innovation can propose more diversified management methods for enterprise management on a traditional basis. These management methods are simpler and more convenient and can make the internal management of the enterprise operate systematically. At the same time, the use of technological innovation can also

- make management more orderly. On one hand, it can improve the management efficiency of safety management, employee management, and file management; on the other hand, it can also improve the management level of enterprises. Digital information management technology is widely used according to the actual situation of business administration. In this way, it can effectively reduce the needs of employees and improve the efficiency of internal management, which plays an irreplaceable role in the future development of enterprises.
- Another review is that the technology has improved accuracy. In the functioning of the daily tasks of the employees, prior to the advent of technology, many mistakes It was to be rectified by rechecking many and many times; it also used to consume a lot of time at work, but now nothing is like that. It is beneficial to improve the operating efficiency of enterprises. Under the influence of the development of the market

economy, in the current stage of the market, various enterprises show a more and more intense trend. In order to occupy a dominant position in this fierce competition, advanced management is very important. To improve the management efficiency and business efficiency of enterprises, this method can effectively improve their competitiveness in the market.

- Now a days every work has a big impact, like in an industry where there are many workers in thousands and their records are to be maintained in a minute, but it's important to transfer their salaries on time or process their data within an hour manually, and it's impossible to do this with a "zero error." And there comes the role of "technology and innovation." It is conducive to the long-term development of enterprises. The market economy is constantly changing. In this context, enterprises will encounter some new problems during their development, which will impact future development. In order to solve these problems quickly and efficiently and realize long-term development, enterprises must adapt to the changes in society and the market economy and carry out scientific and technological innovation to support their business management.

Objectives

- To Research the Role and Impact of Technology and Innovation in Management.
- evaluate the various sources that will contribute to entrepreneurship education.

Limitation

- The sample size is small for the survey conducted.
- The survey is conducted only among urban populations.

Methodology

The research paper is based on reports published by various government and private agencies, online reports, practical experience, and research at the industrial level.

Technology Revolution in Industries/Management Historical Aspect

1. Financial-agricultural revolution (1600–1740)
2. Industrial Revolution (1760–1840)
3. Technical Revolution or Second Industrial Revolution (1870–1920)
4. Scientific-technical revolution (1940–1970)
5. The information and telecommunications revolution, also known as the Digital Revolution or Third Industrial Revolution (1975–2021)
6. Some say we're on the brink of a Fourth Industrial Revolution, aka "The Intelligence Revolution" (2022).

The era of technology revolution began at the doors of banks. First, our nation's banks absorbed technology and

innovation for the motive of accuracy and fast transaction settlement.

Technology in Management in India

- **Streamlining Solutions:** Today, IT is in use in various aspects of management. Many software databases are developed to speed up daily tasks, like various attendance software to easily record the timely attendance of staff with full accuracy and zero error, and to analyze every worker's performance.
- **Cloud-based data storage:** Businesses do not have to worry about hiring a substantial IT team to maintain and manage large servers within their workspace; they can pay third-party companies to store relevant data.

Cyber security is a big topic for any management because of some product innovation privacy issues, customer database privacy issues, or banking-related technical issues that continuously have to be supervised by the technical or IT department. In the banking or financial industry, a large cyber security setup is maintained.

- **Efficient Communication:** Today management Using various Technologies for management like, WHATSAPP, GMAIL, FACEBOOK, INSTAGRAM to Communicating with Internal management and Outer Customers and Links In Society. In every department, more than 50% of technology is not used, despite manual work.
- **Enhance Customer Experience:** Customers can easily take an approach to newly developed products and can deposit inquiries' or complaints easily with the help of technology in management.

Advance Excel Tools In Management/Business

These tools are not just tools but extra limbs of management and business to run or observe the records of day-to-day activities.

- **Vlookup:** VLOOKUP stands for Vertical Lookup. As the name implies, VLOOKUP is a built-in Excel function that helps you look for a specified value by searching for it vertically across the sheet. VLOOKUP in Excel may sound complicated, but you will find out that it is a very easy and useful tool once you try it.
- **SUMIF:** The SUMIF function is conditional if the function is used to sum the cells based on certain criteria; the criteria can be a certain text too. For example, we want to sum up a group of cells. If the adjacent cell has a specified text, we can use the function: =SUMIF(Text Range," Text," cells range for sum).
- **SUMIFS:** SUMIFS is a sub-formula of the SUMIF formula. If you use the SUMIFS function with the INDEX and MATCH functions inside, you can add more than one criterion, which you can't do by just using the SUMIF

function. To do this, ensure you input your sum range, then criteria range, then range criteria.

- **HLOOKUP:** HLOOKUP stands for Horizontal Lookup and can be used to retrieve information from a table by searching a row for the matching data and outputting it from the corresponding column. While VLOOKUP searches for the value in a column, HLOOKUP searches for the value in a row.
- **IF:** If a formula gives a true picture of data as per the instructions feed, is it true or false? Example =IF(A2>B2,"Over Budget","OK")

Universities and College Provide Technological Management Training to Students

CICU is registered as a non-profit society that represents the industry and trade sectors of the State of Punjab since 1968.

Presently, we have direct membership in more than 1200 enterprises and indirect membership in 13,000 enterprises of 34 different associations affiliated with us as associate members. We have achieved national and state-level winners as responsible

BMO by the Foundation for MSME Cluster, New Delhi. It has also been accredited as a Silver Standard by the Quality Council of India, New Delhi, and the National Accreditation Board for Education and Training (NABET).

GURU TEG BAHADUR COLLEGE LUDHIANA started a course a few years ago to teach students about Excel and other technical skills to make students able to manage and administer.

SCD GOVT.college also started the finishing school extra curriculum course to teach TALLY and other technology for better management. Many students take experience with tally, microdsoft,microdsoft etc. with practical equipment.

Technology is a must in every management. While talking with an ex-banker, Mr. Virendra Arora, I found that it was banking workers who absorbed technology first in the country.

Use of Ai Technology in Management/Business

AI automation

Every role has at least a few repetitive, manual tasks, such as checking email, inputting data, and generating reports, that take away time from more impactful work. According to research from UiPath, 67% of respondents feel they are constantly doing the same tasks and waste an average of four and a half hours a week on tasks that could be automated.

AI can help automate routine tasks, which saves time, maximizes productivity, reduces the risk of human error, and drives team member engagement by enabling them to spend time on more meaningful work. Depending on

which tasks you're looking to automate, a wide range of tools are available for different business functions and use cases, such as chatbots for customer service, applicant tracking systems for recruiting, and payroll platforms for accounting.

Enhanced Data Analytics

Artificial intelligence and machine learning tools can process and analyze vast amounts of data at speeds and scales far beyond human capabilities. As a result, AI can identify patterns, behaviors, and trends that may not be immediately visible to human analysts, which helps predict future outcomes based on historical data.

Some use cases for enhanced data analytics include predicting customer churn, identifying worker turnover trends, projecting revenue, and flagging fraud patterns or behaviors.

Improved Decision-Making

Based on insights from enhanced data analytics, AI can also help support improved decision-making.

AI can improve decision-making by helping to identify new business opportunities, flag operational roadblocks, determine effective ways to personalize offerings and outreach based on customer data, and prepare for potential challenges.

One commonly cited example of how AI supports decision-making is that airlines typically use predictive AI analytics to determine pricing. Airlines optimize ticket prices using AI to analyze and understand demand patterns, consumer behavior, competition, and other factors in real time, leading to more informed pricing decisions.

The capabilities listed above are just a few of the many ways AI is used in business. While AI can offer significant benefits, human expertise and intelligence are still a necessity to ensure the accuracy and credibility of critical business processes. With this in mind, let's look at how AI is used across various business functions.

Content Generation

Content creators are increasingly turning to generative AI tools to save time and improve the content generation process. Tools like ChatGPT, Google Bard, and Jasper enable users to input text prompts to quickly generate new written content such as outlines, emails, or blog posts. Tools like Midjourney, Stable Diffusion, and DALL-E generate images based on text prompts.

A survey from Descript and Ipsos of nearly 1,000 content creators found that nearly two-thirds of respondents have already used generative AI in their content production, and more than three-quarters say they are likely to use AI tools moving forward.

Some of the benefits of leveraging AI for content creation include:

- Increased productivity and scalability because using AI tools to generate content requires less time and fewer resources than developing content from scratch.
- Creative inspiration by using AI to brainstorm and come up with new ideas before developing content
- AI-powered analytics track content metrics, including page views, social media shares, and engagement rates, to help optimize content generation strategies.

Marketing

Artificial intelligence tools and machine learning algorithms are used by marketing teams to analyze data, identify customer trends and patterns, optimize marketing campaigns and strategies, and enhance the customer experience. In addition to improving marketing strategy results, AI can also help team members save time by automating manual tasks. According to a survey from Drift of more than 600 marketers, 74% believe they will be intelligently automating more than a quarter of their tasks in the next five years.

Here are a few examples of how AI is used in marketing

- Enhanced market research and competitor analysis. Marketing teams and professionals spend a significant amount of time conducting marketing and competitor research. AI systems and tools have advanced capabilities to find, organize, and analyze relevant market data and competitive differentiators, saving time that would have been spent on manual research. Because AI can process large amounts of data automatically, important market or competitor insights may be uncovered that marketing team members may have missed.

Customer Service

AI can help transform how businesses engage with customers, identify relevant insights, and improve the customer experience. Some benefits of leveraging AI for customer service include faster response times, 24/7 availability and support, and opportunities to offer tailored solutions based on customers' specific needs.

According to a survey from DialPad of more than 1,000 customer service professionals, almost 60% of respondents believe that AI helps them save time or work faster. On the customer side, a global survey of 3,700 consumers from Zendesk found that 70% of respondents who often interact with customer support believe the use of AI by companies can lead to more personalized and effective experiences.

Common applications of AI in customer service include

- AI-powered chatbots. Chatbots use natural language processing and machine learning to communicate

with customers in real time. Many consumer-facing and business-to-business (B2B) websites and apps across industries incorporate AI-powered chatbots to quickly answer customer questions, offer personalized recommendations, and provide support. Chatbots enable customers to receive assistance without waiting for the next available customer service representative and help businesses save time and resources. When an inquiry requires additional support from a human representative, chatbots can also route customers to the right agent or channel.

IT Operations

In recent years, artificial intelligence has become so prevalent in IT operations that Gartner coined the term "AIOps" to describe the combination of big data, analytics, natural language processing, and machine learning to automate IT operations processes.

AIOps enables IT operations teams to integrate multiple, separate IT operations tools using a centralized platform, which helps businesses more effectively manage an ever-expanding IT landscape. As a result, IT teams can quickly respond to—and even proactively identify—slowdowns and outages, which minimizes disruptions to day-to-day business operations.

Key Benefits of AIOps Include

- Faster response and resolution time for IT tickets, slowdowns, and outages
- Lower operational costs by combining and integrating IT systems and tools.
- Enhanced collaboration and monitoring between DevOps, ITOps, governance, and security functions through integrated tools
- Improved resource allocation by automating manual tasks and enabling IT operations team members to spend time on more complex work
- Capabilities to shift from reactive to predictive IT operations management using predictive analytics

Percentage of Technical Software Being Used in the Company

The Study was conducted on a personal basis. On the basis of reviews of 10 to 20 staff members, the percentage of technology's type being used in management or business

Innovation In Management Business

In the business environment, strategic innovation has taken center stage as a fundamental catalyst for business success. The ever-changing market conditions and the swift progress of technology require companies to perpetually adjust and introduce innovation to stay ahead of the competition. Within this dynamic environment, the domain of innovation provides an expansive and limitless

vista, offering a multitude of prospects that encompass the inception of fresh products and services and the crafting of digital business models. These prospects are virtually boundless, establishing innovation as a foundational element of business strategy.

Creative innovation, characterized by the ability to think outside conventional boundaries and generate new innovative ideas, plays a pivotal role in this landscape. It is the spark that ignites the creation of groundbreaking solutions and fuels the evolution of industries. The significance of creative innovation examples cannot be overstated. They serve as compelling illustrations of how embracing innovation can lead to remarkable success for companies. These real-world instances not only inspire but also provide

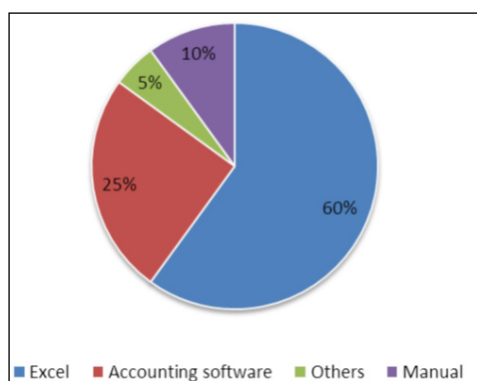


Figure 1. Percentage Of Technical Softwares Being Used In Company

tangible evidence of how innovation can revolutionize entire industries.

Best Innovation Examples in Management

1. Apple Product Innovation
2. Ikea Product Innovation
3. Toyota Product Innovation
4. Tesla Product Innovation
5. Ford Assembly Line Process Innovation Examples. ...
6. Mba Polymers Process Innovation Examples. ...
7. Starbucks Process Innovation Examples. ...
8. Airbnb Business Model Innovation.
9. Mba Chaiwala
10. Burger King And More...

The importance of innovation in management

- It allows for adaptability. The recent COVID-19 pandemic disrupted business on a monumental scale. Routine operations were rendered obsolete over the course of a few months. Many businesses still sustain negative results from this world shift because they've stuck to the status quo. Innovation is often necessary

for companies to adapt to and overcome the challenges of change.

- It fosters growth. Stagnation can be extremely detrimental to your business. Achieving organizational and economic growth through innovation is key to staying afloat in today's highly competitive world.
- It separates businesses from their competition. Most industries are populated with multiple competitors offering similar products or services. Innovation can distinguish your business from others.
- ADAPTABILITY: With the help of innovation techniques, a business can survive in any situation, like Reliance Ltd. It is continuing its activities and surviving in all critical situations, adopting innovations by understanding customers needs and expectations.
- Various innovations can be seen in the reality show "The Shark Tank." They show an ocean of various innovations.

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