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Journal of Management

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About the Journal

The Gavesana Journal of Management is a bi-annual refereed journal of the Vignana Jyothi Institute of Management. Its objective is to disseminate knowledge of contemporary issues related to management and development. The journal seeks to serve as a platform for intellectuals to share the rapid strides made in contemporary research. The Research Journal has been registered with the Registrar of Newspapers for India

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Editorial

I am delighted to present to you the current issue of our journal Volume 17, Issue 2, "Gavesana - The Journal of Management." Like earlier issues, it has been attempted to incorporate articles from almost all emerging domains of Management with focus on contemporary practices/issues. Our effort is to incorporate a balanced approach by considering research papers/articles based on conceptual and empirical studies.

It is generally accepted that instructors in B schools need to conduct rigorous research in addition to providing excellent instruction. The journal is an effort by the institute to encourage the teaching community in B schools to conduct high-calibre research. The goal of this project is to create a collection of highly informative articles covering a range of management topics. It is expected that the publication would help disseminate information about the latest developments in various areas of management education. Everyone agrees that in order to benefit all parties involved in B schools, teachers must continuously participate in high-value research.

Furthermore, we endeavour to include pieces that provide significant insights into pressing issues. An instructive example is the issue of sustainability in all fields, which has attracted the attention of nations worldwide. Researchers believe that subjects such as VUCA world, environmental and ecological balance, and safeguarding the earth are extremely important. Given the significant study in this sector, it is critical to understand the complexity of the subject.

We are willing to include publications containing thorough research in this topic. We want to cover a variety of significant topics in future issues, including inflation, monetary and fiscal policy, human resource management, international finance, and international marketing, among others. As a result, we will work hard to create this journal as a platform for communicating the research undertaken by the intellectual community of academic institutions and corporate world.

This journal was commenced in the year 2009 and due to continuous support of the authors, now it has completed 15 years of its journey. My sincere thanks to all the authors for contributing their scholarly articles. I am very fortunate to have a strong community of Gavesana reviewers, authors, subscribers, and readers without whose continued loyalty to the journal, none of our accomplishments would be possible. We look forward to their continued support and assure that we will continue to strive towards excellence in publishing insightful and meaningful management research.

We look forward to the continued support from all of you.

Prof. (Dr.) Bharat Bhushan Singh

Chief Editor, Gavesana Journal of Management

The Generative AI Imperative for B2B Sales and Competitive Intelligence

Kshemaindra Acharya Phaniharam¹ | Kritika Gupta²

Abstract

The advent of Artificial Intelligence (AI) and Generative AI (GenAI) has started a race of opportunities for organizations across industries and functions. B2B sales and competitive intelligence (CI) travel together and are showing increasing interest in leveraging AI and GenAI to transform their capabilities to gain a competitive edge, enhanced processes, seamless customer experiences and growth. The paper starts by providing the basic understanding of AI, B2B sales and CI as functions and their current state. The article further discusses applications of these technologies across these functions, industry examples and limitations of implementing these technologies within these functions to gain an understanding of optimal implementation approaches. Finally, by collating all the learning and understanding the scenarios, the article provides best practices that organizations can implement to leverage AI and GenAI in their B2B sales and CI functions for strategic advantage.

Key Words: Artificial Intelligence, Generative AI, B2B Sales, Competitive Intelligence, AI in B2B Sales, AI in CI.

Introduction

Artificial Intelligence (AI) has been in discussions for a long time but has taken a center stage across industries and business function in recent years especially with the hype of Generative AI. Where applications of AI are broader in Business to Consumer (B2C) marketing, it is not limited to B2C. AI in B2B sales and competitive intelligence is taking strides as firms look to reap its benefits to gain a competitive edge. Competitive Intelligence (CI) is seen to travel along with the sales function throughout its value chain, aiding right insights at right time. Going deeper into the research reveals the applications of AI and Generative AI in B2B sales and CI, the challenges in adoption and suitable practices to gain success in revolutionizing both the functions. The paper is structured in a manner that provides details into AI implementation in B2B sales and Competitive intelligence individually to cover the function specific aspects and finally tries to provide a set of best practices to implement AI technologies in these functions.

Understanding Key Terms:

Artificial Intelligence (AI): The term Artificial Intelligence was coined by Stanford Professor emeritus John McCarthy in 1955 - 1956, and McCarthy defined it as "the science and engineering of making intelligent machines". Before McCarthy, Alan Turing in 1950 introduced a concept called Imitation game, which is the test of a machine's ability to exhibit intelligent behavior. Mckinsey describes AI as the capacity of a machine to carry out the cognitive processes that we identify with human minds, including perception, reasoning, learning, interaction with the environment, problem-solving, and even creative expression. ("What Is AI (Artificial Intelligence)," 2024). International Organization for Standardization (ISO) defines AI as "a technical and scientific field devoted to the engineered system that generates outputs such as content, forecasts, recommendations or decisions for a given set of human-defined objectives." ("What Is Artificial Intelligence (AI)", 2022.)

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Machine Learning (ML): ML is a subfield of artificial intelligence, which is often understood to be the ability of a machine to mimic intelligent human behavior. Arthur Samuel, known to be a pioneer in the field of AI, described machine learning as "the field of study that gives computers the ability to learn without explicitly being programmed" in the 1950s. ("Machine Learning, Explained | MIT Sloan," 2021). Machine learning is used to make predictions or classification of data based on input data, which generates an estimate or pattern with respect to the data. ("What is machine learning (ML)", IBM)

Natural Language Processing (NLP): NLP is a machine learning technology that enables computers to interpret, manipulate, and comprehend human language. Organizations use NLP to automatically process a wide range of voice and text data such as emails, text messages, social media newsfeeds, video, audio, and more and analyze the sentiments in the messaging, and provide real time responses. ("What is Natural Language Processing (NLP)" AWS)

Large Language Models (LLM): LLMs are a type of foundation models that are trained on large amounts of data giving them the ability to understand and generate natural language and other types of content to perform a range of tasks. LLMs have been crucial in bringing Generative AI to the forefront and also became an aspect which organizations are focusing on adopting artificial intelligence across numerous business functions and use cases. ("What are Large Language Models (LLMs)", IBM)

Generative AI: While AI is not a new term and the world has already seen many use cases of it, Generative AI can be seen fairly new for many. Generative AI can be viewed as a machine learning model that is trained to produce new data instead of making predictions about a specific dataset. It learns to generate more objects that resemble the data that it was provided or trained on. ("Explained: Generative AI," 2023). For example, It can learn English vocabulary, grammar and ways of writing poems and generate a new poem according to the user's inputs.

Evolution of AI (Mckinsey) The evolution of artificial intelligence

| engineering of making intelligent | Machine learning A major | | |
|---|--|---|---|
| machines | breakthrough in achieving Al | Deep learning An advanced branch of machine learning | Generative Al An advanced branch of deep learning |
| Al is the broad field of developing machines that can replicate human behavior, including tasks related to perceiving, reasoning, learning, and problem-solving. | Machine learning algorithms detect patterns in large data sets and learn to make predictions by processing data, rather than by receiving explicit programming instructions. | Deep learning uses neural networks, inspired by the ways neurons interact in the human brain, to ingest data and process it through multiple iterations that learn increasingly complex features of the data and make increasingly sophisticated predictions. | Generative AI is a branch of deep learning that uses exceptionally large neural networks called large language models (with hundreds of billions of neurons) that can learn especially abstract patterns. Language models applied to interpret and create text, video, images, and data are known as generative A |

(Source: What is AI (artificial intelligence), McKinsey https://www.mckinsey.com/featured-insights/mckinsey-explainers/what-is-ai)

Figure 1: Evolution of AI, Mckinsey & Company

AI and GenAI in B2B Sales

Business to Business (B2B) Sales: A B2B sales process involves selling goods or services by one business to another, generally with longer sales cycles and involving multiple stakeholders. According to Mckinsey, Generative AI is set to improve productivity in sales through automation, identify new growth areas and fundamentally change the sales organization by bringing in a mix of human and machine interactions to boost customer engagement (Yee et al., 2024). AI is set to optimize non value adding activities that amount to about two thirds of time and enable sales teams to focus on core activities. From planning, lead management and quotation to post sales support, AI is being leveraged to automate tasks. (Cencioni et al., 2024).

Generative AI to be specific is expected to transform B2B sales (D'Angelo et al, 2023) by providing a 2X increase in number of leads generated, 30% boost in lead management capacity, 5x improvement in Go-to-Market time, 2x improvement in productivity, 2x increase in cross-selling and up-selling rate and an overall 50% push in lead to sale conversation rate.

Streamlined Sales: AI greatly increases sales operations' efficiency. Sales teams can concentrate on more strategic elements by automating repetitive operations. This results in lower operating expenses and increased production. Chat bots and virtual assistants driven by AI are becoming crucial for providing round-the-clock, immediate customer service. These Generative AI tools effectively respond to queries. They free up human resources for more difficult jobs and contribute to increased customer satisfaction.

Personalizing Customer Experiences: Al's capacity to provide individualized consumer experience is among its most noteworthy advantages in business-to-business sales. It facilitates comprehension of the preferences and customer behaviors. Sales teams can enhance their personalized messaging and approaches by leveraging data analytics. Further, Customer relationship management (CRM) is being revolutionized by AI-powered CRM platforms which offer comprehensive information into interactions with customers. These systems use consumer data analysis to provide tailored plans and recommendations helping increase client loyalty and involvement.

Data-Driven Decision Making: AI enables B2B sales team's data-driven insights that are essential for well-informed decision-making. AI's analytical capabilities, which range from spotting industry trends to anticipating client demands, help sales teams ensure that their sales tactics are in line with current information and projections. Businesses leverage predictive analytics to examine market trends and historical data. As a result, it forecasts future consumer preferences and behaviors. This insight makes it easier to modify sales strategies to satisfy changing consumer needs. AI enablesthe creation of dynamic pricing methods as well by making optimal recommendations through current market conditions. It will maximize profits while assisting companies in maintaining their competitiveness.

Enhanced Lead Management: In sales, effective lead management is crucial, and AI is gaining traction in it. AI systems can identify leads that have a higher chance of conversion by examining consumer data and behavioral patterns. This ensures that sales campaigns are focused and have a higher conversion rate.

AI revolutionizes lead generation by more accurately detecting possible leads. It helps maximize the utilization of resources and efforts of the sales staff.

AI/GenAI across Stages of B2B Sales

According to a BCG study, over 70% of sales executives intend to make investments in GenAI. Additionally, Salesforce reports that nearly 70% of tech executives have made GenAI a top priority for the upcoming 18 months. (Andersen et al., 2024).

Prepping for Contact: A salesperson can leverage AI to analyze different factors such as company size, industry, existing or engagement history to qualify the most promising leads from a list of qualified leads. Further to create a compelling pitch, an AI driven CRM can help combine external and internal data which enables salespersons to understand the current strategic path of the qualified prospect with potential pain points that can be addressed. GenAI powered assistants can help draft an email for the meeting including all the necessary elements ranging from objectives of meet to product or service offerings by using the information gathered. In terms of Request for Proposal (RFP), Sales assistants can help in creating RFPs and also measure winning RFPs.

During Contact: B2B firms are deploying conversation intelligence that understands speech and text communication across CRM, emails and call logs and acts as virtual agents to interact with customers at the initial point of contact. This helps in directing the customer to the right salesperson within the sales organization. It can further suggest follow up measures to monitor the progress of the opportunity. During contact such as meetings, the tools make notes allowing sellers to focus on fruitful interactions. AI tools can also listen to the conversation and provide prompts with the most suitable recommendations during the meeting also. These tools are now capable of analyzing facial expressions, tone of voice and behaviors to analyze the interest of prospect throughout the meeting and suggest improvements in the interactions in real-time.

Post Contact: Once an initial contact is complete, it can provide the summaries and generate thank you emails based on conversation and recommend the salesperson with the next best area to address in further communications. By listening to hours of call recordings, AI tools can identify areas of improvement and act as coaching assistants for sales managers.

Industry Use Cases – AI in B2B Sales

Capgemini: The French IT multinational wanted an AI Sales solution to deploy a dynamic Sales approach across their 39 product lines and 122 offerings. For this, it leveraged Aptivio's Buyer Intent AI platform which enabled them with advanced insights into online behavior of prospects at every stage, accurate buyer identification, their intent and contact resolution, integrate capabilities into their existing CRM and marketing automation tools. This led to a 40% increase in the number of sales ready opportunities, detection of 28K pre-qualified opportunities, 40& more high intent leads and 4.8X increase in marketing qualified leads. ("AI Powered Revenue Growth | Capgemini Case Study,")

6sense: 6sense, a 2X partner leveraged Gen AI driven conversational email solution for their email writing and prospect communication process. This contributed to a 10% new pipeline generation from marketing engaged accounts which is a meaningful output for a SaaS based company. (Iyer, 2023)

FullCircl: This UK-based software provider wanted to showcase its AI driven analytical program when they reached out to prospects. FullCircl worked with Volume to a conversational AI platform that could be trained to learn quickly and provide detailed responses by leveraging user data collated from interactions with prospects leading to detailed reports for the sales teams. (Ryan, 2023)

Martal Group: This group is a fully managed lead generation service provider to B2B organizations. Prospecting outreach has seen changes since COVID-19 AND Martal quickly adopted an account-based marketing approach and managed its time, budget and toolset. For this, they deployed 6sense Revenue AI for sales to use psychographic capabilities to understand buyers' mindsets and values, reaching warmer prospects faster leading to a near 762% growth for Martal group. ("Martal Group Sharpens Their 'Competitive Ax' with 6sense's Psychographic Data,".)

Ingeniux: This content management and experience platform for .NET organizations wanted to find firms looking for a complete content infrastructure revamp. Ingeniux shifted focus to marketing qualified accounts, and they have implemented 6sense Revenue AI, a sales intelligence tool which identified the most suitable accounts. This generated a \$1 billion plus revenue pipeline opportunities, 60% plus email open rates and doubled the sales development accounts. ("A Collection of B2B Sales Case Studies | 6sense")

Challenges and Limitations of Implementing AI/GenAI in B2B Sales

Data Privacy and Security: One of the most significant challenges in AI integration is data privacy and security and need to ensure compliance to regulations like GDPR and internal confidential data that AI systems depend on to operate. To properly use GenAI, high-quality data must be ensured, which calls for a large investment in data management and control.

Integration across Sales Organization: Integration of AI tools with existing systems becomes more complex and a burden especially when there are legacy systems and how they communicate with the AI tools. As AI's revolutionary impact spreads beyond the limits of current platforms and crosses functional boundaries, companies must develop or modify their technology architecture to prevent the development of new technological silos.

The Human Touch: The difficulty is striking a balance between automation and human engagement such that technology complements rather than takes the place of the complex, relationship-based elements of sales. Maintaining rapport and trust with clients—two essential elements of effective B2B sales—requires striking this equilibrium.

Managing Reliability and Transparency: The fact that Generative AI can hallucinate and potential for biased outputs based on historical data cannot be ignored. Few GenAI models do pose the risk of having a risk of lack of transparency in decision making process which is a concern for all stakeholders. For this, Human review and approval cannot be replaced. The system must be consistent and reliable in its outputs and also inform on how a conclusion is made. The adoption of methods for bias detection and correction, continuous vigilance, and transparent AI design and deployment processes are all necessary to address AI bias. In addition to safeguarding against prejudice, ethical AI use in B2B sales guarantees that AI-driven solutions function justly and equitably.

Talent Debt: Talent and skill gap in the workforce becomes a growing issue and companies need to enable comprehensive training covering technological, cultural and regulatory aspects for effective and efficient use of AI.

Future of AI/GenAI in B2B Sales

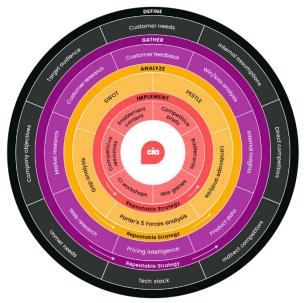
BCG provided perspective on the future of B2B sales being driven by AI. (Boston Consulting Group, 2024)

- Autonomous sales agents that take ownership of the sales process from acquisition through support enabling personalized selling at scale.
- Sales teams get augmented by GenAI team members, such as intelligent sales assistants, which provide
 personalized scripts and customer insights or virtual solution engineers that navigate complex portfolios
 and customizations.
- More transactional duties are being handled by virtual sales assistants, which eliminates the need for human involvement in routine transactions and frees up time for relationship and strategic selling.
- Predictive selling with automated, real-time analytics and coaching fully integrated into sales tools that help agents in selling to the right customer at the right time with the right offer and pricing.
- The majority of sales activities, including targeting, lead scoring and nurturing, and forecasting, are managed by fully automated AI systems that decrease errors and boost productivity.
- Step changes in seller performance, a shorter ramp-up time, and the adoption of best practices in daily operations are all made possible by AI-powered coaching and scenario-based learning that is grounded in real-world insights from regular sales encounters.

Competitive Intelligence

Competitive intelligence (CI) is the process of gathering, analysing, and utilizing data about competitors, market trends, and industry dynamics. (Hover, 2024) CI can offer significant benefits for businesses by enabling them to anticipate competitors' moves, refine marketing strategies, and understand customer expectations. By analysing competitors' actions—such as their marketing approaches and customer feedback/ preferences companies can identify successful tactics to emulate to enhance their competitive edge. ("Competitive Intelligence for B2B Businesses | Infosys BPM", 2020)

Competitive Intelligence Framework



(Source: The competitive intelligence framework by CIA Walton, A. (2024, August 5). The Competitive Intelligence Framework. Retrieved from https://www.competitiveintelligence-intelligence-framework/)

Figure 2: Competitive Intelligence Framework, Competitive Intelligence Alliance

State of Competitive Intelligence

The state of CI is evolving rapidly, as businesses are recognizing its vital role in navigating competition. CI is becoming essential to business strategy, emphasizing data-driven decision-making, proactive market analysis, and effective technology use. Organizations that prioritize CI are better equipped to adapt, innovate, and succeed in a competitive landscape.

According to Competitive Intelligence Alliance, CI teams need to deal with their team size and budgets to efficiency and keep up with the ever-changing technological advancements to enable their firms in designing strategies. (Walton, 2024)

Small CI Teams: Competitive intelligence teams are typically small, even in large organizations and it limits the breadth and depth of analysis that can be conducted. With fewer team members, the workload becomes overwhelming, leading to valuable insights being overlooked. The potential for CI professionals to contribute strategically is high, but the constraints of a small team can hinder their effectiveness and impact on the organization.

Limited Budgets: Securing funding for CI initiatives is a common struggle. Budget constraints restrict the ability to expand teams or invest in advanced tools. Demonstrating the ROI of CI programs is challenging, making it harder to justify increased investment.

Data Overload: The volume of data available today is unprecedented, making it difficult for CI teams to manage and analyze effectively. As competition intensifies, stakeholders expect deeper insights. Without effective data management strategies, important trends and opportunities may be missed.

Efficiency in Processes: Many CI tasks can involve necessary but time-consuming work, such as formatting reports or creating enablement content. Finding ways to streamline these processes is essential for maximizing productivity.

A study of 700+ CI professionals by crayon has revealed several challenges that CI teams face (Lahar, 2024)

- 78% percent of CI professionals support sales teams with battle cards for sales teams
- 58% percent of CI professionals struggle with keeping CI content updated, as well as the gathering of competitive intelligence in a timely manner is also a big hurdle for them.
- 40% of CI leaders also shared that centralizing and organizing competitive intel and 48% find it difficult to separate signal from noise to find actionable insights.
- For the typical software company, 65% of sales opportunities are competitive. Most CI leaders recognize the importance of competitive enablement, with 86% providing their sales representatives with CI to help close deals.
- Despite acknowledging the growing competitiveness of the market, companies rate their sales teams' effectiveness in handling competitive opportunities at just 59 out of 100, indicating that more work is needed to support teams in winning competitive deals.

AI and GenAI in Competitive Intelligence

AI is gaining traction in competitive analysis to provide strategic insights. (Takyar, 2024). AI when integrated with CI can make it more efficient and effective by automating the process and extracting multisource data for actionable insights and monitoring of real-time market dynamics. Generative AI is rapidly becoming a key driver of innovation and disruption; with CI professionals enthusiastically examining its potential to improve their efforts. AI/Gen AI can significantly CI efforts across various tasks. (Walton, 2024)

Automation: AI tools can integrate seamlessly with everyday applications, allowing for the automation of tasks like data collection and reporting processes minimizing errors. AI can continuously monitor the market and competitor activities and perform the SWOT analysis, providing real-time insights into strengths, weaknesses, opportunities, and threats. This capability enables businesses to swiftly adjust their strategies in response to shifts in the competitive landscape.

Data Processing, Summarization, Analysis and Decision Support: AI excels at ingesting and processing large volumes of data quickly. For example, when faced with a new report or a lengthy document, users can upload it to an AI tool and request summary or specific insights. AI can also assist in scenario planning and decision-making by simulating the potential outcomes of various competitive strategies.

Data Visualization and Reporting: AI tools can not only analyze data but also create visual representations of it. This includes identifying correlations and trends within datasets. By using custom AI models, users can request visualizations that clearly depict the findings. Advanced Natural Language Generation (NLG) can enable AI to create insightful reports and presentations from analyzed data, facilitating easier comprehension of complex information for decision-makers and allowing them to make informed strategic choices swiftly.

Market Monitoring and Segmentation: AI can provide real-time monitoring of various data sources, such as news articles, financial reports, and social media to alert about new developments, competitor announcements and social media performance, shifts in sentiment, or product launches in the market. AI can also enable businesses to effectively identify and segment their target audience by analyzing consumer behavior, preferences, and purchasing patterns. This allows for the customization of marketing strategies and product offerings to better align with customer needs.

Sentiment Analysis: Using natural language processing (NLP), AI can evaluate customer opinions and sentiments towards the brand and competitors. This analysis can provide insights into how the target audience perceives different companies in the market.

Product and Pricing Analysis: AI can aggregate and analyze various data points related to market demands, competitors' products and pricing strategies to recommend new product features or improvements. By examining promotional materials, pricing data, and social media activity, AI can provide valuable insights that help shape competitive strategies. This alignment with market needs ensures that product development stays ahead of competitors who may not leverage similar insights.

Brand Monitoring: AI can track online mentions, reviews, and social media discussions related to competitors' brands. This monitoring can provide valuable insights into brand perception, customer

satisfaction, and potential areas for improvement.

Predictive Intelligence: Using AI predictive analytics, CI users can analyze historical data and provide suggestions on future market and competitor actions allowing for strategic adjustments such as a GenAI system could help in preparing a response to competitor's action such as a probable new service by analyzing their patent filings, R&D investments and market behavior. (Santilli, P., 2024) Crayon study has shown integration of AI in CI (Lahar, 2024)

- 25% of CI leaders already use AI tools.
- 81% percent of CI professionals are either using AI now or plan to do so soon.
- 47% say they started using it at work within the past year.
- Among those who have integrated AI into their workflows,
 - o 86% utilize it at least weekly and 48% use it daily.
 - o 67% use it to summarize content related to competitors with key takeaways.
 - o 56% use it to improve writing.
 - o 50% use it to collect competitive intelligence.

Industry Use Cases – AI in Competitive Intelligence

Syngenta: The CI team of this B2B agriculture-tech company wanted to provide meaningful insights to their 2000+ stakeholders. The task was time consuming and posed difficulties in gleaning insights and creating visualizations. They deployed an AI tool to collect, filter and visualize critical information while the domain experts contextualized insights that needed immediate attention. This resulted in a 174% increase in content user subscriptions, improved collaboration and 34% increase in active users. (Hover, 2023)

A Fortune 500 global technology company: It was struggling with a lengthy, manual market research process that took up to 72 hours, resulting in inconsistent insights and strained employee resources. To address this, they partnered with Enquero which developed a robust platform on Google Cloud that automated data monitoring, collection, and analysis. As a result, the research process was reduced to just 3 hours, reducing manual effort by 96%. With improved insights into customer satisfaction and competitor positioning, the company could effectively identify up selling opportunities and streamline its sales strategies. (Genpact, 2023)

Podium: The software solution company for small businesses, sought to enhance its competitive intelligence amid the challenges of tracking competitor activities like product announcements and website updates. To address these needs, they partnered with Kompyte, leveraging its automatic real-time competitor tracking powered by AI. This solution not only provided Podium with timely insights but also generated over 75 up to date Battle cards for 60 competitors and reports that were accessible to all teams, including sales, product, and marketing. This significantly streamlined their competitive analysis, enabling Podium to effectively position its products in a rapidly changing market. ("How Podium Is Able to Track 60 Competitors and Deliver Over 75 Batttlecards with Kompyte | Kompyte,".)

Appgate: This secure access solutions provider faced challenges in differentiating itself in a crowded market due to a lack of CI programs. They implemented Kompyte's AI-driven CI automation for a

streamlined platform that provided centralized and comprehensive insights across various digital channels; enhanced alignment between sales and marketing teams; in-depth analysis of their performance against competitors. As a result, Appgate is now empowered to make informed decisions swiftly, improving sales training and boosting overall business outcomes. ("How Appgate Scaled and Differentiated Its Marketing Strategy by Automating Competitive Intelligence | Kompyte,".)

Limitations implementing AI/GenAI tools in CI

Not all tools serve end to end requirements and not all tools are perfect too. It takes time for AI tools to learn, and CI teams have to adjust actions as it learns, and they should remember that it can neither provide context nor execute strategy and needs human perspectives while time tests the shortcomings of current AI tools. ("The Ultimate Guide to Integrating AI into CI Programs | Evalueserve Inc".)

Hallucinations: Hallucinations are one of the most crucial limitations of GenAI. They occur when AI generates inaccurate or fabricated information, particularly when prompted to think, speculate, or predict. AI creativity relies on its training data, the patterns, styles, and structures and degree of randomness introduced. When asked to think independently, the AI could stray from its training data into a less certain territory, using randomness to generate speculative responses, which may lead to confusion between innovation and factual inaccuracy. Such limitations are especially critical when users ask AI to predict future trends in competitive landscapes or conduct analyses of competitors where vetted data is very crucial for confidence in the conclusions. With predictions GenAI also struggles with true comprehension, which may hinder its ability to grasp context and subtle nuances in the information it produces. This limitation can lead to miscommunication, ultimately diminishing the value of the intelligence gathered. (Walton, 2024)

Misinterpretation Risks: Although GenAI can create coherent responses, it's also prone to generate inaccurate information based on its understanding also, potentially jeopardizing a company's decision-making process. Even small amounts of inaccurate information can significantly impact the model's reliability. For example, The GPT-4 version accessible via the user interface has a training cutoff in April 2023, which may be concerning in a field like CI that requires up-to-date information. However, through its browser functionality, the user can research on a particular topic and fetch the recent data by providing additional context without changing the model's core.

Data Privacy and Security Concerns: The effectiveness of a Large Language Model (LLM) totally relies on the quality of its training data. Specialized datasets can enhance the model's performance, providing a competitive edge. So, it makes sense to supply LLM with exclusive data that isn't widely available, whether for context or to fine-tune its performance for specific tasks including the information about the user's market, business, and customers. While this data can improve the LLM's relevance and accuracy, it's crucial to navigate the associated risks carefully as it may raise significant privacy and security concerns. Gathering ethical, impartial, and unbiased data is crucial for accurately interpreting information from diverse sources using artificial intelligence. However, AI may introduce biases as it fails to differentiate between essential and sensitive information, leading to a skewed perspective and compromising the impartiality of the analysis.

The Depth Problem: The "depth problem" in GenAI refers to its inability to go deep enough into specific issues to provide genuinely useful responses (Walton, 2024). This can be solved through –

- **Pre-Trained Models**: Using a pre-trained model like ChatGPT, that has been trained on an extensive set of text data. A larger dataset can enhance the depth and utility of responses but concerns about data privacy may limit this option.
- **Subject- Matter Experts**: Asking trained experts who can formulate the right questions with enough prompt training to guide the AI for more meaningful outputs, even with less sophisticated models. However, this approach also faces privacy concerns.
- **Integrations or Purpose-Built Agents**: Utilizing integrations or specialized GenAI agents to extend the capabilities of pre-trained models. Alternatively, running an instance of the LLM on a secure server or using synthetic data can protect intellectual property, but these options are complex and costly.

The collaboration between AI and human expertise emerges as a strategic advantage in competitive intelligence. It is a continuous process that requires extensive research and analysis to uncover detailed insights with a nuanced understanding of what information is important, hinges on deep market knowledge and familiarity with competitors.

While AI excels at processing large datasets and identifying patterns, human analysts can provide invaluable context, spot misleading information, and interpret subtle market cues. Their intuition and experience can enable informed decision-making that surpasses AI's capabilities, especially in complex situations. Human oversight is crucial for ensuring responsible use of insights, adding necessary judgment to mitigate the risks of unchecked automation. Ultimately, this partnership can enhance the capabilities of both AI and human analysts, significantly elevating competitive intelligence. (How To Use Generative AI & Competitive Intelligence to Gain an Edge | Watch My Competitor)

Inference

Looking at the applications, industry use cases, challenges and prospective future, one can map the crucial aspects and aim to design optimal approaches for successful adoption of AI into B2B sales. However, one solution or approach might not fit all the organizations in the same way. By utilizing a mix of approaches and suggestions from strategic consulting players, research firms and successful use cases, commonly applicable approaches to implement in B2B sales and CI functions can be inferred and compiled to enable B2B firms.

Approaches for Successful implementation of AI in B2B Sales and CI

Vision and Objective: A clearly defined business objective and value levers such as productivity gains, cost reductions and revenue growth which also capture success metrics are essential to start the adoption and transformation process. These specifics could differ from organization to another. However, it should be a human centric approach to augment sales and CI teams without displacing human capabilities. This vision should have visible support from the leadership to enable momentum and catalyze change with minimal friction.

Communicate the Why Clearly: Any change can cause panic among the teams. Organizations should ensure that the reason for change, how and why it creates value is clearly communicated across the teams. The crucial element is creating experiences that are intuitive, seamless and consistent to both internal and external stakeholders.

The Optimal Use Cases: Prioritizing the right use cases by identifying the most valuable one to push the journey ahead and setting up detailed action plans to capture them is important. To identify the right use cases, one should understand the right mix of AI and GenAI that gives maximum output, understand existing models and develop or procure new ones as needed. This can be done by considering which the right fit is and at what cost and efforts make it possible.

Data collection and Processing: To optimize data collection and processing, organizations should begin by identifying relevant data sources. Automating data collection with AI-powered tools like web scrapers, APIs, and data mining algorithms ensures efficiency. Preprocessing the data involves cleaning it by removing duplicates, addressing missing values, and correcting inconsistencies, followed by structuring it for easier analysis. Additionally, implementing a robust data governance strategy with clear data ownership, lineage, and quality metrics is essential to maintain reliable and compliant data, ultimately enhancing the effectiveness of AI-driven competitive intelligence efforts.

Reshaping Functions: An AI ambition comes to life when sales function analyzes how it should use the AI tools to change the operating model, user experiences and customer touchpoints. Sales leaders must consider what AI tools, data layers and governance measures are needed to enable the required change and reshape their function. To leverage AI-driven insights and operations effectively, breaking down silos through cross-functional collaboration is essential. By encouraging knowledge sharing among diverse teams, organizations can enrich AI analyses with multiple perspectives, leading to more benefit. This collaboration accelerates time-to-insight, enabling stakeholders to access crucial data swiftly. Quick information sharing is vital for responding to market trends identified by AI, giving companies a competitive edge. Additionally, involving AI service providers such as data scientists and consultants can also prove beneficial.

Tech Stack Analysis: Organizations should identify how mature their tech stack is, what legacy systems exist and where the technical debt is. This will help them understand the capabilities they need to gain to support their choice of GenAI adoption. The road map to develop these capabilities should enable sustainable transformation whilst seamlessly integrating into retained and new adopted applications. Then the final tech stack must fit into the overall architecture and strategy of the business. To effectively select AI tools organizations should first define their specific requirements. Then Benchmarking of tools should be done to assess their performance based on metrics like ease of integration and data accuracy. By systematically evaluating tools against defined goals and metrics, businesses can ensure they choose the right AI solutions that deliver the best return on investment. Organizations can either go for build or buy, considering the trade-offs between custom solutions and off-the-shelf products. Integration of AI-powered tools with existing systems is also an important consideration to enable businesses for seamless data exchange and ensure compatibility with other platforms. Continuous testing, monitoring, optimization and validation of AI tools over time will ensure accuracy, relevance, and efficiency.

Building Trust: Large data including personal, organizational and customer sensitive information is gleaned by AI models which raise privacy concerns, and it becomes more crucial since each country has their own set of laws. The source of information becomes crucial as the AI might be capturing data from publicly available information which poses a risk of biased or hallucinations in outputs. B2B organizations face a risk of such sensitive information being leaked or risk of inaccurate insights into their sales team or responses to their customers. Organizations should understand the laws of the land to avoid potential legal penalties in uneventful non-compliance and damage brand reputation. A set of contracts, cyber security technology and privacy controls to enable data masking, zero retention and secured data processing and retrieval with clear audit trails need to be deployed. They can develop proofs of concept by considering the principles of responsible AI to validate, test and monitor the implications to manage course corrections.

Human-AI collaboration: Approach of keeping humans in the loop leverages human industry experience, intuition, and ethical considerations alongside AI's computational speed. Rather than replacing humans, AI should enhance their work. To achieve this, training is crucial; people must learn to interpret AI outputs and understand their limitations. Striking a balance involves defining clear roles, where humans focus on tasks requiring emotional intelligence and creativity, while AI handles data-intensive, repetitive tasks. This synergy maximizes the effectiveness of both human intelligence and AI capabilities.

Enable and Nurture Workforce: B2B organizations should focus on creating excitement about the adoption and encourage team participation while incentivizing adoption at both team and individual level. Organizational, tram and personalized change management plans should be put in place with culture, upskilling, training and coaching being at the core. Comprehensive workforce plans can help identify and close talent debt while providing opportunity to track usability and adoption and make optimal responsive adjustments that can drive change and sustain that.

Continuous Learning: Adopting a continuous learning approach for both AI tools and employees is vital for staying agile in a changing market. Provide regular training to empower employees in making data-driven decisions and encourage experimentation with AI tools. For AI systems, continuous learning enhances efficiency as algorithms improve with new data. Implementing reinforcement learning can optimize decision-making through trial and error. Establish version control to manage updates to AI models and ensure smooth transitions as market conditions change. Integrate automated feedback loops to help AI learn from mistakes and regularly monitor performance metrics to detect and address any anomalies. This culture of continuous learning maximizes the effectiveness of AI-driven competitive intelligence systems.

Measuring success and ROI: Defining key performance indicators (KPIs) that reflect business objectives, such as speed of insight delivery, sales growth, conversion rate, prediction accuracy, cost savings etc. from automation is crucial. Regular monitoring and benchmarking against industry standards are essential to assess performance and identify areas for improvement. Calculating ROI can be complex but is crucial; by comparing pre- and post-AI integration KPIs, businesses can evaluate the added value and make necessary adjustments to enhance future CI and sales strategies. Collection of feedback from stakeholders and endusers shall be done to identify the areas for enhancement. Then these inputs can be used to refine and reiterate the AI models and analysis processes, ensuring ongoing improvement and relevance.

Conclusion

The potential of AI and Generative AI applications in B2B sales and Competitive intelligence is not a future prospect but rather mandatory implementation that is already happening now. Leveraging AI in these functions points to efficiency and effectiveness and more strategic insights leading to an overall improvement in growth and customer experience. These technologies are still growing and evolving, and better approaches and optimal methods will be learnt by organizations as they develop and integrate them within their ecosystem. Organizations can slowly but steadily navigate the adoption challenges and move from proofs of concept to return on investment initiatives. The path towards successful AI integration and augmentation is indeed meticulous but holds the promise of significant market competitiveness in this age of rapid technological advancements.

Limitations

The research is limited to secondary research, domain knowledge and is reliant on published works in the

area. The practices or suggestions provided are from theoretical learning or from successful cases. Further studies and research should be done as the adoption and user perceptions grow along with the growth of Artificial Intelligence which can lead to diverse primary research from various industries.

Annexure

Figure 1: Evolution of AI, Mckinsey & Company

Figure 2: Competitive Intelligence Framework, Competitive Intelligence Alliance

Declaration

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Artificial Intelligence in Talent Acquisition and Recruitment and its Impact: Insurance Sector

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ABSTRACT

The research focuses on human resource experts' observations of the adoption of artificial intelligence in the hiring and selection process of the Indian insurance sector. The problem discussed here is understanding the impact of such technology, which is unclear in previous studies, and finding ethical counteraccusations of using AI in reclamation. It emphasizes how artificial intelligence will help recruitment and talent acquisition in insurance and the various advantages, impacts, and ethical concerns of using technology in the insurance sector. The work uses NLP to analyse the comments, classify them into different sentiments, build a word cloud, and visualize the processed comments. Other statistical tools have been used to test the various hypotheses created around research objectives. The encouraging results provide solid ground for leveraging AI in the insurance sector's talent acquisition and recruitment processes.

Keywords: Artificial Intelligence, Recruitment, Talent Management, Talent Acquisition

INTRODUCTION

In this dynamic digital era, business has transformed significantly to stay competitive. Artificial intelligence, with its transformative power, has shown remarkable effects in various fields. AI, a technology encompassing natural intelligence (unsupervised machine learning technique), combines algorithms and robust datasets to solve problems. Its potential in recruitment is inspiring and holds promise for the future of the insurance sector.

As change becomes inevitable, management has also recognized the power of AI to gain a competitive edge in this dynamic environment. This recognition has led to a fundamental shift in work dynamics and a complete transformation of traditional business models. Like many others, the insurance sector is grappling with talent acquisition and retention challenges. These challenges are further complicated by the need for specialized skills, a deep understanding of evolving regulatory landscapes, and the necessity to provide exceptional customer service in an increasingly competitive market. In this context, AI has emerged as a vital tool, offering a reassuring glimpse into the future of the insurance sector and its potential to revolutionize human resource practices (Akkor et al., 2020).

AI technologies have reshaped fundamental HR functions, including recruitment, candidate screening, selection, and talent acquisition. These functions enhance effective decision-making and provide data-driven insights to management, allowing organizations to achieve operational excellence.

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Facts have revealed that the value of worldwide AI recruitment is expected to rise from \$ 610.3 million to USD 890.5 million in 2028, a compound annual growth rate of almost 6.5%

This exploration assesses the influence of Artificial Intelligence on gift accession and reclamation in the insurance sector. Specifically, the study will probe the use of AI-grounded reclamation tools, their effectiveness, and the challenges associated with their relinquishment.

Balasubramanian et al. state that AI and its technologies will have a significant impact on every aspect of the insurance industry, right from underwriting, various functions of insurance, process, procedure, and pricing to claims by 2030.

Eventually, the study will examine the counteraccusations of AI relinquishment for HR professionals and the future of gift accession .in the insurance sector. The findings of this study will give precious perceptivity to insurance companies looking to optimize their reclamation processes using AI and facilitate their overall HR performance.

The study (Khan et al., 2024) depicts that AI-powered technologies will significantly augment efficiency, experience, and decision-making processes across HR functions, thus contributing to overall organizational growth and success.

Like other sectors, the insurance sector adopts artificial intelligence (AI) technologies more extensively; this allows insurance companies to respond to customers' needs and add more value at every stage, from customers to employees and all the processes (Erem et al.,2022).

Talent acquisition and recruitment form the bedrock of organizational success, pivotal in identifying, attracting, and onboarding skilled individuals to contribute to a company's growth. In recent years, the integration of Artificial Intelligence (AI) has revolutionized these practices, streamlining and enhancing various aspects of talent acquisition. AI in talent acquisition involves leveraging advanced algorithms and machine learning to sift through vast data pools, identifying top candidates more efficiently and effectively than traditional methods.

Similarly, artificial intelligence is vital in automating repetitive work in the recruitment process. This enables human resource executives to emphasize the planned decision-making process and relationship-building.

As businesses increasingly recognize the value of AI in improving the speed and accuracy of talent-related decisions, these technologies have become indispensable tools in the competitive realm of talent acquisition and recruitment.

In the insurance sector, the influence of technology like artificial Intelligence recruitment and acquisition of talent among employees is particularly noteworthy. With the intricate nature of the insurance industry and the growing demand for specialized skills, AI catalyses innovation in hiring practices. By leveraging AI algorithms, insurance companies can analyse vast datasets to identify candidates with specific skills and

experiences tailored to the unique demands of the sector. This not only accelerates the recruitment process but also ensures a more precise match between the candidate's capabilities and the intricacies of the insurance landscape. From assessing risk profiles to improving customer engagement, applying technology while recruiting and acquiring talents within the insurance sector goes beyond traditional hiring methods, promising a more strategic and informed approach to building a workforce equipped for the challenges of the digital age.

REVIEW OF LITERATURE

Mukherjee and Krishnan, 2022 studied the influence of Artificial Intelligence support in the hiring and process of selection in the organization. This new approach and system challenge the organization management process, highlighting how some AI recruitment tools may be unable to evaluate candidates based on their critical soft skills. Second, because of their limited budgets, small and medium-sized businesses cannot afford it. Positive changes have been observed in the hiring managers' and job candidates' experiences. Nevertheless, some aspects of the hiring process, such as the soft skills required of higher age groups, are still beyond the reach of AI.

Chauhan et al., 2021 explored the effect of technology, specifically artificial intelligence, in acquiring employee talents and their scope in India. The study had a sample size of 40. AI has shown the capability to perform mundane tasks, which will be more effective and precise than the employees. Its adaptability in hiring could increase the value of jobs.

Johnson et al., 2020 deliberated on the importance and significance of e-HRM and artificial intelligence in acquiring talent across the organization as per their requirements. To explore how e-recruiting and e-selection help organizations improve selection outcomes. The study highlights that although e-HRM and AI will have much potential to revolutionize hiring and selection processes in the hospitality and tourist sectors, steps must be taken to guarantee that employee decisions will improve organizational and individual results.

Kajwang, B. 2022 depicted that using AI methodologies and technologies in different insurance operations enhances their efficacy.

Pandita's 2019 study focused on digital hiring and its importance in Organizations. This study examines the importance of acquiring talents across the organization, an essential element of the HR function, and its progression over the years. The paper conducts extensive reviews based on the published evidence on how the technology will play a vital role in acquiring talents, explicitly studying the HR methodologies adopted by the existing employers. The benefits and impact of making talent acquisition digital are explored indepth, and the paper unites the concepts of digitization and talent acquisition to arrive at effective decisions for human resources.

Khan, 2022, explored the applicability of artificial intelligence in improving the talent acquisition process and depicted that technological, organizational, and environmental aspects positively and strongly impacted organizational growth. The overall results of the research favor enhancing talent acquisition procedures with artificial intelligence. Furthermore, the study indicates that utilizing artificial intelligence can improve talent acquisition procedures in a versatile and economical manner.

Naidu, 2019 studied the various tools and technologies of talent acquisition, strategies, and methods utilized by South African companies, particularly those in the insurance sector. The study also aims to study and explore the most effective methods for hiring and selecting talent. It was discovered that several criteria, including seniority, cost, and the ease with which talent may be accessed through current channels, influence talent acquisition. Organizations are impacted by these elements both favorably and unfavorably as they adapt to the demands of the digital age. Talent acquisition best practices must align with organizational principles to guarantee moral and efficient hiring and selection.

Sharma et al.'s 2023 study emphasized the various concerns, points, and challenges faced while implementing artificial technology in multiple functions of the human resource department. It also examines how to overcome the difficulties and how AI fits into HR procedures. The objective is to illustrate the possible advantages and problems of using AI in HRM and to offer insights into the best practices in this area. It was discovered that artificial intelligence (AI) is becoming increasingly integrated into HR procedures. AI is now utilized for many HR tasks, including resume scanning, training, selection, and recruitment. Organizations can gain a competitive edge, enhance employee engagement and relations, and efficiently use HR budgeting by integrating AI into HRM operations. The study shows that many industry leaders, including Amazon, IBM, and Deloitte, have already incorporated AI into their HR procedures.

RESEARCH GAP

Although several studies have delved into the use of AI in reclamation and gift accession, there is a deficit of exploration on how insurance companies work AI in their gift accession processes. This gap highlights the need for studies on how insurance companies use AI for sourcing, webbing, and hiring campaigners. The study will further explore how AI algorithms may immortalize impulses in the reclamation process and how associations can alleviate these impulses. Also, there is a limited exploration of the return on investment (ROI) of using AI in the gift accession process in the insurance industry.

METHODOLOGY

Statement of the problem

Despite the added use of artificial intelligence (AI) in gift accession and reclamation, the impact of this technology on the reclamation process and seeker selection in the Insurance sector remains unclear. Also, enterprises may be concerned about the ethical counteraccusations of using AI in reclamation. Thus, there is a need for a comprehensive study to estimate the effectiveness and impact of AI in gift accession and reclamation in the Insurance sector and to address any ethical issues that may arise from its use.

Research Objectives

- To comprehend how organizations leverage AI to improve Talent acquisition practices
- To assess the influence of artificial intelligence on Talent acquisition
- To identify any ethical concerns allied with the adoption of AI in recruitment

Scope of the study

The study was conducted from February to April 2023 in Bengaluru, Madhya Pradesh, Chhattisgarh, Delhi, Gujarat, and Haryana. Respondents were aged 22 to 55.

Further, the study has focused on organizations from different locations in the insurance sector to provide a broad perspective on using Artificial intelligence in acquiring talent and the hiring process.

The deductive method is used to obtain the validation of AI in the recruitment process from the HR managers across the locations. The data was collected by administering the questionnaire. The primary data was by administering the questionnaire. The secondary data from **JSTOR** academic journals, IBISWorld publications, social media platforms including Facebook, LinkedIn

Plan of Analysis- Graphical analysis using Excel, Binomial Logistic Regression, Chi-square tests, Power BI, Orange

Limitations of the Study

The research work is based on samples from five states only. The report does not address candidate or student surveys. The study's small sample size may impact how well the results apply to broader demographics. Time constraints may restrict the breadth of cross-sectional investigations. Technology limitations: The capabilities and caliber of the employed technology may influence the efficacy of artificial intelligence in talent acquisition, which could affect the study's findings.

Discussions

It was depicted that Artificial intelligence could be used to automate many duties and tasks in acquiring talent, namely, candidate screening based on their resumes, scheduling of the candidate's interviews, and checking references.

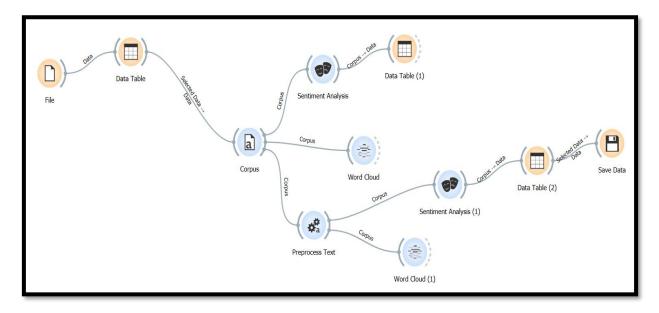


Fig 1.1.1 Sentiment analysis using orange corpus is used for data mining

(Sources: Authors' own)

Sentiment analysis uses ORANGE software, where nodes are created to arrive at the final sentiment score. The corpus is the connecting node for generating the Word cloud, as shown in *Fig 1.1.1* above.

Fig 1.1.2 Analysis is made using a Tabular presentation of the keywords

| title | ere anything you would like to add about the use of AI in talent acquisition & recruitment in the insurance se $$\operatorname{\textsc{True}}$$ | ature | ature | pos | neg | neu | compound |
|-------|---|-------|-------|-------|-------|-------|----------|
| 1 | It helped in improving efficiency and provided ethical and fair decisions | ? | ? | 0.609 | 0 | 0.391 | 0.872 |
| 2 | Al can certainly streamline certain parts while Human judgement and decision-making s | ? | ? | 0.302 | 0 | 0.698 | 0.6705 |
| 3 | Increased efficiency and employee satisfaction | ? | ? | 0.789 | 0 | 0.211 | 0.7579 |
| 4 | Al is also based on algorithms as they are trained on, can perpetuate biases | ? | ? | 0 | 0 | 1 | C |
| 5 | Although Al can provide valuable insights but cost is significant factor while implementa | ? | ? | 0.279 | 0 | 0.721 | 0.5023 |
| 6 | Al really helped our organization finding best talents | ? | ? | 0.545 | 0 | 0.455 | 0.802 |
| 7 | Improved efficiency | ? | ? | 1 | 0 | 0 | 0.6808 |
| 8 | Ai plays crucial role in managing diversity and inclusivity | ? | ? | 0.2 | 0 | 0.8 | 0.25 |
| 9 | We should not rely too on Al recruitment | ? | ? | 0 | 0 | 1 | C |
| 10 | Risk that Al could be used to replace human recruiters entirely, which could lead to job I | ? | ? | 0 | 0.211 | 0.789 | -0.5859 |
| 11 | Al can help to identify top candidates more quickly and accurately | ? | ? | 0.333 | 0 | 0.667 | 0.5423 |
| 12 | Al as a tool to support decision-making | ? | ? | 0.351 | 0 | 0.649 | 0.4019 |
| 13 | All help to improve the candidate experience by giving personalized feedback | ? | ? | 0.5 | 0 | 0.5 | 0.7906 |
| 14 | Al can help to automate many time-consuming and repetitive tasks | ? | ? | 0.213 | 0.157 | 0.63 | 0.1779 |
| 15 | dehumanizing the recruitment process is problem according to me | ? | ? | 0 | 0.466 | 0.534 | -0.7269 |
| 16 | Ai tool should be continuously monitored and evaluated | ? | ? | 0 | 0 | 1 | C |
| 17 | The success of Al depends on its effective use | ? | ? | 0.493 | 0 | 0.507 | 0.7783 |
| 18 | Ai could be challenging to use in small organizations | ? | ? | 0.167 | 0 | 0.833 | 0.1531 |
| 19 | Al helps save cost for organization | ? | ? | 0.592 | 0 | 0.408 | 0.7003 |
| 20 | Significant impact on recruitment | ? | ? | 0.375 | 0 | 0.625 | 0.2023 |
| 21 | Ai doesn't measures factor like empathy | ? | ? | 0 | 0.297 | 0.703 | -0.2755 |
| 22 | can be effective in some cases , but create pool of fresh talents | ? | ? | 0.593 | 0 | 0.407 | 0.8922 |
| 23 | Ai helps screening of potential candidates easily. | ? | ? | 0.5 | 0 | 0.5 | 0.6124 |
| 24 | it can amplify bias if not trained regularly | ? | ? | 0 | 0.167 | 0.833 | -0.1027 |
| 25 | it helps improve the speed and accuracy of background checks | ? | ? | 0.407 | 0 | 0.593 | 0.6705 |
| 26 | Ai helps to automate the tasks | ? | ? | 0.342 | 0 | 0.658 | 0.3818 |
| 27 | It can help reduce human bias | ? | ? | 0.333 | 0.173 | 0.494 | 0.3182 |
| 28 | increased efficiency and saved cost | ? | ? | 0.787 | 0 | 0.213 | 0.7506 |
| 29 | Ai require user intervention , can be challenging | ? | ? | 0.211 | 0 | 0.789 | 0.1531 |
| 30 | Helps in streamline process more efficiently | ? | ? | 0.583 | 0 | 0.417 | 0.6801 |
| 31 | Not good experience with Ai | ? | ? | 0 | 0.376 | 0.624 | -0.3412 |
| 32 | Cost effective and ease of use | ? | ? | 0.583 | 0 | 0.417 | 0.6808 |
| 33 | success of recruitment of ai depends on design of program | ? | ? | 0.291 | 0 | 0.709 | 0.5719 |
| 34 | Lead to loss of personal touch and empathy during hiring process | ? | ? | 0 | 0.187 | 0.813 | -0.3182 |
| 35 | it helps automate the task and saves amount of time | ? | ? | 0.224 | 0 | 0.776 | 0.3818 |
| 36 | Improves efficiency in overall process | ? | ? | 0.639 | 0 | 0.361 | 0.6486 |

(Sources: Authors' own)

Fig 1.1.2 above shows the score of the comments received from users, which are categorized into positive, negative, and neutral scores, which are further calculated as compound scores.

Fig 1.1.3 Word cloud before processing the text



(Sources: Authors' own)

The above word cloud in *Fig 1.1.3* is done before the pre-processed text, which is further cleaned by removing punctuation marks and empty spaces. This can allow HR specialists to concentrate on more strategic duties, such as creating strategies for talent acquisition and cultivating connections with potential hires.

Fig 1.1.4 below shows cleansing, removing punctuation marks, empty spaces, and numeric values.

Fig 1.1.4 Tokenization and filtering of text

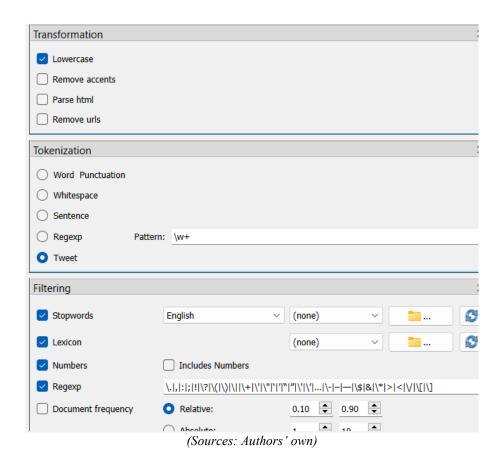


Fig 1.1.5 Word Cloud after processing the text



(Sources: Authors' own)

From the cloud above in *Fig 1.1.5*, *we can infer* that AI aids in improving efficiency, automating processes and decision-making, reducing bias, and finding the best talents.

Fig 1.1.6 Analysis of text after pre-processing in Tabular sheet

| title | Is there anything you would like to add about the use of AI in talent acquisition & recruitment in the insurance sector? True | ature | ature | pos | neg | neu | compound |
|-------|---|-------|-------|-------|-------|-------|----------|
| 1 | It helped in improving efficiency and provided ethical and fair decisions | ? | ? | 0.609 | 0 | 0.391 | 0.872 |
| 2 | Al can certainly streamline certain parts while Human judgement and decision-making still plays | ? | ? | 0.302 | 0 | 0.698 | 0.6705 |
| 3 | Increased efficiency and employee satisfaction | ? | ? | 0.789 | 0 | 0.211 | 0.7579 |
| 4 | Al is also based on algorithms as they are trained on, can perpetuate biases | ? | ? | 0 | 0 | 1 | 0 |
| 5 | Although Al can provide valuable insights but cost is significant factor while implementation | ? | ? | 0.279 | 0 | 0.721 | 0.5023 |
| 6 | Al really helped our organization finding best talents | ? | ? | 0.545 | 0 | 0.455 | 0.802 |
| 7 | Improved efficiency | ? | ? | 1 | 0 | 0 | 0.6808 |
| 8 | Ai plays crucial role in managing diversity and inclusivity | ? | ? | 0.2 | 0 | 0.8 | 0.25 |
| 9 | We should not rely too on Al recruitment | ? | ? | 0 | 0 | 1 | 0 |
| 10 | Risk that Al could be used to replace human recruiters entirely, which could lead to job losses in | ? | ? | 0 | 0.211 | 0.789 | -0.5859 |
| 11 | Al can help to identify top candidates more quickly and accurately | ? | ? | 0.333 | 0 | 0.667 | 0.5423 |
| 12 | Al as a tool to support decision-making | ? | ? | 0.351 | 0 | 0.649 | 0.4019 |
| 13 | All help to improve the candidate experience by giving personalized feedback | ? | ? | 0.5 | 0 | 0.5 | 0.7906 |
| 14 | Al can help to automate many time-consuming and repetitive tasks | ? | ? | 0.213 | 0.157 | 0.63 | 0.1779 |
| 15 | dehumanizing the recruitment process is problem according to me | ? | ? | 0 | 0.466 | 0.534 | -0.7269 |
| 16 | Ai tool should be continuously monitored and evaluated | ? | ? | 0 | 0 | 1 | 0 |
| 17 | The success of Al depends on its effective use | ? | ? | 0.493 | 0 | 0.507 | 0.7783 |
| 18 | Ai could be challenging to use in small organizations | ? | ? | 0.167 | 0 | 0.833 | 0.1531 |
| 19 | Al helps save cost for organization | ? | ? | 0.592 | 0 | 0.408 | 0.7003 |
| 20 | Significant impact on recruitment | ? | ? | 0.375 | 0 | 0.625 | 0.2023 |
| 21 | Ai doesn't measures factor like empathy | ? | ? | 0 | 0.297 | 0.703 | -0.2755 |
| 22 | can be effective in some cases , but create pool of fresh talents | ? | ? | 0.593 | 0 | 0.407 | 0.8922 |
| 23 | Ai helps screening of potential candidates easily. | ? | ? | 0.5 | 0 | 0.5 | 0.6124 |
| 24 | it can amplify bias if not trained regularly | ? | ? | 0 | 0.167 | 0.833 | -0.1027 |
| 25 | it helps improve the speed and accuracy of background checks | ? | ? | 0.407 | 0 | 0.593 | 0.6705 |
| 26 | Ai helps to automate the tasks | ? | ? | 0.342 | 0 | 0.658 | 0.3818 |
| 27 | It can help reduce human bias | ? | ? | 0.333 | 0.173 | 0.494 | 0.3182 |
| 28 | increased efficiency and saved cost | ? | ? | 0.787 | 0 | 0.213 | 0.7506 |
| 29 | Ai require user intervention , can be challenging | ? | ? | 0.211 | 0 | 0.789 | 0.1531 |
| 30 | Helps in streamline process more efficiently | ? | ? | 0.583 | 0 | 0.417 | 0.6801 |
| 31 | Not good experience with Ai | ? | ? | 0 | 0.376 | 0.624 | -0.3412 |
| 32 | Cost effective and ease of use | ? | ? | 0.583 | 0 | 0.417 | 0.6808 |
| 33 | success of recruitment of ai depends on design of program | ? | ? | 0.291 | 0 | 0.709 | 0.5719 |
| 34 | Lead to loss of personal touch and empathy during hiring process | ? | ? | 0 | 0.187 | 0.813 | -0.3182 |
| 35 | it helps automate the task and saves amount of time | ? | ? | 0.224 | 0 | 0.776 | 0.3818 |
| 36 | Improves efficiency in overall process | ? | ? | 0.639 | n | 0 361 | 0 6486 |

(Sources: Authors' own)

The above table in *Fig 1.1.6* is generated after pre-processing the text, and the compound score is further transferred to MS Excel to get the average score.

The demographics analysis about the Gender, Age, Education, and Working Period are represented in the Power BI dashboard in *Fig 1.1.7* below.

Count of Gender by Gender and Gender

Gender

Maic

Signature

Gender

Gender

Female

Count of Education by Education and Education

Education

Master's degree

Associate degree

Time Period of work

Associate degree

Fig 1.1.7 Showing Dashboard Visualization using Power BI

(Sources: Authors' own)

Hypothesis:

H0: Artificial intelligence in talent acquisition has minimal impact on the recruitment process and candidate selection.

H1: Artificial intelligence in talent acquisition greatly influences the recruitment process and candidate selection.

Crosstabs

Improvements after implementation * Results of evaluation

Results of evaluation + ROI - ROI Break-even Not sure Total No Count implementation 6.1 4.8 12.0 Expected Coun Yes 33 Count 21 11 16.9 2.2 13.2 33.0 Expected Coun Total 45 Count 45.0

Symmetric Measures

| | Value | Approx. Sig. |
|--|-------|--------------|
| Nominal by Nominal Contingency Coefficient | .433 | .016 |
| N of Valid Cases | 45 | |

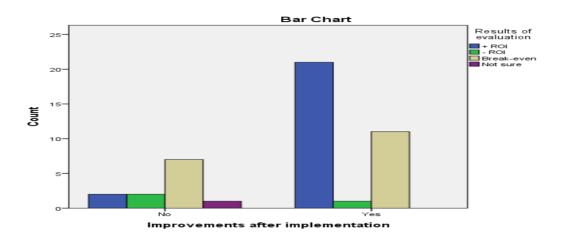
- a. Not assuming the null hypothesis.
- b. Using the asymptotic standard error assuming the null hypothesis.

Chi-Square Tests

| | Value | df | Asymp. Sig. (2-sided) |
|---------------------------------|---------------------|----|--------------------------|
| Pearson Chi-Square | 10.378 ^a | 3 | .016 |
| Likelihood Ratio | 10.726 | 3 | .013 |
| Linear-by-Linear Association | 6.790 | 1 | .009 |
| N of Valid Cases | 45 | | |

a. 5 cells (62.5%) have expected count less than 5. The minimum expected count is .27.

(Sources: Authors' own)



(Sources: Authors' own)

We took the Chi-square test to test the hypothesis, making variable improvements after implementation and evaluating the results (+ROI, -ROI, and Break-even).

The alternative hypothesis is accepted as the p-value is less than 0.05, which is 0.016, as shown in Fig 1.1.8. Therefore, the null hypothesis remains unaccepted for the given case study. It can be interpreted that artificial intelligence significantly impacts talent acquisition when hiring and selecting candidates. It is also observed that AI produces +ROI on organization, i.e., 21 out of 45 responses seem positive.

Fig1.1.9: Improvements after implementation and showing overall satisfaction

Improvements after implementation * Overall satisfaction

| Crosstab | | | | | | | |
|--------------------------------------|-----|----------------|---------|--------------------|----------------|-------|--|
| | |) i | | | | | |
| | | | Neutral | Somewhat satisfied | Very satisfied | Total | |
| Improvements after implementation | No | Count | 12 | 0 | 0 | 12 | |
| | | Expected Count | 3.2 | 8.0 | .8 | 12.0 | |
| | Yes | Count | 0 | 30 | 3 | 33 | |
| | | Expected Count | 8.8 | 22.0 | 2.2 | 33.0 | |
| Total | | Count | 12 | 30 | 3 | 45 | |
| | | Expected Count | 12.0 | 30.0 | 3.0 | 45.0 | |

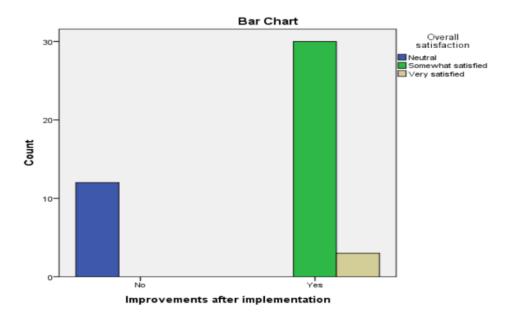
| Chi-Square Tests | | | | | | |
|---------------------------------|---------|----|--------------------------|--|--|--|
| | Value | df | Asymp. Sig. (2-sided) | | | |
| Pearson Chi-Square | 45.000° | 2 | .000 | | | |
| Likelihood Ratio | 52.192 | 2 | .000 | | | |
| Linear-by-Linear Association | 34.909 | 1 | .000 | | | |
| N of Valid Cases | 45 | | | | | |

a. 3 cells (50.0%) have expected count less than 5. The minimum expected count is .80.

| Symmetric measures | Value | Approx. Sig. |
|--|-------|--------------|
| Nominal by Nominal Contingency Coefficient | .707 | .000 |
| N of Valid Cases | 45 | |

a. Not assuming the null hypothesis.

(Sources: Authors' own)



Another analysis tests the hypothesis and identifies improvements after implementation and overall satisfaction level. 33 out of 45 respondents felt AI improved the satisfaction level. The stated alternative hypothesis is suitable for the given situation as the p-value is less than 0.05, and therefore, the null hypothesis remains invalid, as shown in the figure 1.1.9. The study found that using artificial intelligence in talent acquisition significantly impacts the recruitment process and candidate selection. This is depicted by the Chi-square test, which gave a p-value of less than 0.05, indicating that the null hypothesis is rejected.

Additionally, 21 out of 45 respondents reported a positive ROI from using AI in talent acquisition, and 33 out of 45 respondents felt that AI improved their satisfaction with the recruitment process. The evidence suggests that AI can be valuable for talent acquisition professionals. By automating tasks, providing data-driven insights, and reducing bias, AI can help recruiters identify and hire the best candidates more efficiently and effectively.

b. Using the asymptotic standard error assuming the null hypothesis.

H0: Leveraging AI does not significantly improve organizations' talent acquisition practices' effectiveness and efficiency.

H1: Leveraging AI significantly enhances organizations' effectiveness and efficiency in talent acquisition practices.

Fig1.2.0: Showing satisfaction level after implementation of AI

Logistic Regression

[DataSetl] C:\Users\Admin\OneDrive\Desktop\Quantitative analysis.sav

Case Processing Summary

| Unweighted Cases | N | Percent | |
|------------------|---------------|---------|-------|
| Selected Cases | 45 | 100.0 | |
| | Missing Cases | 0 | .0 |
| | Total | 45 | 100.0 |
| Unselected Cases | | 0 | .0 |
| Total | | 45 | 100.0 |

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

| Original Value | Internal Value |
|----------------|----------------|
| No | 0 |
| Yes | 1 |

Block 0: Beginning Block

Classification Table^{a,b}

| | | | | Predicted | | | | |
|--------|--------------------|-----|--------------------|-----------|------------|--|--|--|
| | | | Improvem implem | | Percentage | | | |
| | Observed | | No | Yes | Correct | | | |
| Step 0 | Improvements after | No | 0 | 12 | .0 | | | |
| | implementation | Yes | 0 | 33 | 100.0 | | | |
| | Overall Percentage | | | | 73.3 | | | |

a. Constant is included in the model.

Variables in the Equation

| | В | S.E. | Wald | df | Sig. | Exp(B) |
|-----------------|-------|------|-------|----|------|--------|
| Step 0 Constant | 1.012 | .337 | 9.005 | 1 | .003 | 2.750 |

Variables not in the Equation

| | | | Score | df | Sig. |
|--------------------|-----------|-----------------------|-------|------|------|
| Step 0 | Variables | Results_of_evaluation | 6.945 | 1 | .008 |
| Overall Statistics | | 6.945 | 1 | .008 | |

b. The cut value is .500

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

| | | Chi-square | df | Sig. |
|--------|-------|------------|----|------|
| Step 1 | Step | 7.122 | 1 | .008 |
| l | Block | 7.122 | 1 | .008 |
| | Model | 7.122 | 1 | .008 |

Model Summary

| Step | -2 Log | Cox & Snell R | Nagelkerke R |
|------|------------|---------------|--------------|
| | likelihood | Square | Square |
| 1 | 45.071 a | .146 | .213 |

Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

Classification Table^a

| | | | Predicted | | | | |
|--------|--------------------|-----|--------------------|-----|------------|--|--|
| | | | Improvem implem | | Percentage | | |
| | Observed | | No | Yes | Correct | | |
| Step 1 | Improvements after | No | 1 | 11 | 8.3 | | |
| | implementation | Yes | 0 | 33 | 100.0 | | |
| | Overall Percentage | | | | 75.6 | | |

a. The cut value is .500

| Variables in the Equation | | | | | | | | |
|--------------------------------|-------|------|-------|----|------|--------|--|--|
| | В | S.E. | Wald | df | Sig. | Exp(B) | | |
| Step 1 a Results_of_evaluation | 958 | .390 | 6.033 | 1 | .014 | .384 | | |
| Constant | 3.070 | .991 | 9.603 | 1 | .002 | 21.553 | | |

(Sources: Authors' own)

We can see improvements from the above Logistic Regression after implementing the AI tools in the workplace. Since the p-value is less than 0.05, which is 0.008, we reject the null hypothesis and accept the alternative hypothesis, as shown in Fig 1.2.0. There is a significant impact on the effectiveness and efficiency of talent acquisition practices in organizations that leverage AI. This finding is consistent with the growing body of research on the effects of AI on talent acquisition. For example, a recent study by Gartner found that AI-powered talent acquisition tools can help organizations reduce the time to hire by 20% and increase the quality of hire by 15%.

H0: The ethical concerns remain unaffected by using AI in recruitment.

a. Variable(s) entered on step 1: Results_of_evaluation.

H1: There are several ethical concerns regarding using AI in recruitment.

Fig1.2.1: Showing the ethical concerns regarding using AI in recruitment

Crosstabs

[DataSetl] C:\Users\Admin\OneDrive\Desktop\Quantitative analysis.sav

| Case Processing Summary | | | | | | | |
|----------------------------------|-------|---------|---------|---------|-------|---------|--|
| | Cases | | | | | | |
| | Valid | | Missing | | Total | | |
| | Z | Percent | N | Percent | z | Percent | |
| Effective use * Ethical concerns | 45 | 100.0% | 0 | 0.0% | 45 | 100.0% | |

Double-click to Effective use * Ethical concerns Crosstabulation

| | activate | | | | | |
|---------------|--------------------|----------------|------|---------------------|---------------------------------|-------|
| , | | | | Ethical concerr | าร | |
| | | | Bias | Privacy concerns | Lack of human interaction | Total |
| Effective use | Neutral | Count | 2 | 3 | 9 | 14 |
| | | Expected Count | 1.9 | 4.4 | 7.8 | 14.0 |
| | Somewhat effective | Count | 4 | 10 | 15 | 29 |
| | | Expected Count | 3.9 | 9.0 | 16.1 | 29.0 |
| | Very effective | Count | 0 | 1 | 1 | 2 |
| | | Expected Count | .3 | .6 | 1.1 | 2.0 |
| Total | | Count | 6 | 14 | 25 | 45 |
| | | Expected Count | 6.0 | 14.0 | 25.0 | 45.0 |

| Chi-Square Tests | | | | | | |
|---------------------------------|--------------------|----|--------------------------|--|--|--|
| | Value | df | Asymp. Sig. (2-sided) | | | |
| Pearson Chi-Square | 1.318 ^a | 4 | .858 | | | |
| Likelihood Ratio | 1.590 | 4 | .811 | | | |
| Linear-by-Linear Association | .130 | 1 | .718 | | | |
| N of Valid Cases | 45 | | | | | |

a. 6 cells (66.7%) have expected count less than 5. The minimum expected count is .27.

Symmetric Measures

| | | Value | Approx. Sig. |
|--------------------|-------------------------|-------|--------------|
| Nominal by Nominal | Contingency Coefficient | .169 | .858 |
| N of Valid Cases | | 45 | |

- a. Not assuming the null hypothesis.
- b. Using the asymptotic standard error assuming the null hypothesis.

(Sources: Authors' own)

To test the hypothesis, we took a chi-square test, taking variables of Effective use and Ethical concerns of use. The study showed that most candidates voted that there is less human interaction while recruiting with AI tools. Since the p-value is more than 0.05, which is 0.858, we reject the null hypothesis and accept the alternative hypothesis, i.e., AI in recruitment presents several ethical concerns, as shown in Figure 1.2.1. The fact that most of the candidates voted that there is less human interaction while recruiting with AI tools is a significant concern. To better understand candidates and determine whether they are a good fit for the position and the corporate culture, recruiters need to communicate with them. Bias and discrimination in the employment process might result from a lack of interpersonal interaction. Artificial intelligence can also identify and evaluate suitable candidates for specific positions. Companies can use Artificial Intelligence tools to analyze CVs, social media profiles, and other data to identify candidates with the most relevant skills, experience, and personality traits for the role.

• AI can also be used to provide feedback to candidates during the talent acquisition process. It can help candidates improve their chances of getting a job by providing information about their strengths and weaknesses and tips to enhance their CV and interview skills.

Adopting AI to acquire talent and hire will aid insurance companies in improving their efficiency, effectiveness, and speed. AI can help insurance companies find the best talent for their open positions by automating tasks, identifying and evaluating candidates, and providing feedback.

Here are some more benefits of using AI in talent acquisition and recruiting:

- Better accuracy: AI can help reduce human bias in talent acquisition and make accurate decisions in the hiring process.
- Lower costs: AI can help reduce talent acquisition costs, such as hiring recruiters and posting jobs.
- Better time to hire: AI can help reduce the time required to hire new employees, giving insurance companies a competitive edge in the market. The adoption of AI in talent acquisition and recruiting is in its initial stages. Still, AI can potentially change how insurance companies hire new employees. As AI technology evolves, we can expect even more benefits from the talent acquisition process and recruiting.

CONCLUSION AND SUGGESTIONS

AI brings efficiency, effectiveness, and speed to talent acquisition and recruitment. Insurance companies will find AI a valuable tool for sourcing talent for their open positions by automating tasks, identifying and evaluating candidates, and providing feedback. Although the use of AI in talent acquisition and recruitment is still in its early stages, it is evident that AI could revolutionize the hiring practices of insurance businesses. We may anticipate more advantages from employing AI in talent acquisition and recruiting as technology advances.

FUTURE SCOPE OF STUDY

- •The study could include more insurance companies of different sizes and countries. The study would further help understand its impact on attaining talent and recruitment in the insurance industry.
- $30\ |$ Gavesana Journal of Management/ Vol 17. Issue 2. July December 2024

- •The research could include a broader range of AI tools and techniques. The research would help gain deeper insights into artificial intelligence potentialities, benefits, and challenges in talent management.
- •The study could also be expanded to include various stakeholders, such as candidates, HR professionals, and hiring managers. This would lead to a more holistic understanding of AI's impact on talent acquisition and management.

SUGGESTIONS:

The suggestions based on the research study are as follows:

- Insurance companies should embrace AI in talent acquisition and recruitment. AI can assist insurance companies in mechanizing many tasks, identifying and evaluating candidates, providing feedback, and improving efficiency, effectiveness, and speed.
- Insurance companies can best use AI tools for talent acquisition and recruitment. It is considered a good investment.
- The HR Professionals should be trained to use AI tools so that the recruitment process remains fair and ethical.
- Companies should collect feedback from candidates and hiring managers on their experience with AI in the talent acquisition process. Feedback improves the use of AI in the future.

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A study of customers' awareness and satisfaction with gold jewellery in Hyderabad

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Abstract

One of India's fastest-growing industries is the jewellery industry. The research looked into the amount of client preference for branded jewellery. The study's goal is to find out how much customers like branded jewellery and how satisfied they are with gold jewellery in Hydarabad. The study's goals are to investigate socioeconomic profiles and their perceptions of gold jewellery, the reasons for purchasing jewellery, the diversity in brand awareness preference for gold jewellery among respondents, and the level of satisfaction before and after purchasing gold jewellery. Primary and secondary sources are used to compile the data. The convenience sampling technique is used to select a sample of 100 respondents for the study. Google Forms' online survey tools were used to conduct the study. Secondary data from journals, magazines, the internet, and other sources was also used by the researcher. Percentage analysis, correlation, paired t test, chi-square test, and Likert scale analysis are used to analyse the data. It can be determined that there is no significant association between respondents' educational qualifications and aspects such as price, branded quality, numerous kinds/models, and fast settlements/delivery when it comes to gold jewellery purchases. The most essential factors in choosing a branded store were price, branded quality, many varieties/models, and fast settlements/delivery.

Keywords: branded jewellery, investment, traditions, religious beliefs, price.

Introduction

The gems and jewellery industry in India is one of the fastest-growing and highest-earning in the country. Indians have worn jewellery for a long time for a number of reasons, both aesthetic and financial. When considering whether or not to buy gold jewellery, consumers are influenced by a number of factors. The type of jewellery purchased by buyers is greatly influenced by the buyer's financial situation. In India, gold is used as a decorative item as well as an investment and a safety net in times of crisis. Gold is a tried-and-true investment. People never hesitated to buy it, even when the price increased. For Indians, gold has always been a prized possession. India is the world's second-largest market for gold jewellery. According to the World Gold Council, India holds roughly 10% of the world's gold. Gold is more than simply an investment for Indians. Indian culture, rituals, and religious beliefs are all profoundly rooted in it. It is also seen as a status symbol that can be used to assess a person's social affluence. The branded gold jewellery segment accounts for a sizable portion of the overall jewellery market. Because most Indian customers still regard jewellery as an investment, this is the case. The attitudes and opinions of gold jewellery customers have shifted dramatically. The majority of Indian jewellery customers are becoming increasingly trend conscious. In this ever-changing environment, welldefined, strategic marketing policies are required to establish a brand image among the public. The current study is a small attempt to learn about client knowledge and satisfaction with gold jewellery purchases in Indian states.

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Objectives of the study

The following are the objectives of the study.

- 1. To study the socio-economic profile of the respondents and their perception of gold jewellery.
- 2. To know the reasons for buying brand awareness preference of gold jewellery.
- 3. To find out the satisfaction level before and after purchasing gold jewellery.

Research methodology

The information is gathered from primary and secondary sources. Consumers' core data is gathered through an online questionnaire survey. The questionnaire was designed to gather primary data from respondents to assess customer satisfaction with gold jewellery in Hyderabad. The convenience sampling technique is used to select a sample of 100 respondents for the study. To reach the maximum number of active internet users, the survey link was published on various online social media pages and groups. Google Forms' online survey tools were used to conduct the study. Secondary data was also gathered from journals, magazines, and the internet, among other sources. The research is based on data analysis. Percentage analysis, correlation, paired t test, chi-square test, and Likert scale analysis are used to analyze the data.

Review of literature

According to Mishra (2007), 85 percent of sales occur during Diwali and Akshaya Tritiya. According to Shivani Mishra (2007), 70 percent of the worldwide jewellery market is purchased for investment objectives, yet 90 percent of buyers buy their jewellery from a traditional jeweller, with only 5-6 percent of items being branded. Independent jewellers are selling jewellery under their brand names, according to traditional family jewellers. They do, however, only carry brands that account for about 5% to 6% of the market.

Design distinguishes one jewellery designer from another, according to Shanoo Bijlani, Regan Luis, and Michelle Pinto (2007). Design, according to Indian customers, has a significant impact on their purchasing decisions. The majority of people nowadays prefer jewellery that may be worn and does not lock. Clients have become increasingly demanding for new and used retail outlets, especially in smaller town areas where new and used jewellery retailers must have one-of-a-kind pieces on hand. As a result, the manufacturing population is ecstatic, and the customer population is growing.

Retail provides a broad assortment of merchandise, an inviting setting, and excellent customer service, which are among the three basic and most crucial characteristics for successful jewellery. Traditional jewellers have now recognized the importance of branding and outstanding services, and consumers are treated with exceptional respect and care, as Daisy Tanwani stated.

Since the establishment of internationally recognized quality standards like as hallmarking and diamond certification, the jewellery industry has undergone a radical transformation. As a result, in recent years, consumers have become increasingly obsessed with quality rather than value. To put it another way, having a high-quality piece of jewellery is more significant than having a low-cost item.

Many jewellery companies are beginning to recognize the true purchasing power of fine jewellery in rural and semi-urban areas. As a result, they've taken initiatives to earn their clients' trust and respect. Rural society, on the other hand, may require generations to shift their interests away from the local, traditional jeweller and toward a larger interest in the national, organized corporate organization.

According to Gomathy and Devi, gold has long been regarded as a desirable metal in India (2015). This is a fundamental belief and an integral component of our way of life. Because women wear jewellery, most of the consumers are female, according to the survey's findings. Furthermore, a sizable portion of the population buys gold jewellery as an investment and in case of an emergency.

According to Krishnan and Nandhini (2017), while a marketing focusing on purity and quality generated more word-of-mouth publicity, a commercial focusing on celebrity and name recognition increased brand awareness and attracted more customers to gold jewellery. Furthermore, according to the findings, working women's primary motivation for purchasing gold jewellery was investment.

Analysis of data and interpretation

The researcher can do the analysis and discussion with the 100 study participants only due to a lack of funds, energy, and time. The socioeconomic level of gold customers in various Indian states has been investigated.

TABLE 1: AGE-WISE CLASSIFICATION OF THE SAMPLE CUSTOMERS

| S. No. | Age (years) | No. of Customers | Percentage |
|--------|-------------|------------------|------------|
| 1. | Below 25 | 4 | 4 |
| 2. | 25 – 35 | 8 | 8 |
| 3. | 35 – 45 | 41 | 41 |
| 4. | 45 – 55 | 26 | 26 |
| 5. | Above 55 | 21 | 21 |
| | Total | 100 | 100 |

(Source: Based on Primary data)

The above table displays that out of 100 sample customers maximum of 41% of the customers belong to the age group of 35 - 45 years, followed by 26%, 21%, 8% and 4% of the defendants who belong to the age group of 45 - 55 years, above 55 years, 45 - 55 years and below 25 years respectively.

TABLE 2: SEX-WISE CLASSIFICATION OF THE SAMPLE CUSTOMERS

| S. No. | Sex | No. of Customers | Percentage |
|--------|--------|------------------|------------|
| 1. | Male | 26 | 26 |
| 2. | Female | 74 | 74 |
| | Total | 100 | 100 |

(Source: Based on Primary data)

According to the table above, out of 100 sample consumers, 74% are female, and 26% are male.

TABLE 3: EDUCATIONAL STATUS OF THE SAMPLE CUSTOMERS

| S. No. | Education | No. of Customers | Percentage |
|--------|-------------------|------------------|------------|
| 1. | Illiterates | 6 | 6 |
| 2. | Primary | 29 | 29 |
| 3. | Secondary | 48 | 48 |
| 4. | College/Technical | 17 | 17 |
| | Total | 100 | 100 |

(Source: Based on Primary data)

According to the above Table, the majority of the 48 sample customers have Secondary level education, followed by 29%, 17% and 6% who have Primary level education, college/technical level education, and illiterates, respectively.

TABLE 4: OCCUPATION OF THE SAMPLE CUSTOMERS

| S. No. | Occupation | No. of Customers | Percentage |
|-------------------|----------------------|------------------|------------|
| 1 | Government employees | 8 | 8 |
| 2 | Private employee | 24 | 24 |
| 3 | Self-employed | 25 | 25 |
| 5 | Housewives/Students | 14 | 14 |
| 6 | Retired/Unemployed | 7 | 7 |
| 7 Agriculturalist | | 22 | 22 |
| | Total | 100 | 100 |

(Source: Based on Primary data)

Table shows that out of 100 sample customers, 8% are government employees, 24%, 25%, 14%, 7%, and 22% are in private employees, self-employed professionals, housewives/students, Retired/Unemployed, and Agriculturalist, respectively.

TABLE 5: MONTHLY PERSONAL INCOME OF THE SAMPLE CUSTOMERS

| S. No. | Monthly income (Rs.) | No. of Customers | Percentage |
|--------|----------------------|------------------|------------|
| 1. | Below Rs.10000 | 6 | 6 |
| 2. | Rs.10000 – Rs.15000 | 11 | 11 |
| 3. | Rs.15000 – Rs.20000 | 19 | 19 |
| 4. | Rs.20000 – Rs.25000 | 41 | 41 |
| 5. | Rs.25000 and above | 23 | 23 |
| | Total | 100 | 100 |

(Source: Based on Primary data)

According to the above table, out of 100 sample customers, 6% have monthly incomes of less than Rs.10000, 11%, 19%, 41% and 23% have monthly incomes of between Rs.10000 and Rs.15000, Rs.15000 – Rs.25000, Rs.25000, and Rs.25000 and above respectively.

TABLE 6: PREFERENCE FOR THE KIND OF JEWELLERY

| S. No. | Preference kind of jewellery | No. of Customers | Percentage |
|--------|------------------------------|------------------|------------|
| 1. | Branded | 58 | 58 |
| 2. | Non-Branded | 42 | 42 |
| | Total | 100 | 100 |

(Source: Based on Primary data)

According to the preceding data, when recipients were asked whether they preferred branded or non-branded jewellery, the frequency distribution table and figure showed that 58 percent preferred branded jewellery and 42 percent preferred non-branded jewellery. It signifies that branded jewellery is in higher demand in the market than non-branded jewellery.

TABLE 7: REASONS FOR BUYING JEWELLERY

| S. No. | Reasons | No. of Customers | Percentage |
|--------|-------------------|------------------|------------|
| 1. | Fashion | 4 | 4 |
| 2. | Occasions | 34 | 34 |
| 3. | Festivals | 11 | 11 |
| 4. | Investment | 16 | 16 |
| 5. | For own use | 10 | 10 |
| 6. | Traditional metal | 7 | 7 |
| 7. | Status symbol | 18 | 18 |
| | Total | 100 | 100 |

(Source: Based on Primary data)

According to the above table and figure, 4 percent of people buy jewellery for fashion, 34 percent of people buy jewellery for occasion, 11 percent of people buy jewellery for festivals, 16 percent of people buy jewellery for investment, 10 percent of people buy jewellery for personal use, 7 percent of people buy jewellery for traditional reasons. Only 18 percent of people buy jewellery for status reasons.

TABLE 8: AMOUNT SPENT ON LAST JEWELLERY PURCHASE

| S. No. | Amount Spent | No. of Customers | Percentage |
|--------|----------------------|---------------------|------------|
| 1. | Below Rs.25000 | 10 | 10 |
| 2. | Rs.25000 – Rs.50000 | 24 | 24 |
| 3. | Rs.50000 – Rs.75000 | 33 | 33 |
| 4. | Rs.75000 – Rs.100000 | 22 | 22 |
| 5. | Rs.100000 and above | 11 | 11 |
| Total | | 100 | 100 |

(Source: Based on Primary data)

According to the table and the figure, 10 percent of respondents spent less than Rs. 25,000 on their last jewellery purchase, 24 percent spent Rs 25,000-50,000, 33 percent spent Rs 50,000-75,000 on their last jewellery purchase, 22 percent spent up to Rs 75,000-100,000, and the remaining 11 percent spent more than Rs 75,000-100,000. So, based on respondents' responses, we may deduce that the majority of respondents spent more than Rs 1,000,000 on their most recent jewellery purchase.

TABLE 9: RELATIONSHIP BETWEEN OCCUPATION AND VARIATION IN BRAND AWARENESS AMONG THE RESPONDENTS

| Correlation | Occupation | Brand awareness of gold jewellery |
|-------------|------------|-----------------------------------|
| Occupation | 1 | 0.068 |

(Source: Computed from Primary Data)

Above table 9 shows a weak relationship between occupation and variation in brand awareness preference of gold jewellery among the respondents. This means that changes in the occupation are not correlated with changes in brand awareness preference of gold jewellery among the respondents. If r = 0.01, it concludes that these variables were not strongly correlated.

TABLE 10: SIGNIFICANT DIFFERENCES IN CRITERIA FOR SELECTION OF GOLD JEWELLERY AMONG THE SAMPLE CUSTOMERS BASED ON EDUCATIONAL QUALIFICATION

| Criteria | Chi-Square value | Df | P value |
|-------------------------------|------------------|----|---------|
| Price | 6.834 | 12 | 0.4905 |
| Branded Quality | 27.304 | 12 | 0.019 |
| Different Varieties / Models | 13.657 | 12 | 0.401 |
| Prompt Settlements / Delivery | 25.012 | 12 | 0.045 |

(Source: Computed from Primary Data)

The Chi-Square test is used to determine whether there is a significant relationship between respondents' educational qualifications and the amount of criteria used to select gold jewellery. The Null Hypothesis is accepted since the estimated value of significant value is lower than the table value at a 5% level of significance, as deduced from the above test. There is no significant relationship between respondents' educational qualifications and factors for purchasing gold jewellery, such as price, branded quality, different varieties/models, and timely settlements/delivery.

TABLE 11: SIGNIFICANCE DIFFERENCE OF SATISFACTION LEVEL BEFORE AND AFTER PURCHASING GOLD JEWELLERY AMONG THE SAMPLE CUSTOMERS

| Hypothesis | Mean | S.D | Calculated Value | P-Value |
|-----------------------|-------|-------|------------------|---------|
| Level of satisfaction | 13.84 | 44.32 | 1.602 | 1.009 |

(Source: Computed from Primary Data)

The previous table shows that the calculated value of the paired t test is bigger than the table value at the 5% level of significance. Hence there is a significant difference between satisfaction level before purchasing gold jewellery, and satisfaction level after purchasing gold jewellery are differences among the sample customers. Hence the null hypothesis is rejected.

CONCLUSION

In India, branded jewellery accounts for a small percentage of the total jewellery market. Today, branded jewellers can be found all throughout the country, catering to the needs of customers from all walks of life. The study found that price, branded quality, variety/models, and timely settlements/delivery are the most important factors to consider while choosing a branded retailer. The outcomes of the survey will serve as a wake-up call for gold jewellers in terms of understanding buyer attitudes

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Forensic Accounting Techniques: A Review of Existing Mathematical Models

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Abstract

The research work focuses on review of important works that deal with forensic accounting. Forensic accounting is a growing field of accounting practices that focuses on identifying and predicting discrepancies. The review work concludes that Benford's law, regression analysis are some of the effective techniques that helps in identification of first stage fraud.

Keywords: Forensic accounting, Benford's law, Regression.

Introduction

become multi-trillion-dollar economy in years to come. This shows that the economy is dynamic in nature and the marketplace is optimum for doing business. But with the increase of business in India and due to its highly dynamic nature India is facing a threat of fraud. The fraud in terms of financial accounting. Whenever a market becomes highly dynamic in nature and progresses upwards the market then possesses a characteristic of volatility. The company to ride the bandwagon of progresses forages its account for overvaluation so that the flow of money increases from the investors. The reverse is also true when the economy witnesses a recession the companies forge its account statement to show heavy losses to evade tax. To deal with such overvaluation and under taxation effect it is necessary to carry out inspective accounting. This inspective accounting is also known as the forensic accounting.

Process of Forensic Accounting

The process of forensic accounting is a combination of mathematical approach and bookkeeping practices. The process further involves thorough inspection and examination of the account statement. The forensic accounting is different from the general accounting practices. The process of forensic accounting involves handling of bills, invoices, account statements, bank records, and purchase-sales register with angle of practicality, uncertainty, and inorganic growth. In other words, the forensic accounting tries to determine what all frauds has been committed by using general accounting.

The process of forensic accounting is necessary for administrative purposes and for the general interest of citizens and the sector in which the company operates. A fraud whenever it occurs it disturbs the market sentiment. The market sentiments related to the company gets shaken and the investors tries to take money out from the company. Resulting in not only decreasing the valuation of the company but also disturbing the credibility of the country in terms of that service sector. Further, forensic accounting is also necessary for determining the overvaluation of the company. Company executives forge the accounts and the balance statement to show an extremely profitable organization in short period of time. Thus, the banks overvalue the firm and lend them a loan that cannot be recovered even if the entire assets of the company are auctioned off. The need of forensic accounting is also for tax evasion.

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Business houses to earn more profit that is not in the records shows hypothetical losses which they have never incurred. This results in loss of revenue receipts to the government.

What Forensic Accounting Deals with

Forensic account is field of expertise and requires knowledge of scientific methods. This is a field of expertise because each fraud is new, and the forensic account should be able to unearth the patterns of fraud in each of these new cases. The process of forensic accounting is also challenging because it needs planning to execute the forensic accounting, and the result will be used in the court of law to prove criminal charges of fraud. Thus, forensic accounting should not only focus on determining the abnormality in the records but should also focus on retrieval of records that indicate towards a probable fraud. The paper presents a review of prevalent forensic accounting techniques.

Several accounting frauds have occurred in India over the years. Here are some notable ones:

- Satyam Computer Services Scandal (2009): One of the largest corporate accounting frauds in India, where the company's chairman Ramalinga Raju confessed to inflating revenues and manipulating accounts to the tune of billions of dollars.
- Punjab National Bank Scam (2018): Involving fraudulent issuance of Letters of Undertaking (LoUs) by certain bank officials in collusion with Nirav Modi's companies, resulting in a multi-billiondollar fraud at Punjab National Bank.
- Vijay Mallya and Kingfisher Airlines (2012-2013): Allegations of financial irregularities and diversion of funds at Kingfisher Airlines led by Vijay Mallya, resulting in massive debt defaults and subsequent investigations.
- Reebok India Fraud (2012): Allegations of financial irregularities and embezzlement of funds by senior executives at Reebok India, leading to a significant loss for the company and subsequent legal proceedings.
- IL&FS Financial Scandal (2018): Infrastructure Leasing & Financial Services (IL&FS) faced allegations of mismanagement, fraud, and corporate governance lapses, leading to defaults on debt obligations and significant financial turmoil in the Indian financial markets.
- NSEL Scam (2013): The National Spot Exchange Limited (NSEL) scam involved the alleged fraud of around \$1 billion, wherein the exchange defaulted on payments to investors due to irregularities in commodity trading practices.
- Suzlon Energy Accounting Irregularities (2013): Suzlon Energy, a renewable energy company, faced allegations of accounting irregularities and financial mismanagement, leading to a decline in investor confidence and regulatory scrutiny.
- Global Trust Bank Collapse (2004): Global Trust Bank faced allegations of financial mismanagement, loan irregularities, and accounting fraud, resulting in its collapse and subsequent merger with Oriental Bank of Commerce.

These are just a few examples of accounting frauds and financial scandals that have occurred in India over the years. They highlight the importance of strong corporate governance, regulatory oversight, and effective forensic accounting practices to prevent and detect such fraudulent activities.

Forensic accounting is increasingly becoming essential in India due to several reasons:

- Rise in Financial Fraud: India has witnessed a surge in financial fraud cases across various sectors such as banking, insurance, real estate, and capital markets. Forensic accountants play a crucial role in investigating and uncovering these fraudulent activities.
- Legal and Regulatory Compliance: With the implementation of stringent regulatory frameworks like the Prevention of Money Laundering Act (PMLA), Companies Act, and Securities and Exchange Board of India (SEBI) regulations, there is a growing need for forensic accountants to ensure compliance and investigate any violations.
- Corporate Governance: As corporate governance standards continue to evolve in India, there's an increased focus on transparency, accountability, and integrity in financial reporting. Forensic accountants help in assessing and improving corporate governance practices by identifying potential risks and irregularities.
- Complex Business Transactions: With the expansion of businesses and globalization, there's a rise
 in complex financial transactions, mergers, acquisitions, and joint ventures. Forensic accountants
 provide expertise in assessing the financial implications of these transactions and detecting any
 irregularities or fraudulent activities.
- Litigation and Dispute Resolution: Forensic accountants play a crucial role in litigation support and dispute resolution by providing expert opinions, conducting financial investigations, and presenting evidence in legal proceedings.
- Asset Tracing and Recovery: In cases of embezzlement, money laundering, or other financial crimes, forensic accountants help in tracing and recovering misappropriated assets through detailed financial analysis and investigation.
- Insurance Claims Investigation: Forensic accountants assist insurance companies in investigating suspicious claims, assessing the extent of financial loss, and detecting any fraudulent activities related to insurance policies.
- Cybercrime and Digital Forensics: With the increasing prevalence of cybercrime and digital fraud, forensic accountants with expertise in digital forensics are in high demand to investigate financial crimes conducted through digital channels.

Review of Some of The Existing Works on Forensic Accounting

Suen (2016) in his research work analysed the importance of forensic accounting with respect to China. The study stated that China has a pro-business culture that specifically focuses on production industry rather the service industry. In such cases at times the producers show tremendous losses and damages in accounts to minimize the tax levied. To identify such frauds, it is essential to have forensic accounting environment in China.

Lata, Koushika and Hasan (2015) in their research work indicated that the use of forensic accounting is inevitable in countries were the economy is on the boom. This is because when the economies boom the organizations forges financial data to show overgrowth of the organization. The reverse is also valid, to evade taxes organizations show large losses in terms of labour payment, damaged articles, and delayed shipments. Thus, for detecting the financial frauds forensic accountants can opt for multivariate and time series analysis. However, the researchers concluded that it is best to motivate employees towards ethical workplace practices rather than opting for forensic accounting at later stages.

Dhami (2015) Study about the forensic accounting techniques to identify fraud and prevention of fraud. It has shown how chartered accountants are engaging the services of Forensic accountant to their client. It has listed of skills required by the forensic accountant to identify fraud.

However, study has not shown the cybercrime aspect and technological fraud increase in business transaction.

Saxena (2015) study about the corruption in India and identifies the main reason of corruption in India i.e. poorly governed may be the main reason. Paper study about the various fighting corruption techniques such as maintaining law and order, Whistle blowers and civil society organizations, free access to information and data. Paper further discussed characteristic of Corruption such as Extortion, Lubricant of society. Corruptions are divided into various categories Corruption in Media, Corruption in Judiciary, Corruption in Police, Corruption in Private Sector, and Corruption in Religious Institutions. However, the study has not covered the computer related corruption taking place in India.

Gupta (2015) study about the nature and perception of corporate frauds in India, the finding of the study was that regulatory system is weak; coordination among different regulatory authorities is poor. The study highlights the most important aspect that reporting of fraud and publication of fraud prevention policy are missing. Auditor and executive level in the companies are ineffective due to lack of professionalism. Reasons of fraud are due to fraud triangle Opportunity, Motivation, and rationalization. However, it ignores the fraud committed by the Computer Forensic.

Srivastava (2014) in his research work stated that the auditors follow three basics steps to determine the fraud in an organization. These three steps as indicated by him are assessment of fraud at overall financial statement level, assessment of risk of fraud at account level and assessment of accounts, transactions and evidence that is used to commit fraud. The researcher further suggested that it is easier to detect frauds through post fraud account auditing however it requires forensic accounting to predict probable time and level of occurrence of fraud. The author suggested that it is best to apply forensic accounting at accounts and transaction level as it consists of maximum details in raw form that can indicate towards a probable fraud.

Chakrabarti (2014) in his research work focused on examining the role of forensic accounting in white collar industry of India. The research with the help of example of Satyam software case indicated the need of forensic accounting in industry. The researcher indicated that the forensic accounting in India could prevent the occurrence of such frauds in India.

Okoye and Gbegi (2013) in their research work focused on examining the role of forensic accounting in the public sector of Kogi state. The research work indicated that there exists significant difference between auditors and forensic accountants. The researcher indicated that auditor and forensic accountant differs in terms of skills, knowledge, and expertise. The researchers indicated that the auditors in Kogi do not have the necessary set of skills to perform forensic accounting and the number of forensic accountants is less as compared to the need. The researchers therefore suggested that the auditors should be trained to perform forensic accounting to deal with the occurrence of fraud.

Bhasin (2012) in his research paper presented various scam of ERON. In his research work the author stated that the increase in number of frauds in an industry hinders the aspects of growth of the that industry in that country. This is because of the manipulative accounts created by the owners of the company to overshoot the profit and market credibility of the company. The author in the end therefore suggests that forensic accounting should be used in companies to not to unearth any financial fraud but also to predict any if probable.

Mehta, Patel, Patel, and Purohit (2012) in their research work focused on the different financial ratios that can be used to find the misstatement in the fraud. The authors indicated that the external auditor can use the ratios to provide a fair view of the statements The authors further indicated that the financial ratios

can be used by the banks at the time of lending of loans to address the window dressing of the accounts book. The author further stated that the authorities can use tax ratio to find out if there is a tax evasion when compared to previous year. These ratios can act a KPI for the management authorities to indicate a unusual increase or decrease in the taxation.

Goyal (2012), study about various ethics in the field of business like engineering ethics, computer ethics, legal ethics etc. paper further focuses that as the technology is used for business transaction there is an increase in the cybercrime which is emerging threats are taking place. Cybercrime such as Cyber stalking, hacking, Phishing, Cross Site Scripting, Vising. Paper has not focus on computer forensic tools to control such fraud.

Nigrini (2011) in his research work indicated that forensic accounting does not require complex computational and data mining software. The author indicated that for the forensic accounting software such as Access, Excel, and Statistical packages such as 'R' are sufficient. The author emphasized that it is the skill of the forensic accountant that helps to unearth financial frauds present in invoice, account, or expenditure statements.

Owojori and Asaolu (2009) in their research work focused on the expertise required for determination of fraud before it happens in an organization. The research paper was written with perspective of a forensic accountant. The authors in this research work mainly focused upon the fraud taking in large companies under the travel expenditure head. The authors indicated that large amount of money is often indicated under the travel expenses head. To identify this type of fraud taking place the forensic accountant should identify sudden expense overshoot points and should compare it with the size of the task for which travels were made and the number of employees. The article outlines that the accounting procedure should also check for forged travel expense bill and therefore an integrated travel portal is necessary for large scale companies.

Askelson, Lanza, Millar, Prosch, & Fraud (2009), discussed various accounting standards. Every day technology is getting updated and new means of frauds are taking place. Further it overviews fraud and how it can be control with the help of new technology. However as one technology is made to prevent fraud, the fraudulent find the means to break it, and hence it needs to be updated regularly.

Ritter (2008) in his research paper focused on the used of computer aided techniques for the detection of fraud. The author stressed that these techniques should be utilized by the third party only so that the inhouse alteration and manipulation of the data cannot be performed. The author stressed that the financial databases are in general stored in the company premises and therefore are susceptible for the manipulation. A third-party forensic accountant is thus best suited for the Computer aided forensic accounting.

Gaines (2007) in his research work stated that the Benford law is one of the best suited techniques for the detection of fraud. The detection of fraud using Benford law however should be supplemented with forensic techniques such as Cardinality analysis and Cohort analysis.

Singelton (2006) in his research work focused on detection of systematic fraud. The researcher indicated that the for the detection of forensic fraud the forensic accountant should go for reviewing public documents, conducting interviews, gathering information from trustworthy sources, analysing evidence, surveillance, undercover investigation, and analysing the financial statements.

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Conclusion

Based on the LR the following conclusions could be drawn for the forensic accounting techniques. Benford's first digit law is a powerful tool in identification of red flags. Year after year or day after day growth is a powerful tool in identification of red flag. This method can help in prediction of a value under consideration. If very large deviations are obtained in the growth as compared to predicted without interference of external causes, then those deviations are identified as red flags. The external causes may include listing of IPO, start of manufacturing by start-ups, service sector of a company starts to generate profit. Cohort Analysis helps in clustering of items that possess common characteristics. Such common characteristics may include favouring a particular vendor or service supplier in contrast to others. Simulated case study – the blue paint incident indicated the same. Favouring a particular vendor repeatedly indicates that either the vendor or person responsible for placing the order with the vendor has person vested interests. These interests could get translated to personal benefits. These personal benefits are losses to the company. Regression analysis is a powerful tool. Linear regression analysis can help in prediction of a variable with respect to the one that are capable in affecting the predicted one. Linear regression analysis also provides an R² value that helps in understand how much a predicted variable be explained through predictors. Thus, using the predictors future values of the predicted can be calculated. The predicted and calculated can be used to identify large differences. If large difference without any external cause is identified, then it is considered as red flag. Similarly, logistic regression analysis can also be used to predict the odds of committing fraud. Factors that have significant relationships with previously committed frauds if identified in new transactions that odds of committing fraud become high. Thus, transactions can be red flagged and instantly reverted.

Further it can be concluded that Forensic accounting should be considered mandatory for several reasons as mentioned below:

Fraud Prevention and Detection: Forensic accountants are trained to identify red flags and irregularities in financial records, which can help prevent fraud before it occurs or detect it at an early stage. Making forensic accounting mandatory can enhance fraud detection mechanisms within organizations and reduce the likelihood of financial misconduct.

Legal and Regulatory Compliance: Many industries are subject to stringent regulatory requirements regarding financial reporting and transparency. By mandating forensic accounting practices, organizations can ensure compliance with legal and regulatory frameworks, thereby mitigating the risk of penalties, fines, and legal actions.

Protection of Stakeholder Interests: Forensic accounting helps protect the interests of stakeholders, including investors, creditors, employees, and the public. By conducting thorough investigations into financial irregularities and fraudulent activities, forensic accountants can safeguard stakeholders' investments and assets.

Enhanced Corporate Governance: Mandating forensic accounting promotes good corporate governance practices by ensuring transparency, accountability, and integrity in financial reporting. It fosters a culture of ethical conduct within organizations and strengthens oversight mechanisms to prevent corporate scandals and financial mismanagement.

Risk Management: Forensic accounting plays a vital role in risk management by identifying potential financial risks and vulnerabilities within organizations. By conducting forensic audits and investigations, companies can proactively address risks, implement corrective measures, and strengthen internal controls to mitigate the likelihood of fraud and financial losses.

Support for Legal Proceedings: Forensic accountants provide expert support in legal proceedings, including litigation, arbitration, and regulatory investigations. Mandating forensic accounting ensures that organizations have access to qualified professionals who can analyze financial evidence, present findings in court, and assist in resolving disputes effectively.

Protection of Public Interest: Financial fraud and misconduct not only harm individual stakeholders but also have broader implications for the economy and society as a whole. By making forensic accounting mandatory, regulators can uphold public trust in financial markets, promote economic stability, and protect the overall public interest.

Professional Standards and Ethics: Mandating forensic accounting reinforces professional standards and ethical principles within the accounting profession. It ensures that forensic accountants adhere to rigorous ethical guidelines, maintain independence, and uphold the highest standards of integrity and objectivity in their work.

In conclusion, the need for forensic accounting in India is driven by the growing complexity of financial transactions, the rise in financial fraud cases, and the evolving regulatory landscape. Forensic accountants play a vital role in safeguarding the integrity of financial systems, ensuring compliance with regulations, and combating financial crime.

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Exploring the impact of Emotional Intelligence in Employee Retention among Teachers (Higher Education) in Delhi-NCR

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Abstract:

This research delves into the intricate relationship between emotional intelligence (EI) and the retention of teachers within higher education institutions in the bustling Delhi-NCR region. This study uses the combination of purposive and convenience sampling with well-structured questionnaire to study the impact of Emotional Intelligence in Employee Retention among higher education institutions' teaching fraternity from Delhi-NCR region. The study validates the proposed model by employing Regression analysis and Descriptive statistics to establish the connections between Emotional Intelligence, and Employee Retention.

<u>Keywords:</u> Employee Retention (ER); Emotional Intelligence (EI); Attrition; Higher Education; Emotional Quotient (EQ).

Introduction:

An organization's capacity to recruit and retain outstanding individuals has become crucial for long-term success in today's fast-paced workplace. Employee retention, which means how long an employee stays engaged and committed to an organization, has gotten a lot of attention as an important factor that affects how well and how competitively an organization does. Exploring the combined impact of emotional intelligence and workplace spirituality on the critical factor of employee retention, this study article tries to delve into the multidimensional interplay between the two. Leaders and human resource professionals alike are increasingly preoccupied with unravelling the mysteries of how to cultivate employee commitment and longevity in the face of ever-increasing organizational complexity and change. Exploring the mediating impact of workplace spirituality in this complex interaction, this research aims to delve into the critical role of emotional intelligence in determining employee retention.

Organizations are increasingly realizing the importance of creating a happy work environment that goes beyond conventional methods. In this context, the incorporation of emotional intelligence and workplace spirituality is crucial for comprehending and dealing with the intricate dynamics of employee retention. Mittal, A., Mishra, G., and Bishnoi, S. (2023). This study aims to investigate the complex connection between emotional intelligence and employee retention. It suggests that emotional intelligence may have a direct effect on employee retention and may also influence it indirectly through workplace spirituality. Employee retention is a crucial factor in the success of an organization, since it directly affects productivity, innovation, and overall performance. High rates of employee turnover not only result in significant expenses but also undermine the unity of the business and impede long-term strategic plans. Within this framework, the significance of emotional intelligence becomes apparent as a crucial determinant of employee contentment, involvement, and ultimately the ability to retain staff. Emotional intelligence, which includes self-awareness, self-regulation, social awareness, and relationship management, is believed to improve individuals' capacity to handle the intricacies of interpersonal interactions and perform well in team settings. (Nawaz, N., Gajenderan, V., Gopinath, U. M., & Tharanya, V. (2024))

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Furthermore, the integration of workplace spirituality into the discourse surrounding employee retention offers a nuanced perspective on the underlying drivers of organizational commitment. Workplace spirituality transcends traditional notions of religiosity, encompassing a sense of purpose, community, and interconnectedness within the organizational context. Organizational leaders who want to foster a healthy work environment must comprehend the mediating function of spirituality in the workplace in the connection between emotional intelligence and employee retention, since employees are looking for more purpose and meaning in their work. Educators play an essential and indispensable role in the ever-changing world of higher education, where schools aim for greatness and long-term success. A school's academic performance and the quality of its learning environment are directly related to its capacity to recruit and retain qualified educators. With a highly competitive market and constantly changing expectations, it is crucial for educational institutions in the Delhi-NCR region to understand what elements influence employee retention.

The goal of this research is to clarify the complex connection between EQ and professor retention rates at colleges and institutions in the Delhi-National Capital Region. Also, this study takes a look at how spirituality in the workplace can moderate these effects, influencing both organizational culture and the health of faculty members.

In industries where understanding and managing people's emotions is crucial, emotional intelligence is quickly rising to the top of the list of must-have skills. Teachers' emotional intelligence and self-control are crucial for guiding pupils through the challenges of learning and fostering their intellectual development. Examining how teachers' emotional intelligence affects their commitment, contentment, and ultimately their decision to remain or leave an institution is the overarching goal of this research.

As a potential mediator between emotional intelligence and employee retention, the inquiry also delves into the burgeoning concept of workplace spirituality. There is growing recognition that spirituality in the workplace can improve job satisfaction, organizational dedication, and general well-being. This is because it is based on a feeling of purpose, community, and meaningful participation. In this study, we will look at how spirituality in the workplace acts as a mediator between emotional intelligence and teacher retention in the specific setting of Delhi-National Capital Region's universities. The findings of this study have the potential to guide educational institutions in their pursuit of a strong and dedicated teaching staff as they face the challenge of recruiting and maintaining outstanding faculty members. Thus, this research adds to the body of knowledge in the fields of organizational behaviour and human resource management, and it also has real-world consequences for school administrators and program directors who are trying to build long-term, supportive workplaces for college faculty.

Diversity, academic rigor, and an ever-increasing demand for high-quality education characterize the Delhi-National Capital Region (NCR) higher education landscape. Faculty members have a crucial role in defining the academic trajectory and institutional identity as educational institutions face the difficulties of globalization, technological breakthroughs, and altering demography. Institutional stability, academic continuity, and the general quality of education are all affected by employee retention, which is especially important for higher education faculty.

Conventional variables including pay, work happiness, and opportunities for advancement have been the focus of most prior studies on the topic of employee retention. Nevertheless, there is an increasing amount of research that acknowledges the importance of emotional and psychological factors in comprehending the dynamics of employee retention, particularly in fields where interpersonal connections and intrinsic motivation are prominent.

The favourable effect of emotional intelligence on employee well-being and dedication has been regularly highlighted in numerous research that have investigated the link between EQ and work satisfaction. Higher education places an even greater emphasis on the need of emotional intelligence because of the intrinsic reliance of the teaching-learning process on effective communication and sympathetic participation. Expanding on this idea, new studies are looking at how spirituality in the workplace could mediate the connection between emotional intelligence and the results achieved by employees. There is a growing belief that spirituality in the workplace may have a profound impact on company cultures by fostering a sense of belonging, purpose, and ethics. Multiple fields of study have shown its beneficial effects on workers' happiness, dedication, and contentment on the job.

The literature on emotional intelligence and workplace spirituality is expanding, but little is known about how these two factors interact to affect retention rates, especially among faculty members at Delhi-National Capital Region universities. Contributing to the current body of knowledge and providing practical insights for educational institutions striving to create conducive and fulfilling work environments for their faculty members, this research aims to fill this gap by providing a nuanced exploration of the interplay between emotional intelligence, workplace spirituality, and teacher retention.

Background of the study

There has been a recent uptick in the importance of studying and developing emotional intelligence in work. Managing one's relationships, being aware of one's social environment, and being able to self-regulate are all components of emotional intelligence. It is a basic trait that affects how people deal with others, make decisions, and perform overall in work settings. At the same time, spirituality in the workplace is on the rise, which puts an emphasis on values, purpose, and connection beyond the mundane duties of the job, adding a more holistic component to the employee experience.

Rapid technological improvements and changing employee expectations are two of the many complex issues that modern firms face in the global workforce. One of these problems is keeping skilled and interested workers, which has become a major issue for business leaders who want to see long-term success. High turnover rates not only cost the company money, but they also make it harder to keep information alive, make teams less effective, and reach long-term goals. Because of this, studying the things that affect keeping employees has become an important field of study.

Emotional intelligence (EI), which was first proposed by Salovey and Mayer and made famous by Goleman, has become a major factor in determining success for both individuals and businesses. A high level of emotional intelligence is characterized by self-awareness, emotional comprehension, emotional regulation, and social competence. Yaseen, A. D. O. stated in 2020. Those high in emotional intelligence are more adept at finding solutions to issues, communicating effectively, and handling challenging people. Research has consistently shown a link between emotional intelligence and a few job-related outcomes, such as work happiness, performance, and, most importantly, employee retention.

Individuals with high emotional intelligence are better at building healthy relationships, handling stress, and adjusting to new situations. These skills help make the workplace a place where people feel valued,

encouraged, and involved, which encourages loyalty and commitment. (Korankye, B., & Amakyewaa, E. (2021)) Because of this, companies that want to create a workplace where employees will be happy for a long time need to know the specific aspects of emotional intelligence that affect employee retention.

Spirituality in the workplace has emerged as a powerful cultural shift driver, coinciding with the rise of emotional intelligence as a field of study. Workplace spirituality goes beyond standard religious ideas and speaks to a deeper need in people to find meaning, purpose, and connection at work. When businesses use workplace spirituality, they try to add a sense of community, morals, and a feeling of a higher purpose to their work. (Jena, L. K. (2022)

Recognizing the ever-changing nature of employee expectations, discussions about employee retention can benefit from including workplace spirituality. People are looking for more than just material perks at work. They want jobs that are in line with their values and make them feel fulfilled. Workers' health, happiness on the job, and loyalty to the company are believed to improve in an environment that prioritizes spirituality. (Nawaz, N., Gajenderan, V., Gopinath, U. M., & Tharanya, V. (2024)). An innovative and potentially fruitful line of inquiry into the multi-faceted dynamics of employee commitment could be to investigate the moderating role of spirituality in the workplace in the connection between emotional intelligence and retention rates.

There is no broadly accepted meaning to the concept of workplace spirituality, as it is complex and miscellaneous. Although WRS primary components include the search for purpose and meaning, existing in harmony with others, integrity, ethics, justice, fairness, believing in the divine and holistic.

Concept of Emotional Intelligence

Emotional intelligence (EI) is the skill of being able to identify, regulate, and use your feelings. A person with high EI is aware of his or her own emotions and the emotions of others, can use emotional knowledge to guide behaviour and thought, is able to differentiate the difference among various emotions, and can regulate emotions when responding to different situations.(Yaseen, A. D. O. (2020)) Daniel Goleman's seminal 1995 book Emotional Intelligence brought renewed attention to the idea of emotional intelligence (EI), which had been around since 1964. According to him, emotional intelligence encompasses many different aspects that influence a leader's effectiveness. A person's self-awareness is their ability to understand and control their own actions and responses. A lot of people thought of EI as a set of noncognitive skills that help people deal with stress and expectations in their environment. Emotionally intelligent people are said to know themselves well and be able to read other people's feelings. (Korankye, B., & Amakyewaa, E. (2021)) Another good thing about EI is that it is not a set trait but a trait that can be taught and improved.

Models of EI

Emotional intelligence, according to the ability model developed by Salovey and Mayer, is a collection of cognitive abilities that enable individuals to identify, comprehend, and manage their emotions. Being able to identify feelings, utilizing emotions as a cognitive tool, comprehending emotions, and effectively managing emotions are the four main points.

An emotional intelligence model that incorporates both general disposition (trait) and competency (ability) reaps the benefits of both. Goleman (2001) and Bar-On (1997) both present large mixed models of emotional intelligence. In essence, Goleman's mixed model is more grounded in practice, while Bar-On's mixed model is more theoretical. Daniel Goleman's mixed model integrates emotional and cognitive competencies; its five primary components are self-awareness, self-regulation, motivation, empathy, and social skills. Practical applications of emotional intelligence, particularly in managerial and interpersonal roles, are given considerable consideration in this approach.

Figure 1: Model of EI

| | Self | Other |
|-------------|--|----------------------------|
| | (Personal Competence) | (Social Competence) |
| | Self-Awareness | Social Awareness |
| Recognition | Emotional self-awareness | • Empathy |
| Recognition | Accurate self-assessment | Service orientation |
| | Self-confidence | Organisational awareness |
| | Self-Management | Relationship Management |
| | • Emotional self-control | Developing others |
| | Trustworthiness | Influence |
| | Conscientiousness | Communication |
| Regulation | Adaptability | Conflict management |
| | Achievement drive | Visionary leadership |
| | • Initiative | Catalysing change |
| | | Building bonds |
| | | Teamwork and collaboration |

Source: adapted from Goleman (2001)

Petrides and Furnham's trait model, on the other hand, sees emotional intelligence as a set of stable psychological traits, such as emotionality, self-control, sociability, and well-being. The trait model is different from the others because it sees emotional intelligence as a part of psychological traits that are more general. It focuses on long-lasting habits that help people control their emotions. The different models give us a different view on the parts and structure of emotional intelligence, which helps us fully understand this complicated Idea.

A person's emotional intelligence (EI) can be defined in a variety of ways; it is the capacity to identify, analyse, control, and constructively use one's own and other people's emotions. Developed by psychologists John D. Mayer and Peter Salovey and popularized by Daniel Goleman, emotional intelligence (EI) goes beyond IQ tests by recognizing the power of feelings to influence how people act and interact with one another. Knowledge of oneself, ability to control one's impulses, drive, empathy, and social competence are all parts of this concept. When people are self-aware, they can identify and comprehend their own emotions; when they are self-regulated, they are able to control and manage their emotional reactions. The process of directing one's feelings toward the accomplishment of one's objectives, both professional and personal, is what we mean when we talk about motivation. Being empathetic is being able to understand and react to other people's feelings, which helps build strong relationships. The ability to connect with others and keep those connections strong is a key component of social intelligence. EI is an important factor in leadership, workplace dynamics, and general interpersonal success, in addition to being a major predictor of personal well-being. This idea has shaped our knowledge of the complex relationship between feelings and actions, and it remains a central focus of research in many fields.

In the context of study on employee retention, workplace spirituality looks at how spiritual values and a sense of purpose affect how committed people are to their job and the company. Researchers may

investigate how a company culture that supports workers' spiritual health, sense of purpose, and sense of community can lead to higher job satisfaction and loyalty. Employees' choices to remain with a firm can be impacted by factors such as shared ideals, ethical considerations, and a sense of transcendence. (Shaheen, A., & Rashidi, Z. (2021)) This area of study could explore these influences further. Spirituality in the workplace has the potential to greatly improve morale and retention rates by bringing individual and company values into harmony. Emotional intelligence and employee retention studies look at how Emotional Quotient (EQ) affects workers' happiness on the job and loyalty to their company. Researchers may investigate how having a lot of emotional intelligence is linked to good communication, resolving conflicts, and having good relationships with other people, all of which lead to a helpful workplace.

Emotional intelligence as a leadership competency and its effect on staff engagement and retention might be the subject of future research. (Korankye, B., & Amakyewaa, E. (2021)) Organizations can improve employee well-being and retention rates by taking an emotional intelligence assessment and working to foster a culture of empathy. The elements that impact workers' choices to remain with a company can be better understood when studies on spirituality in the workplace and emotional intelligence are combined within the framework of employee retention. The compatibility of spirituality in the workplace with a culture that encourages emotional intelligence—including the ability to communicate effectively and resolve conflicts—may be the subject of future research. (Pradhan, R. K., Jandu, K., Samal, J., & Patnaik, J. B. (2023)) People who score higher on the emotional intelligence scale may be more inclined to stay with a company because they have a stronger sense of belonging and purpose at work.

An intricate relationship between Emotional Intelligence (EI) and Spirituality in the Workplace has been revealed by studies investigating this link. This relationship involves more than just an individual's emotional competence; it also involves larger aspects of company culture and the health of employees. Emotional intelligence is positively correlated with workplace spirituality, which is defined by a feeling of purpose, interconnection, and ethical principles in the place of employment. Research indicates that people who score higher on the emotional intelligence scale are more likely to help build a spiritually focused workplace by encouraging others to be more empathic, making more ethical decisions, and cultivating strong interpersonal relationships. On the flip side, spirituality in the workplace has the potential to pave the way for emotional intelligence to flourish in business environments. A spiritually infused workplace that is in harmony with its employees' emotional abilities may help those workers better handle difficult emotions, deal with stress, and form meaningful relationships. Organizational outcomes, such as higher levels of job satisfaction, organizational commitment, and purpose and fulfilment in one's work, are associated with spirituality in the workplace and emotional intelligence. Research in this area is providing valuable insights into how to create resilient and purpose-driven workplaces by illuminating the reciprocal influences of EI and workplace spirituality. This is especially important as organizations begin to understand the significance of holistic approaches to employee well-being and organizational culture.

More recent studies have explored the complex relationship between Emotional Intelligence (EI) and Spirituality in the Workplace, finding that the two go hand in hand and impact the whole company, not just individuals. Employees that score higher on the emotional intelligence scale tend to be more spiritually connected and help foster a more spiritually focused culture in the workplace. These people have a natural gift for understanding and managing people's emotions, creating welcoming environments, and living up to the spiritual principles that are essential to a spiritual workplace. The flip side is that employees are more likely to develop and use emotional intelligence in a workplace that is rich in spiritual values. Emotional

competencies, such as self-awareness, empathy, and effective communication, can flourish in a spiritually oriented workplace because of the shared values of purpose, interconnection, and ethical behaviour. Workplace spirituality and emotional intelligence have a positive feedback loop that benefits organizations. When employees feel spiritually connected to their work, they are more invested in it, and they like coming to work more. Organizations are increasingly focused on building purpose-driven and holistic workplaces. One important technique to promote individual and organizational flourishing is to understand and nurture the complex relationship between EI and workplace spirituality. For leaders and practitioners seeking to foster purpose-driven and resilient corporate cultures, the intricate intricacies of this relationship are being further uncovered by ongoing research in this field.

Employee Retention

Employee retention refers to the practice of motivating individuals to remain with a company for an extended period or until a project is finished. Employee retention refers to the deliberate steps done by a business to implement measures, tactics, and strategies that encourage present employees to stay with the organization. The term "employee retention" refers to the actions taken by firms to motivate and inspire their employees, with the goal of preventing them from being lured away by competitors. These efforts aim to encourage employees to stay with the organization for a longer period. The Employee Retention Rate (ERR) is used to measure an organization's success in retaining its personnel. If the Employee Retention Rate (ERR) is high, it indicates that the business has achieved success in its endeavours to keep the employees it desires to keep. Employee retention refers to an organization's capacity to retain valuable personnel who contribute to the company's success (Korankye, B., & Amakyewaa, E. (2021)). When a business has a very low retention rate, it will be compelled to bear significant additional expenses for the recruitment, selection, and training of new staff.

Employee retention rates are affected by a lot of different factors. Various scholars have placed emphasis on different aspects that influence employee retention. (Pradhan, R. K., Jandu, K., Samal, J., & Patnaik, J. B. (2023) discovered that employee retention or lack thereof was influenced by local labor market conditions and demographic factors of the personnel, rather than the organizational climate. According to McEvoy and Cascio's study, firms tend to keep highly performing individuals rather than lower performing ones. Absah, Y., Rini, E. S., & Sembiring, B. K. F. (2020) observed that the retention rate differs throughout industries, however none of the research identified any HR characteristics that moderate this relationship. According to Astuti, L. C. W., et al (2022), staff retention or turnover can be influenced by pull or push forces. Pull factors refer to the circumstances that compel a person to quit their current work in favor of more appealing alternatives in the market. This can occur even if the individual is content and fulfilled in their current position. During such circumstances, the employer must investigate the underlying cause of the high employee turnover and understand the true expectations of the employees. If the employee is of great importance, the business should offer adequate incentives to ensure their retention inside the firm. The push factors refer to the variables that discourage employees in the current work environment.

Objectives of the study:

- 1. To analyse the factors influencing employee retention among teachers in higher education institutions in Delhi-NCR.
- 2. To investigate the relationship between emotional intelligence and employee retention among teachers in higher education institutions in Delhi-NCR.

3. To provide recommendations for educational institutions in Delhi-NCR to enhance employee retention by fostering the development of emotional intelligence skills among teachers.

Hypothesis of the study

H0: Emotional intelligence does not significantly impact employee retention among higher education teachers in Delhi-NCR.

H1: Emotional intelligence significantly influences employee retention among higher education teachers in Delhi-NCR.

Research Methodology:

Research method: Exploratory research method

Sampling type: Combination of Purposive and convenience sampling

Sample Size: 170

Statistical Tools applied: SPSS

Method Used: Regression analysis and Descriptive Statistics

Findings and Data Analysis

The study investigated the correlations between Emotional Intelligence and employee retention using regression analysis. The analyses conducted in this method utilized SPSS.

Table 1: Regression Statistics

| Regression Statistics | | | | |
|-----------------------|----------|--|--|--|
| Multiple R | 0.789065 | | | |
| R Square | 0.622624 | | | |
| Adjusted R Square | 0.620378 | | | |
| Standard Error | 8.564272 | | | |
| Observations | 170 | | | |

(sources: Authors' own)

Table 2: Anova

| | | | | | Significan | | |
|------------|-----|----------|--------|--------|------------|--|--|
| | df | SS | MS | F | ce F | | |
| | | | 20330. | 277.17 | | | |
| Regression | 1 | 20330.22 | 22 | 95 | 2.18E-37 | | |
| | | | 73.346 | | | | |
| Residual | 168 | 12322.26 | 76 | | | | |
| Total | 169 | 32652.48 | | | | | |

| | Coeffici | Standard | | P- | Lower | Upper | Lower | Upper |
|-----------|----------|----------|--------|--------|----------|---------|----------|----------|
| | ents | Error | t Stat | value | 95% | 95% | 95.0% | 95.0% |
| | 35.5029 | | 8.8341 | 1.3E- | | 43.4368 | | |
| Intercept | 1 | 4.018845 | 09 | 15 | 27.56897 | 6 | 27.56897 | 43.43686 |
| | 2.45600 | | 16.648 | 2.18E- | | | | |
| X | 9 | 0.147519 | 71 | 37 | 2.164778 | 2.74724 | 2.164778 | 2.74724 |

(Source: Authors' own)

The regression analysis conducted on the dataset consisting of 170 observations provides valuable insights into the correlation between the predictor variable (X) and the outcome variable (y). The study reveals a robust positive linear connection between X and Y, as evidenced by a correlation coefficient of roughly 0.789. This implies that as the value of X increases, the value of y also tends to increase, suggesting a positive correlation between the two variables.

Furthermore, the regression model demonstrates significant explanatory capability, as indicated by the R-squared value of roughly 0.623. This suggests that around 62.3% of the variation in y may be accounted for by alterations in X. Put simply, the model accurately captures a significant amount of the variability in the outcome variable, offering a strong foundation for comprehending the link between the variables being examined.

In addition, the model's statistical significance is verified using the ANOVA test, which produces a substantial F-statistic of 277.18 and a corresponding p-value of 2.1828E-37. This suggests that the regression model is capable of accurately predicting changes in y by examining changes in X, which further strengthens the credibility and consistency of the results.

Upon closer scrutiny of the coefficients, it becomes evident that both the intercept and the coefficient for X exhibit statistical significance, as indicated by p-values less than 0.05. The intercept, estimated to be around 35.503, indicates the projected value of y when X is zero, offering important foundational information about y in the absence of X. Conversely, the coefficient for X, which is approximately 2.456, indicates the rate at which y changes for every one-unit rise in X. This demonstrates that each incremental rise in X results in a corresponding increase of around 2.456 units in the anticipated value of y, emphasizing the clear and measurable influence of X on y.

The regression model provides strong evidence of a significant and meaningful association between X and y, highlighting the model's ability to predict variations in the outcome variable y based on changes in the predictor variable X. These findings provide vital insights to the current body of literature and improve our comprehension of the relationships between the variables being studied.

Findings and Conclusion: The regression analysis on the dataset reveals a strong positive relationship between predictor variable X(EI) and outcome variable y(ER), with a correlation coefficient of 0.789. The

model explains 62.3% of y's variance, indicating its predictive capability. The ANOVA test confirms the model's significance (p < 0.05), with an F-statistic of 277.18. Both intercept (35.503) and X coefficient (2.456) are statistically significant, suggesting that as X increases, y also increases by 2.456 units. Organizations that prioritize spiritual values, a sense of purpose, and a supportive community are more likely to retain employees, as evidenced by the positive correlations observed in the study. Organizational leaders may use these findings to create a supportive work environment that promotes emotional intelligence. This will help their employees stay longer and be more productive

Results and Discussion

The study's findings shed light on the role of emotional intelligence (EI) in retaining faculty members within universities in the Delhi-National Capital Region (NCR). The hypothesis, proposing a positive correlation between EI and employee retention, is supported by the data analysis. Specifically, the study reveals that instructors with higher levels of emotional intelligence tend to exhibit greater job satisfaction, commitment, and loyalty towards their employing institution. These insights suggest that emotional intelligence plays a crucial role in shaping teachers' attitudes and behaviours, thereby influencing their likelihood of remaining in their positions.

These findings carry significant implications for higher education institutions seeking to improve employee retention strategies. By recognizing the importance of emotional intelligence in fostering teacher satisfaction and loyalty, institutions can design targeted training and development programs aimed at enhancing EI competencies among faculty members. These programs could include workshops, coaching sessions, or other interventions focused on emotional awareness, self-regulation, empathy, and interpersonal skills. By equipping teachers with the tools to better understand and manage their emotions, institutions can create a more supportive and conducive work environment, ultimately leading to higher retention rates.

Limitations of the study

It is important to acknowledge the limitations of the study. Firstly, the narrow geographic scope of the research, focusing specifically on universities in the Delhi-NCR region, may limit the generalizability of the findings to other contexts. Additionally, the study's reliance on cross-sectional data provides only a snapshot of the relationships between variables at a single point in time. As such, future research efforts should aim to address these limitations by conducting longitudinal studies or expanding the geographic scope to examine the enduring impact of emotional intelligence on employee retention across different settings. By delving deeper into these processes, researchers can gain a more comprehensive understanding of how emotional intelligence influences retention dynamics and identify effective strategies for promoting faculty satisfaction and longevity in higher education institutions.

Recommendations of the study:

According to the results of this study, we may suggest numerous solutions to improve the ability of higher education institutions in Delhi-NCR to keep their instructors. First and foremost, institutions should give priority to implementing emotional intelligence training programs that are specifically designed for

instructors. These programs can assist educators in cultivating vital abilities such as self-awareness, self-regulation, social awareness, and relationship management. These skills are key for nurturing strong workplace connections and reducing job-related pressures. In addition, cultivating a culture that encourages ongoing feedback, and support can enhance the development of emotional intelligence abilities in teachers, equipping them with the essential tools to effectively handle difficult situations. This may entail integrating mindfulness exercises, advocating for ethical leadership practices, and fostering a feeling of community and purpose among staff members. Institutions can increase job satisfaction and organizational commitment by promoting a sense of belonging and connection among employees, which in turn leads to improved retention rates. Moreover, institutions should give priority to initiatives aimed at establishing a nurturing and all-encompassing work atmosphere that places importance on the welfare and career advancement of teachers. This may entail providing prospects for professional growth, instituting adaptable work schedules, and furnishing sufficient resources for handling workload and job-induced stress.

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Abstract

Commerce, as both a theoretical concept and a practical endeavor, has been at the heart of human development for centuries. From the earliest barter systems to today's complex global trade networks, commerce has continually evolved, driven by advances in technology, shifts in economic policy, and changes in consumer behavior. The purpose of this article, COMMERCE: Theory and Practice, is to explore this evolution, examining how foundational theories of commerce intersect with modern-day practices. In an age where digital transformation, globalization, and sustainability are reshaping markets, understanding both the principles and the real-world applications of commerce has never been more crucial. This article aims to bridge the gap between theory and practice, providing readers with not only a historical and conceptual understanding of commerce but also insights into contemporary trends that are shaping the future of trade, business, and consumer relations.

The discussions herein will cover key theoretical frameworks that have informed commerce over the years, along with case studies and examples of how these theories are implemented in today's dynamic markets. Whether you are a student, a professional, or simply someone interested in the mechanics of trade and commerce, this article offers a comprehensive guide to understanding the forces at play in the commercial world.

Keywords: Commerce, Globalization, Digital Transformation, Trade Networks, Economic Policy, Consumer Behavior

Introduction to Commerce

Commerce is that part of business which is concerned with the exchange of goods and services. It covers all those activities which directly or indirectly facilitate that exchange. The term 'Commerce' means trade. Trade is not restricted to the exchange of goods only. It implies all the activities which relate to the purchase, the sale, or the exchange of goods and services. All those activities which facilitate trade automatically become a part of commerce, e.g., transportation of goods, banking, insurance, and advertising. It also includes activities connected with such businesses, e.g., warehousing, packaging, and storage of goods. Commerce is different from business. While business involves all activities connected with the production and exchange of goods and services, commerce pertains only to the interests involved in the exchange of goods and services.

Business is an economic process involving production, distribution, and exchange of goods and services with a view to providing society with desired satisfaction. The concept of commerce is broad-based, including all business functions, trade, and auxiliaries to trade. Commerce is an important subject of study. Any student of commerce should have a good grasp of this subject. Whether he seeks employment or engages in business of his own, his career will certainly involve trade and commerce to a greater or lesser extent. The commerce student has the distinct advantage of having an easy and wide choice of career paths open to him. Most other fields of study, such as arts or science, require a base in commerce to facilitate their future careers involving areas in the field of business or trade.

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Definition and Scope of Commerce

The fundamental principle underlying all commercial activities is to satisfy the needs of consumers. Commerce seeks to act as a bridge between producers and consumers in order to satisfy the needs of the consumer. This can be achieved with the help of intermediaries such as wholesalers or retailers. Business firms have a variety of reasons to undertake commercial operations. Some companies conduct business to make a profit, while nonprofit organizations conduct business to attain other social or cultural goals. All businesses are concerned with meeting consumer needs but must abide by the rules of the marketplace. There are various activities involved in the process of meeting consumer demands. In addition to ensuring that products reach the consumer in a timely manner, the products must be affordable as well. Products must be marketed according to consumer demand and need to be stored and presented to the consumer in the right way. There are also costs related to physical distribution. It is important to look objectively at costs deriving from marketing, sales, and computation of demand. The most competitive markets are those where the product is best known, and most products are in the most suitable form. For companies to conduct sales activities, corporations use professional salespeople and attempt to minimize buyer risk. In addition, they often use elaborate distribution networks to facilitate the transaction process.

Historical Development of Commerce

The successful exchange of products made trade relations regular over time, and different people handled various products according to their convenience. Thus, commerce formed different occupations, and different directions were given to it. Present-day commerce is derived from these developed forms of commerce. Therefore, it is better to have knowledge of the history of commerce to understand present commerce completely. From earliest times, the inhabitants of the great valleys of the Nile, the Euphrates, and the Ganges traded various articles for which the countries were suited, including gold, silver, precious stones, textiles, dates, spices, and drugs.

The people of Western Asia, the first travelers by land and by water, found in their high degree of civilization a labor that, far from occupying all their time, left them abundant leisure. Thus, the most intelligent naturally used this leisure to improve their own situation by increasing the wealth that could easily be secured in exchange for the products of their labor. Besides the country tillers, there appeared herders, pastoralists, miners, hunters, and soldiers of all kinds, forming thereby almost as many different divisions of labor. This is the first step of man in this continual quest for ease and comfort. Those who tilled the soil produced an abundant supply of food, and others either worked for or paid them, receiving their supplies in exchange. Commerce, therefore, was born.

Methodology

This article is based on secondary sources like books, journals and websites.

Purpose: Analyze and interpret the findings in the context of commerce theory.

Approach: Compare the practical results with the theoretical concepts to identify trends, challenges, or opportunities. Discuss how well current theories explain the phenomena observed in your study.

- Objectives
- i) to Review the Theoretical Foundations of Commerce
- ii) to Explore the Impact of Digital Transformation on Traditional Commerce Models
- iii) to Assess Consumer Behavior in the Context of Modern Commerce
- iv) to Identify Key Trends and Future Directions in Commerce

- v) to Evaluate the Role of E-Commerce in Global Business
- vi) to Compare and Contrast the Theoretical and Practical Aspects of Commerce
- vii) to Provide Practical Recommendations for Businesses and Policymakers
- viii) to Contribute to the Academic Understanding of Commerce in the Digital Age

Theoretical Foundations of Commerce

Diverse in form and content, often contradictory theoretical views are explained by the diverse subject of commerce, by the paradox of the harmony of unity and diversity of its functions, by the principles of democracy and pluralism, and by its connection to the historical development of society. Commerce impacts the development of society and its economic essence. It promotes globalization and economic development, while also deepening geographical, economic, production, and innovation imbalances. The success of business activity defines the satisfaction of people's material, psychological, and social requirements. Therefore, in connection with the problems of ensuring a more complete satisfaction of society's economic requirements in the context of a shortage of economic resources, commerce theory plays a significant role. With these objectives, it has developed as an independent science over the last several decades, focusing on the material and moral requirements implemented in the strategic objectives of economic policy, both at the national and international levels. Commerce fits into the group of sciences that analyze and research the problems that express the structure, organization, activity, and communication functioning of entities that achieve economic interests. However, commerce has its particular specificity: it ensures that communication between economic entities is established to achieve or satisfy two main types of economic interests. Thus, if we refer to a trade company, it contributes to the establishment of communication between the producing entity and the final consumer. However, the producing entity can also be a commerce company, as it is interested in selling other produced products.

Recent studies in commerce highlight several emerging trends and developments in the field:

- Social Commerce (S-Commerce) and Sharing Commerce: Technological advances have shifted
 the focus from market-centric to user-centric commerce. S-commerce, combining e-commerce with
 social media elements, and sharing commerce, which emphasizes collaboration between platform
 providers and users, are gaining traction. These models promote co-creation of value and
 sustainability
- 2. **Sustainability in E-Commerce**: With the rise of digital platforms, sustainability has become a central theme. Studies show how e-commerce can contribute to more sustainable practices through reduced environmental impact and more efficient logistics, often accelerated by advancements like mobile commerce and AI
- 3. Cultural Dimensions in Online Purchase Behavior: Research also investigates how cultural differences influence consumer behavior in digital environments, focusing on how national culture affects trust, buying decisions, and user experience on e-commerce platforms

These studies reflect a dynamic shift towards more collaborative, sustainable, and culturally nuanced models in modern commerce.

The exploration of the significance of commerce in today's world underscores its pivotal role in shaping the global landscape. The study has delved into the intricate dynamics that define the contemporary business

environment, emphasizing the multifaceted impact of commerce on economies, societies, and individuals. Most recent (2024) findings highlight the transformative power of technology, globalization, and changing consumer behaviours, all of which contribute to the evolving nature of commerce. The study recognizes the importance of adaptability and innovation for businesses to navigate these dynamic forces successfully. The interconnectedness of commerce with social, economic, and technological factors reinforces its status as a driving force behind societal progress. As commerce transcends geographical boundaries, it plays a crucial role in fostering international collaboration, economic growth, and cultural exchange. Moreover, the study acknowledges the challenges and ethical considerations that accompany the ever-expanding influence of commerce. Issues such as sustainability, inclusivity and responsible business practices emerge as critical aspects that demand attention and concerted efforts from businesses, policymakers, and society at large. In navigating these dynamics, the study emphasizes the need for a holistic approach that combines business acumen, technological proficiency, and a commitment to ethical and sustainable practices. It encourages stakeholders to embrace innovation, leverage emerging technologies and foster a culture of continuous learning to stay abreast of the rapidly changing commercial landscape. In conclusion, this exploration into the significance of commerce in today's world serves as a call to action for businesses, policymakers, and individuals to understand, adapt, and contribute positively to the evolving dynamics of global commerce. By recognizing the interconnected nature of commerce and its impact on diverse facets of society, we can collectively strive for a more sustainable, inclusive, and resilient future.

Economic Theories and Concepts Relevant to Commerce

The commercial sector of any society – public or private – is governed by its economic underpinning. While commerce tends to mould and create long-term economic pathways, it is equally reliant on economic theories and practices to progress. Despite the importance, few universities and colleges specializing in commerce pay a great deal of attention to the formal introduction of economic theories relevant to practical commerce. In this section, an attempt is made to identify the economic theories and concepts that students should consider when studying commerce. For ease of understanding, four main economic models are put under the microscope: (1) market models, (2) supply and demand models, (3) cost models, and (4) economic relationships.

Market models are particularly relevant to the study of industrial psychology, which systematically explains the level playing field within the country or at a global level. Understanding how market models are derived and structured can explain how models function and why 'do's and 'don'ts are tested and questioned. Economic concepts such as economies of scale can also be tested using these theories. The supply and demand model takes the market level approach one step further and evaluates the outcome of various market models in terms of central determinants in the commerce process. The effects of non-price change, the market demand, and market quantity relationship are critically evaluated in terms of new product introduction and marketing activities. There are not only prices, but also consumer and social responsibilities, economic conditions, and market failure. Explanations of financial models for corporate behaviour can be evaluated with the use of supply and demand models.

Business Models and Strategies

A business model is a conceptualization of the idea that founds the commercial foundations of a new venture. It might indicate the structure of the relationships between firms, clients, and suppliers in the

startup stage, and the core competencies. It is also the description of a business that an entrepreneur proposes for the successful operation of a marketing project. Although business models are the foundation upon which business activities are built in any organization, the business model as a term and frame of reference for understanding organizations, differently from strategy, has come to prominence only recently and mostly in relation to the Internet. To date, the majority of research focuses on mechanisms for the creation of business models or tools to manage them.

From the resource-driven view of the firm, a business model is a configuration of resources and transactions aiming to offer unique value to selected clients and generate more revenue streams. According to the positioning-driven view, a business model defines the position of a firm within the value chain and how the firm captures part of the value in a network by creating and trading value with customers and suppliers. Both views match with the concept of business model, especially from the view of strategy as well as from the organizational and behavioral perspectives. However, their main concepts are shown clearly in the e-business world. For example, regarding the concept of a business model as an oriented activity, the general approach is to define three components: the type of asset that the company manages, the way it behaves, and how the company exploits its assets.

Legal Framework of Commerce

Specifying a comprehensive normative framework of commerce is a precondition for prospects, effectiveness, and legal guarantees of its activities. In the legal framework of commerce in Bulgaria, there are a few levels and types of international, European Union, and national acts related to commerce. The norms of international law regulating the issues of commerce in its essence are mainly the acts of one special code of private international law for a specific region, group of countries, or whole countries. Under Bulgarian law, there are a number of international acts regulating the substantive and procedural issues, such as the international acts regulating the international opportunities for taxes, the acts regulating the products, distribution of goods, intellectual property, protection of foreign investment, and dispute resolution related to commerce. These can be considered by other countries also.

Contract Law and Commercial Transactions

The practical issue that most readily comes to mind in connection with the opening up of relations between enterprises and markets in the Soviet Union relates to efforts to get contract law and transaction technology functioning at near-world-class levels as rapidly as possible. Good contract law is defined to require, as a minimum, acceptance of the basic notion that the contracts that people would write and sign in the presence of perfect information should generally not be interrupted by the state. Commercial transactions are satisfactory to the extent that all of the following are true: the technology of exchange is used effectively and efficiently; that is, buyers and sellers are protected from unwise or malevolent action by the other party to the transaction; that both parties can participate if they wish; and that the gains from trade are limited only by the property rights over which the parties have rights.

In general, commerce can expand to fill the demand for foolproof exchange techniques by inventing strategies and codes that limit the rational grounds for contractual interruption. Theorists of captive market exchange take advantage of a narrower set of options limited equally by low information. The transactional technique that is termed 'political exchange', for example, is available only in the presence of a reliable

cartel and reliable profit-maximizing behaviour on the part of all its members. Of course, 'reliable' does not mean 'perfect': all that is required are high marginal (not infinite) costs to profit-maximizing deviations from the rules of the club. Reliability rests on informed and active members who can impose credible market-share penalties on reneging cartel members.

Regulatory Compliance in Commerce

A special feature of trading activity is that commerce is completely connected with public interests. Compliance with law and ethical norms is the necessary condition for the successful operation of the enterprise. Everyone knows that illegal activity, the aspiration "to grow rich today, without thinking of tomorrow" - that is the basis of many failures and problems in business. The attitude of suppliers and manufacturers towards compliance with the established state requirements is a sign of reliability and a guarantee of the timely supply of goods. It is in commerce that the moral principles of social life are most vividly shown; various human endeavours gradually converge into a uniform food production and distribution industry.

Regulatory legal acts do not only regulate the activities of trading companies but also have a social focus. They limit the absolute freedom of economic entities. This, for example, concerns the production and sale of dangerous goods, consumer protection, and regulating the main principles of public catering at the national level. Compliance with the established law and ethical standards is the minimum guarantee of supplier reliability; the basic principle of supplier relations is equal rights and opportunities. Compliance with the established distribution standards is a necessary and sufficient condition for avoiding friction with representatives of commercial structures. Compliance with the established standards is also aimed at securing the self-commitment of the enterprise towards the state.

Financial Management in Commerce

Commerce activity without financial and investment resources is impossible. The existence of a certain sum of money provides a guarantee of the solvency of the enterprise. From the point of view of financial management, the formation of a warehouse of funds to satisfy the needs of business is the key problem. Financial management in commerce provides a system of directions and coordination of all kinds of relationships in the sphere of moving and using money. There are three kinds of participation of commercial subjects in the process of financial management: executor, initiator, and customer. During financial management, strategic planning of both income flows and financial resources occurs between all kinds of commercial activity and the formation of a warehouse of financial resources comprising investment appeal, effective taxes, and the least level of solvency, as well as a minimal level of creation and the simplest management of financial responsibilities of the subject of finance and economic activity and creditors' equity. During the realization of financial activities, financial management provides the realization of functions of credit, investment, and currency decisions, building long-term strategic behaviour of the enterprise.

Financial Statements and Analysis

The foundation of financial analysis is the general financial statement, also called a commercial balance, where the situation of the business organization is contained at a certain moment. A commercial balance presents succinctly, but with emphasis on the attached, the situation of the entity at a certain moment. We

can say that it is a photograph that tries to capture all the activity of the company on a certain date, establishing a relationship between the applied goods and transformed resources on one part, and the origin of these resources on the other; this capture will show patrimonial and financial aspects. Two points can be stressed in this definition: on one hand, that there are both situations about the entities that dedicate themselves to profitable and non-profitable activities, in people or companies; and on the other hand, the importance given to the counted elements, which are transformed into the instruments that users have to acquire or increase either their anatomical knowledge or the enterprise and its major aspects.

The statistical balance, or commercial balance, or financials, as some account writers call them, generally includes two columns, and the sum of the two columns will be the same. One of them refers to the goods that belong to the entity, which differentiates or breaks up into two other accounts of the recorded process: the accounts of transitory classification and the constant one. Next, the balance of financial structure details the source of the resources that the entity used to acquire those goods, and the quality of the goods used. This representation tries to focus on the transitory, but repetitive, process that must follow the types of business organization.

Budgeting and Forecasting

Budgeting and forecasting are essential for planning and monitoring the economic activities of a commercial enterprise. This involves setting quantitative determinants of the plan for economic activities in the near, medium, and sometimes far future. The plan is directly dependent on the actions of consumers, producers, and other economic agents and serves as the basis for the regulation of the economy as a whole or individual markets, economic entities, business processes, departments, and individual jobs. Successfully forecasting the implementation of the plan, the unattainability of the forecast during the subsequent comparison and analysis of the causes and conditions of the future becomes the basis for business analysis and management.

The purpose of budgeting is to indicate to the heads, divisions, and employees the specific figures of the products of company operations (types of revenues, expenses, physical key performance indicators, prices, etc.), with which they will have to operate soon, and to control and evaluate their work. For non-profit organizations, the budgeting and forecasting process is oriented toward working with appropriations from the state budget, donations, and engagement in commercial activities. The aim is to establish the main economic goals for increasing the welfare of the company's employees and to formulate the main levers of the commercial strategy, which serves to strengthen the economic and social power of non-profit organizations and to increase the satisfaction of the needs of the managerial and unproductive staff and specific groups and individuals.

Marketing and Sales Strategies

For any entrepreneur, an understanding of marketing and sales strategies is crucial to the ability to operate effectively. Marketing and sales are separate but closely related aspects of trading. Marketing consists of all the activities involved in getting goods from the producer to the customer, including dealing with the marketing problems of the wholesaler and the retailer. Marketing activities also include studying consumer needs, linked with product development. Sales coverage is concerned with the specific selling, warehousing, and delivery of goods.

To a bookseller, publisher, and manufacturer of storage systems, handling these continuing changes involves concrete practices. You probably know how significant and how successful a well-planned sale can be. Although quality and popularity have much to do with the success of many books, many support services bookmark their success through a continual and consistent emphasis on the book. Providing a further concentration in this area, marketing and sales performance services that can add positively to a product's exposure seem natural aspects of Progressive Publishing. Keep in mind, however, that objectives and goals come first. Customer loyalty comes from a simple, direct, and considered appeal. Once you are satisfied with a clear united thrust—to encourage a buy or to acknowledge the continuing relationship voluntarily without an immediate purchase—then how to best position the task?

Market Research and Consumer Behaviour

As far as an entrepreneur is concerned, the task here is to determine the state and the levels of requirements of potential clients for products and to use the market research to organize production and undertake commercial activities in such a way that the requirements of consumers are most effectively and profitably satisfied. Commerce is essential in order for consumers to easily acquire the goods they require at the place and time needed. One of the most important aspects is the ideological function of commerce, which consists of inducing the retail trader and the intermediaries to order the goods that consumers need and to stock their shops with those goods. Instructions and recommendations given to consumers by the producers may aid in increasing demand for the producers' products when the goods reach the retail level. Commerce is directly interested in increasing the number of people, the amount of goods, the purchasing power of consumers, the level of requirements of consumers for different products, and the qualities that producers usually produce them with. Commerce engages in market research and the study of consumer behaviour, and it attempts to persuade producers to change their price and production policies, as well as relationships influenced by other factors, to develop demand. It does not play a deciding role in the decision of producers to concentrate the production of any product in a concrete direction.

Advertising and Promotion

As a promotional tool, advertising is used for information and persuasion and requires separate consideration of its various forms. Each type of advertisement is not equally suitable for the trade. There are many conventions and rules that have evolved over many centuries of practice, and it is a breach of these conventions that makes a bad advertisement. The need for advertising often arises when any business wants to attract attention from the public.

The first step in advertising is that the company has a product or service to sell. The advertising comes before the sale is agreed upon by the selling techniques, which generally require a different method of presentation from that used in advertising. The first necessary quality needed for good advertising is that it should initially catch your attention and keep it. It must attract our attention so that it gets at least a fleeting glance. It should also attract interest so that we take a good look at the advertisement. It must follow good copy so that it pierces our interest. It should also hold our interest while we have a good look and read every word. Finally, it should stimulate action.

Supply Chain Management

Supply chain management (SCM) is about coordinating the activities, parties, and resources that are involved in moving a product from the supplier of raw materials used to make the product available to the end consumer. Although such coordination is important for all companies, it is very important for largescale retailing (LSR) enterprises. Some of the reasons why LSR companies depend so much on SCM are due to the high number of SKUs to be managed, the existing offer of products, the need to rapidly respond to consumer requirements, the large number of distributors to manage along with their needs, promotions, and constraints, and the work to be done to coordinate the entire demand/supply chain. Each of the steps of a supply chain aims to add value to the product, which is why it is important for each step to be coordinated in a way that companies share information and link their activities, promoting cooperation among the participants of the supply chain to maximize and share the benefits that result from the resulting synergy. To serve the target market, whether it be a line of businesses or an end consumer, all enterprises must work together, and the synergy they create will benefit all participants. By coordinating efforts and leveraging capabilities across companies, the supply chain allows all participants to profit. Chain management can be defined as such: The integration of key business processes from end user to the original suppliers that provides products, services, and information that add value for customers and other stakeholders. The above definition suggests that an SCM enterprise is externally oriented, and that maximizing value to the customer is the focus of the supply chain. From orientation comes the idea that an SCM company is not being run for internal reasons such as to gain size, profits, or power, but to fulfil customer needs, solve customer problems, or contribute to customer benefits. Activities such as the integration of suppliers, inbound and outbound logistics, distribution channels, warehousing, materials handling, and transportation are concerned with the inbound movement of materials and with the outbound flow of finished products from the point of production to the consumer. It is interested in reducing costs and therefore increasing the market share and the competitiveness of the company, reducing the prices/costs of products. In essence, SCM is about competitiveness and customer value. The management of the supply chain is a way of minimizing the costs of the entire chain, always considering that the focus must be the customized clients' needs and that the most important partners of the chain are both the supplier and the client. The best companies, instead of only controlling their costs, are continuously reducing them. Companies that leverage their supply chains, communicate with strategic partners, and make the supply chain partners understand what the company is trying to accomplish deserve the title of a supply chain leader. This is the opposite of the concept of buying at lowest cost and selling at the highest price. The benefits of a true ongoing partnership with suppliers are enormous and often reduce the cost/time of development to slivers of what they were. For other companies that are not able to optimize their resources, the results are those we observe: growth of inventories, increases in delays, costly production management, discounts over the production cost, and new and even more complex orders that arise for companies that are not able to manage their costs in a rational way. Inefficient organizations suffer from a lack of competitiveness, and if they want to remain in the business scenario, they need to change.

Logistics and Distribution

Logistics, or the planning and overseeing of goods from origin to the consumer, is a vital part of the commerce landscape and has become a complex process as commerce grows and customer requirements increase. Products must be available in the right quantity, at the right location, and at the right time to meet

customer requirements, as well as to minimize the costs associated with stocking. Countries must import raw materials and export finished goods with speed and efficiency in order to be competitive in a growing international marketplace. To have a successful logistics operation, a company must build an effective transportation system. This includes the choice of transportation type, as well as building good relationships with transport providers. All companies need to re-evaluate transportation decisions to make sure that they are meeting customers' needs at the lowest possible cost. We will examine this process, which is called physical distribution. As we do so, we will consider differing customer requirements. In the early 1900s, companies discovered that organizing the factory to produce products was just as important as selling them. MRP is only a beginning in that it tells the firm when to produce a part, but it does not address the issue of how to get the part from the factory to the next step in the assembly process, nor does it address the issue of getting product to the distributor and ultimately to the consumer. Hence, the need for logistics and distribution became clear to most organizations, and organizational linkages were made between the factory floor and the logistics organization.

Inventory Management

This is one of the most complex problems that can arise in any type of commerce. In fact, inventory management is the focus where the administrative part of a company meets the purchase and production in its broader understanding. Although, in a general sense, inventory costs do not contribute to the product cost in the same way as labor costs or investment capital that is necessary to install the company, it is necessary to consider that changes in the inventory do involve the active buying or selling of products, with a corresponding impact on working capital. The goal, then, is to maintain the inventory at an adequate level that meets the demands of the company without adding excessive costs. In this rhythm, one can see that the inventory management levels more strictly relate to the logistic aspects of the company, dealing with the circulating capital employed quickly and efficiently. Naturally, these issues should be evaluated quantitatively, since they require large amounts of capital.

The goods held in the warehouse consist of five basic elements. There are finished products being marketed, intermediate goods used in production, raw materials that are purchased and stocked in the warehouse for subsequent use, and sometimes, supplies that are necessary for the normal maintenance of the production and finishing processes. Various systems can be pursued for treating the physical control requirements according to the company's needs. There are innumerable relationships that we could establish between the control requirements and the size of the company or the activity carried out by it, whether the company is retail or wholesale, or is in the manufacturing or services area. We could also establish a relationship between the inventory management systems installed and the progress of the country in which the company is established.

E-commerce and Digital Marketing

E-commerce has changed the way of doing business, fundamentally altering the structure of whole industries, including banking, communication, distribution, finance, insurance, retail, transportation, and travel. The same forces at work that have made e-commerce as significant as it has suggested that the likely business environment of the future is one in which global competition, strategic alliances, and networked economies will become increasingly prominent business issues. Digital marketing, within an e-commerce environment, refers to business activities, including marketing support and communications, such as online

advertising, direct marketing, e-loyalty, customer support, and personal selling, which are conducted over digital networks that feature much of both push and pull communication, linking consumers and sellers. The commercial interest in the Internet has therefore rapidly expanded from its original, modest roots. The relative benefits that it could bring are largely responsible for such rapid consumer exposure. While the pace of commercial e-commerce growth has hitherto been remarkable, and a critical mass of businesses began to develop and implement dedicated e-commerce strategies as the potential benefits, the incentives to engage in e-commerce are less attractive in areas where the potential payoffs are lower. Further, the Internet is a very real market; its rise is reshaping just about every available industry, and the winners of the future will be those companies capable of adapting.

Online Retail Platforms

The 4th industrial revolution has transformed the economy and lifestyle of individuals, and one of the industries that have changed along with it is commerce. Commerce, which is the industry that procures retail goods or services for consumers, is no longer a limited area but a well-known industry that everyone experiences. Electronic commerce, an area that is rapidly gaining interest, is expanding steadily to the extent that the border between consumers and producers is disappearing. Some commerce companies only exist online, and the frequency of consumers who purchase products online is increasing. In the commercial industry with a high online presence, big bots and retailers are juggling to attract consumers who have no borders. Stores such as Amazon, Tencent, Alibaba, eBay, and others, which support this kind of online shopping, are rapidly developing and are receiving high marks in the stock market with their rise.

These big companies are often called commerce platforms. When the platform first appeared, it was just a place where various products were gathered and service exchanges were made, but they have evolved into a combination of the marketplace and the logistic capabilities of wholesalers and retailers by collecting and analysing a large amount of online consumer data and service experiences. Because of this, the overwhelming size and formidable power of the platform are a concern and controversy in the online commerce market. According to a survey, a significant percentage of consumers purchase their initial search for goods through major platforms, and an impressive number of consumers say that their initial search begins at these platforms. In South Korea, a report suggests that an average South Korean's life with personal SNS, connected robots, and mobile terminals is "controlled" by several giant ICT companies, including the four major electronic commerce platforms. Due to these concerns about the influence of the platform or the destruction of the order of fair competition, the issue of fair-trade rules and corporate accountability for e-commerce platforms is emerging as an important social issue, as well as competition policies by countries and regions around the world.

Social Media Marketing

Social media represents many sites that support the sharing of information in a variety of forms. Many businesses that are interested in increasing their online presence wonder whether they should feel the same urgency as their children do about getting on social media platforms. This is the major stumbling block that senior executives must face because they feel that getting into social media should help reduce their workforce, as the use of a large number of staff would need to be reduced when such things make promotions easy. However, the unusual thing is that this is the easy part of the implementation. The crux of the issue is that senior executives are never quite sure about where their customers' clients are going with

the arrival of the next social media improvement. In short, the new tools of communication and interaction are going to change so frequently that individuals' contributions could be diluted quickly. Furthermore, considerations related to corporate identity, security, and intellectual property are easily swept aside as trivial issues rather than those requiring serious thought. Hence, they are often left as obstacles when the productive core users would find easy solutions if and only if they had the support of senior managers. Therefore, the biggest obstacle to social media implementation is the understandable fear that individuals outside the senior management focus could do a better job than expected by the executives themselves.

International Trade and Globalization

International trade and world trade globalization are driven by factors such as the division of labour, attractive price differences, advantages, and differentiation of world consumption, as well as the acceleration of technical progress in the region. International trade is characterized by the structural interlocking and specialization of commodity production within the framework of international economic relations. It serves as the most important active force in the development of social production and the world economy and is an important form of consumption and exchange of world wealth endowments. It has a wide range of input and output characteristics, creating economic conditions for the effective operation and allocation of resources.

Given the inevitable differences in resource endowments and technological levels between countries, it is unavoidable that global specialization will occur. With the development of technology, the division of labour throughout the world also underwent changes, leading to an industrial division of labour structure that was transformed into development, industrial development, and economic globalization. The scope of economic relations and the level of economic regulation are also evolving. In the current stages of practice, all countries are expanding international trade, actively fostering conditions for international trade, and adopting various forms of mutually beneficial cooperation: reducing trade barriers, promoting trade facilitation, and enhancing international trade. In other words, international trade is diversified in a multilevel direction such as width and depth, and has a far-reaching impact on natural resource endowments, domestic economies, the environment, and the international community of countries.

Trade Agreements and Tariffs

The international trade of goods and services is essential for strong national economies and the whole of humanity. Up to 70% of the value of foreign trade is made up of commodities from developed, centrally planned, and developing free trade areas. Items such as food, raw materials, and mineral raw materials are imported into impoverished nations, and finished commercial and technological products are exported. Two main branches of international trade are exports and imports, and their technical regulations and methods, and commerce and transport are utilized to promote the timely meeting of tangibly transferring the necessary goods and/or services and maintaining a regular supply. Export growth rates have a high priority in the economic development of developing countries, and international negotiations are taking place in order to find ways to international legal agreements. They help trade and commercial development on a commercial basis. Compared to general agreements in trade on tariffs, the aim is to trade more freely, trade balance, international trade, technical barriers, and agriculture, and agricultural reform. Along with encouraging exports, the removal of internal trade barriers will facilitate cooperation and development in the field of mutual obligations.

Cultural Considerations in International Business

Culture basically has to do with behaviour – how people interact, the constraints that exist on interaction, and what behaviour is considered appropriate and what is not. Every businessperson is obviously in some sense familiar with the culture in which business takes place. After all, culture is an incredibly important determinant of how people associate, interact daily, and form social frameworks. However, knowing the culture of a single, isolated society, as most of us do, only gives us a very limited idea of cultural constraints. When commercial activity takes place across different cultures, the area known as cross-cultural management becomes significant. Differences in cultural norms are often the basis for international misunderstandings between people, the subject of both academic and popular understanding.

Both the universality and relative validity of cross-cultural management are proven on a regular basis through various reports on foreign investment. As a practical matter, the relevance of culture comes home to business professionals through marketing transactions between international business travellers, consumer satisfaction with commercial goods and services obtained from abroad, the screening and selection of potential expatriate employees, and the training and reintegration of repatriates. Business relevance also strongly invites academic purpose through the scope of representative research frameworks employed by graduate business programs.

Entrepreneurship and Small Business Management

Entrepreneurship as a concept is important because of the risks it undertakes; risks can never be avoided in any business practice, and thus the entrepreneur faces them. There are three traits that distinguish entrepreneurs from other people. They have a need for achievement, are risk-takers, and have an internal locus of control. There are numerous theories of entrepreneurship, six of which include: leader-member exchange and entrepreneurial behaviour, corporate entrepreneurship and strategic management processes, models of association or cognitive heuristics used by entrepreneurs in new-venture choice, and the effects of transformational leadership on the development of new businesses in organizations. To ensure that the quality of life, wealth, and employment that come largely from new and small businesses continue to grow, a great deal of research is needed to understand how entrepreneurship can be most effectively and efficiently encouraged. The development of small businesses has an important impact on the nation's economy. They account for a major portion of jobs created and provide significant opportunities for minorities and women. Definition and Role of Small Business

There are numerous definitions of what exactly constitutes a small business, of which five are discussed. As modern business is so complex, the range of responsibilities that small business managers must fulfil would seem to exceed any one person's time or ability. Small business managers have innumerable tasks, such as human resource management, financial management, operations management, marketing management, public relations, risk management, and strategic management, to name only a few. The inevitability with which the small business manager focuses his attention on the specific area of management depends on three environmental forces.

Start-up Strategies and Funding

Getting started in business, for many, is a matter of crafting a new product or a new way of doing things,

finding the most effective and/or expensive way of producing it, and locating sources of funds. One important way of keeping down the cost of organizing the business (and of operating it as well) is to learn from the misadventures or the achievements of others. As an entrepreneur, investor, and financier, you have access to a large body of books and a catalog of previous endeavours, some blindly profit others in terms of experience, and still others, unfortunately, as case histories from which immensely profitable, unhappy, or sometimes not to be ignored mistakes can be understood. Although a mechanism normally shields the industry from the wasteful effects of individual failures, start-up financing nonetheless faces the venture with the associated—often some might feel heavier—costs.

Indeed, the fundraising process from investors such as venture capitalists or providers of equity capital in the form of risk capital or tailor-made institutional instruments has gained an increasingly critical role recently. Fundraising separate decisions of considerable importance cannot be postponed without cost. Equally, it is important to commence full operations with management expertise corresponding to critical stages in the development of the enterprise. Instead of launching the venture at once before all obstacles have been cleared, some even advocate using an accelerator organization, the developmental equivalent of the—for a startup quite justified—decision to wait with starting up operations until the time is ripe.

Risk Management for Small Businesses

Small is beautiful but small business risk management also matters. After all, many start-up enterprises are characterized by the recklessness of youth. Their operators are such risk-takers in their private lives; why would they not act in the same manner when managing their business? One answer is that the flexibility for business decision-making is somewhat limited, and one misjudgement can wipe a person out. The business may require a secondary income for family security or a person's time that otherwise might be spent on fun and games. A second answer is that many small businesses may be run by a part-time entrepreneur whose primary occupation lies elsewhere. In both cases, the absent or part-time owner can scarcely afford the luxury of assuming large risks. In brief, most small businesses should be considered a serious economic venture and managed accordingly.

There are, of course, management tools to reduce riskiness, and strong arguments exist for using those tools. First, an owner-operator can seldom afford the personal or financial loss of a bankrupt business that owes creditors a substantial sum. Of the new manufacturing companies started in the United States one year, evidence suggested five years later that one out of three failed because of adverse management. Second, the long-run job creation role of small business may be weakened if there is a general perception that a significant proportion of new small firms were unsuccessful very quickly. High loan interest rates and personal risk would particularly apply to risky enterprises where the outcome was not guaranteed. Several studies have indicated that the rate of failure of new small firms is inversely related to the amount invested in the business. The person who puts little capital in a business has little to lose if things later go sour.

Ethics and Corporate Social Responsibility in Commerce

The issue of ethics has been known since ancient times. The first conception of ethics involves moral philosophy. It deals with the primary issues of human life and states them in the form of moral categories, i.e., good and bad, right and wrong, fair and unfair, duties and rights, values and norms, virtues and vices.

Norms represent questions of primary rules requiring a person's actions, while norms reflect the rules developed based on the study of norms and considering social and historical specifics as well. Norms and regulations are developed by various sciences, such as legal, political, religious, professional, corporate, and business ethics. Unlike ethics that root in a general culture and education and develop universally applicable norms and principles for any professional area, special branches of applied ethics are built on the social and professional background using special rules and regulations, receiving an additional name "ethics code".

Ethics is a subject of a great number of rules and regulations in various areas of human activity. Their use is constantly increasing as people's activities become more complex and specialized. The behaviour of specialists in politics, mass media, science, education, religion, culture, fashion, art, sports, tourism, and even prostitution is regulated by a set of norms and principles of ethics. The sphere of business activity is no exception. Ethics in business has become an essential part of informing an enterprise's policy. Businesses are concerned not only with gaining profits and selling their products to consumers but also with corporate social responsibility. Acquiring profit is necessary but not enough now. The business equivalent of the social function within society is called "corporate social responsibility".

Ethical Decision Making in Business

Many people would agree that commerce has an ethical dimension. Essentially, the essence of commerce is interaction, and thus it is also the concern of the law and the function of morality to ensure that the nature of commercial interaction remains such that it enriches society in general rather than merely a small section of the population. We must expect that businessmen, like everyone else, will act in their own interests; but what happens when these interests come into conflict with the interests of others? The sphere of ethics is concerned with the selection of values and priorities, with establishing what it is that we should do when the differences in power, resources, and information give one person or group the potential to abuse or exploit another. In business, as in our personal lives, we encounter moral uncertainties: business decisions sometimes need to be made swiftly, and often business information is both partial and guarded.

Consequently, poor commercial decisions—such as those that lead corporations to bankruptcy or employees to unemployment—are commonly the result not of dishonesty but of ill-judged and incorrect moral considerations. In business, and in commerce generally, what is needed is a willingness to talk about our moral values and our economic assumptions and face up to the crucial problem concerning who exactly is obliged to fulfil them. The search for ethical values in business must be rooted in the reality of the pragmatic concerns that are associated with overcoming scarcity, and that characterizes all economic theories.

Sustainability Practices

Sustainability involves being environmentally sound, socially responsible, and economically feasible, so that society's living conditions and resources can be maintained and improved. Sustainable practices that businesses are increasingly playing an active role in include: 1. Sustainable forestry: involves planting, protecting, maintaining, and harvesting trees. 2. Pollution prevention: companies are developing technologies and processes to prevent pollution at its source, ultimately saving money. 3. Recycling and

waste reduction: companies are recycling raw materials such as metals, glass, paper, and plastic. 4. Energy conservation: companies are converting industrial motors, fans, blowers, and other equipment to better energy-efficient systems. 5. Sustainable agriculture: a farming system that uses renewable resources that do not degrade the environment. 6. Wildlife and habitat protection: companies are protecting wildlife and its environment. 7. Voluntary initiatives: companies are seeking partnership opportunities with state governments and other stakeholders to enhance their business and improve the environment.

Emerging Trends in Commerce

Various trends are emerging in commerce and trade. These trends are concerned with regulatory and environmental perspectives. They bring awareness about the role and importance of internal and external trade. There are some noble characteristics that give a distinct destination to those who enter their commerce: 1. It involves remunerative prices for the producers, fair wages for the labourers, and fairer profits for the employers. 2. The prosperity of all walks of life depends on the cooperation of giver and receiver. 3. It emphasizes trading and confronting oneself with extensive knowledge and technical abilities. 4. Commerce is the spokesperson. It speaks louder than the allotted measure of strength. Every trader and every traveller are an image-bearer. 5. Commerce envisages the employment of labour, capital, and business. 6. The secret is that no one does business only for oneself. Trade is a cooperative endeavour that resembles the business and belief in the willingness to see others prevail, which constitutes success.

The global expansion of companies benefits from information networks and trade. Public opinion is demanding answers to the problems created by these tasks of organizations. The management of business has been submerged in the scientific outcomes achieved by and for industry, which constantly seeks to increase productivity, reduce costs, and promote the economic status of the whole community. Commerce encompasses activities that provide satisfaction and result from finding a market capable of evaluating a good or service and creating a mutually enhancing result. Commerce holds that online services succeed through acceptance by the public of any product or good/service, which must be widely distributed and significant to meet the public's expectations. The marginal utility of a good in the market is the foundation of competitive quality. All know that the enterprise most often succeeding is renowned for offering its products and services with untiring zeal. They know and study marketing; that is all. What is not recognized is the search for quality of goods and services, where quality, ever since the manufacturer designs the product, is proposed as such to the customer. As clients of the next century may no longer be influenced by price and instead privilege the product's quality regarding history, exclusivity, and whether it takes responsibility for the criteria of quality.

Artificial Intelligence and Automation in Business

A great number of companies have the possibility to automate significant elements of their activities by using various types of intelligent systems based on modern information generation and processing technologies. If a company intends to and is able to automate a part of its activities, it will probably have the possibility to re-delegate and use the employees who were carrying out these activities over time. However, the net effect of such a decision is not necessarily the reduction of the number of employees or an increase or decrease in their utility. The relationship between automation and employment is not invariant. These aspects are the subject of an often-interesting debate between economists and sociologists. The present paper addresses both the decisional problem and its economic and social consequences.

From a company's perspective, the decision to automate tasks and services is because the reduction in cost gains does not reduce as much as the expected additional income. It is useful to emphasize that the profit function is directly influenced by the nature of the market served by the company. In this case, only if automation minimizes the marginal cost, accomplishing at least the same level of quality as before, will the company consider automation necessary. Some companies rely more on the system's ability to fulfil a long list of tasks, while others base their decisions on a combination of some or all of the advantages: availability, decreasing costs, increased precision of the tasks performed, speed of tasks, and improvement in the quality of the tasks.

Impact of Global Events on Commerce

Impact of global events on commerce. International economic events have a direct influence on the evolution of commerce and cooperation between countries. The issue discussed highlights the significance of researching and analysing the impact of international events on business and their effects on small enterprises. Findings are beneficial to small business managers or owners, offering practical measures required for sustaining the business in the context of international events and minimizing risks caused by such phenomena. The analysis highlights the need for site-specific solutions. Therefore, future research could discuss the effects of certain international events on business in different areas of human, economic, and societal interest, as well as specific solutions required for certain fields of strategic interest.

Areas for Further Research

Future areas of research in commerce could explore:

- 1. **Integration of Artificial Intelligence**: Investigating AI's role in enhancing personalization, customer service (chatbots, voice assistants), and decision-making in e-commerce.
- 2. **Cross-border E-commerce**: Studying international trade barriers, logistics, and regulations affecting global commerce.
- 3. **Sustainability and Ethical E-Commerce**: Exploring how businesses can reduce environmental footprints and engage in ethical practices.
- 4. **Blockchain and Security**: Examining the impact of blockchain on trust, transparency, and security in digital transactions.

These areas hold potential for significant advancements and practical applications in the evolving field of commerce.

Conclusion and Future Perspectives

The above presentation leads us to the conclusion of this discussion. The variety of techniques for commerce and data processing using computer resources is discussed. It is suggested that computer-assisted commerce and data processing is an important scientific and practical field. The obtaining of data-processing output by several users simultaneously may be performed at a much lower cost than obtaining the same data separately by these users. Mutual non-obstructing use of computer resources could and should

be encouraged at the level of the authorized user's attention. High priority of requests for completing the job may be defined. A number of these ideas utilize principles of communication-computer-consent. Future work is directly related to the development of the field of computer-assisted commerce, including methods for commerce transformation to serve a better organized and easier-to-use wide user community. Our future work will be in several directions. We will expand our review with more theoretical, practical, and applicable computer-assisted commerce and data processing models and examples. Also, we will define principles for support of the mutually non-obstructing user community and for the service order in job completion. Attention will be extended to the areas of early commerce stages and the presentation format of computer assistance commercially available to scientists and the public. We will use the developed materials for teaching courses in computer-assisted commerce and data processing, economically oriented, as well as general courses on computer communication. The principal result of the study is the presentation and publishing of advanced educational materials that are accessible to the wide scientific and public society.

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