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An Effect of Customer Intelligence on Financial Performance

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Abstract-Direct customer contact businesses now face a new challenge brought about by the widespread use of channel-oriented applications like e-commerce and call centre support. This difficulty manifests itself as a novel data management issue. More and more companies are adopting Customer Intelligence (CI) systems and tools to better comprehend the present and prepare for the future. In order to ensure the success of their business strategies, companies have realised that they need to apply the principles of business intelligence. One can learn more about the significance of real-time CI and why it is required by examining the business needs. The goal of this paper is to examine what kind of CI tools exist and what kind of CI variables aid businesses in data analysis. "Web Analytics, Social Media Analytics, Inventory Management, Supply Chain and Logistics"-variables, Financial performances with different techniques.

Keywords-Web Analytics, Social Media Analytics, Supply chain, and Logistics.

Introduction

Business intelligence (BI) plays a crucial role in analyzing and improving financial performance within organizations. It involves the use of data, technology, and analytical techniques to gather insights and make informed business decisions. In the context of financial performance, BI helps businesses monitor and optimize various financial metrics, identify trends, and uncover opportunities for growth and cost savings.

BI tools enable organizations to gather data from multiple sources such as financial systems, sales records, customer databases, and external market data. By integrating and consolidating this data, businesses gain a comprehensive view of their financial performance and can identify patterns, correlations, and anomalies.BI platforms provide customizable reports and dashboards that allow stakeholders to monitor key financial indicators in real-time. These visualizations help identify performance gaps, track financial goals, and provide a holistic view of the organization's financial health. BI tools leverage historical financial data and apply advanced analytics techniques to forecast future financial performance. By analyzing trends, seasonality, and external factors, businesses can make accurate predictions and optimize their financial planning and budgeting processes.

BI enables organizations to compare their financial performance against industry benchmarks and competitors. This helps identify areas of underperformance or areas where the business is excelling, allowing for informed decision-making and strategic planning.BI tools enable businesses to analyze cost structures, identify cost drivers, and pinpoint areas where cost reductions or process optimizations can be implemented. By understanding cost trends and conducting scenario analyses, organizations can make data-driven decisions to improve profitability.BI plays a crucial role in identifying and managing financial risks. By analyzing historical data, identifying patterns, and applying predictive models, organizations can assess and mitigate risks such as credit risk, market volatility, or operational inefficiencies.

BI tools can integrate customer data with financial data to provide insights into customer behavior, preferences, and profitability. By understanding customer segments, businesses can tailor their strategies, optimize pricing, and improve customer retention, ultimately impacting financial performance. Business intelligence empowers organizations to make data-driven decisions, optimize financial processes, and uncover opportunities for growth and efficiency. By leveraging BI tools

and techniques, businesses can enhance their financial performance, achieve cost savings, and gain a competitive edge in the market. Organizations are more concerned than ever before about how Financial Performance can positively impact Web Analytics, Inventory Management, Social Media Analytics, Surveys, Supply Chain, and Logistics, as organisational success appears to be entirely dependent on Financial Performance.

Web Analytics: Web analytics involves the collection, measurement, and analysis of website data to understand user behavior, optimize website performance, and drive business goals. Customer intelligence, on the other hand, focuses on gathering and analyzing data about customers to gain insights into their preferences, needs, and behaviours. Web analytics provides valuable insights into how customers interact with a website. Businesses can gain a deeper understanding of how customers navigate their website, which pages or products they are most interested in, and what factors may contribute to conversions or abandonment.

Web analytics data can be used to segment website visitors based on various criteria such as demographics, location, referral source, or behavior. Customer intelligence relies on these segments to identify different customer groups with unique characteristics and preferences. Web analytics helps identify bottlenecks or areas of improvement in the customer journey. Businesses may find particular phases or sites where buyers drop off or face difficulty by evaluating conversion funnels and analysing user activities. Web analytics can track customer interactions beyond a single visit by using techniques like tracking cookies or user logins. Businesses can estimate the Customer Lifetime Value of different customer categories or individual customers by analyzing data such as repeat visits, purchase history, and average order value. Web analytics provides a wealth of data that contributes to customer intelligence. By understanding how customers interact with a website, businesses can gain insights into their preferences, behaviors, and needs. The information is crucial for creating personalized experiences, optimizing the customer journey, and maximizing customer lifetime value.

Inventory Management: Customer intelligence contributes to inventory management by providing insights into customer demand patterns, optimizing product assortment, managing stockouts and overstock situations, and aligning inventory levels with customer preferences. By leveraging customer intelligence, businesses can make data-driven decisions to optimize inventory management, improve customer satisfaction, and drive business growth. Effective inventory management is essential for exceptional customer service. It involves maintaining accurate stock availability, efficient order fulfillment, quick and reliable delivery, diverse product assortment, streamlined returns management, accurate demand forecasting, and omnichannel inventory control. By focusing on these areas, businesses can provide superior customer experiences, drive customer satisfaction, and foster long-term customer loyalty.

Social Media Analytics: Social media analytics plays a significant role in customer intelligence by providing valuable insights into customer behavior, preferences, and sentiment. Social media analytics enables businesses to gather rich customer insights by monitoring social media platforms. It allows businesses to assess their brand perception among customers. By tracking brand mentions, sentiment analysis, and customer reviews on social media platforms, businesses can evaluate how their brand is perceived and identify opportunities for improvement. Social media analytics tools use natural language processing and sentiment analysis techniques to understand customer sentiment expressed on social media. By analyzing customer sentiments, businesses can identify positive and negative feedback, gauge customer satisfaction levels, and address customer concerns or issues proactively. Social media analytics allows businesses to monitor and analyze their competitor's social media presence and customer interactions. Businesses can gain competitive intelligence by tracking competitor activities, customer

sentiment towards competitors, and identifying gaps or opportunities in the market. Social media analytics helps identify influencers and brand advocates who significantly impact customer opinions and purchase decisions. It enables businesses to monitor and respond to customer queries, complaints, or feedback in real-time. Social media analytics helps evaluate the effectiveness of marketing campaigns and promotions.

Surveys: Customer intelligence surveys are a valuable tool for gathering insights and understanding customer preferences, needs, and behaviors. Conducting a survey in customer intelligence can help organizations make informed business decisions, improve products or services, and enhance customer experiences. you can effectively conduct a customer intelligence survey and leverage the insights gained to enhance your understanding of customers and drive business success.

Supply chain Logistics: Customer service plays a role in resolving these issues promptly and effectively, ensuring that customers' concerns are addressed and their problems are resolved. customer service in logistics is critical for meeting customer expectations, resolving issues, facilitating effective communication, building customer loyalty, enhancing the overall customer experience, and driving continuous improvement.

Literature Review:

Nguyen Anh Khoa Dam, Thang Le Dinh, William Menvielle (2021): Customer intelligence is important for service offerings because services dominate the economy. Big data has generated massive amounts of customer data and changed enterprise organization, management, and technology. Customers cocreate value in big data. This paper proposes a design science and service science-based SBCI structure for consumer intelligence in the modern era of big data. It established design science with the SBCI framework and its build, framework, method, and instantiation artifacts. The framework's three levels—a network of service systems for service proposal, service system for service development, and service for service operation—reflect service science.

panelBin Li, Luning Liu, Weicheng Mao, Yongcuomu Qu, Yanhong Chen (2023): The literature shows a strong correlation between poor customer service and unhappy clients. However, the correlation between service failures and unhappy customers' reactions to AI services has received scant attention. This research, grounded in a theoretical framework, investigates how customers react negatively when voice AI services fail. The conceptual model's usefulness was measured using a telecommunications company's proprietary dataset. The impact of customers' feelings on their propensity to complain about a subpar voice AI service was studied. We discovered that the lack of success of voice artificial intelligence (AI) services significantly influences the behaviour of customers who complain. When an AI service fails, customers are more likely to complain to the help desk. In addition, the customer's emotional state serves as a pivotal moderator. Our research has important implications for customer service and relationship management.

Barr. Bernard Nwekeala: This study investigates how entrepreneurial marketing affects mobile app adoption and retention. The lack of literature on entrepreneurial mobile application marketing and mobile application marketing motivated the study. To lay the groundwork for this study, entrepreneurial marketing, mobile shopping, mobile advertising, and mobile applications were reviewed. Based on the literature review, the Intelligence, Acquisition, Retention (I-A-R) framework examines marketing via customer intelligence, acquisition, and retention. Ethnography examined four company blog experts. These blogs feature North American mobile app marketing companies that serve small and medium-sized businesses. Due to the large quantity of data, results were first categorized using the I-A-R framework, then summarised and presented with a modified framework. Mobile app marketing is now a four-step process. These stages cover app development, user acquisition, and retention.

In order to take advantage of a small marketing expenditure for acquiring customers and establish connection to be a customer loyalty strategy, EM can be used in mobile apps.

Riyanti, Rika (2023): This study examines various publications to supplement legal knowledge studies on using artificial intelligence to insurance companies and public services to address consumer protection challenges and opportunities. Artificial intelligence studies, including health studies, have been published, but consumer protection for based on technology insurance has not. Thus, this research. We analysed several electronic searches to solve the research problem. We analyse the data with the knowledge of the questions, search the data electronically, and review it. This involves data coding, analysis, and in-depth evaluation. Based on the results, intelligence applications for public services in the healthcare sector help implement insurance for health, which includes highly transparent data and an algorithm designed in such a way. Every insurance company using artificial intelligence must continue to provide cybercrime security, keep client details secret, prioritise justice and eliminate consumer discrimination, judicial remedies in the form of proprietary rights from work, and customer privacy. These findings should strengthen future research.

Nguyen Anh Khoa Dam (2021): Big data has changed customer intelligence analysis and application to intelligent IT infrastructures. Customer intelligence is able to learn from massive data with customer analysis and apply it to generating, interacting, delivering, and co-creating value. The paper examines customer intelligence's impact on marketing solutions, given this research stream's scope. The study aims to conduct a critical examination of the literature and develop a conceptual framework with customer intelligence in huge amounts of information for supporting marketing decisions. The paper shows various marketing mix applications of customer intelligence. Customer intelligence can be applied to the 7Ps of marketing: Product/Service, Price, Recruitment, Place, People, Procedures, and Physical evidence. The paper advances customer intelligence for clever information systems in marketing decision-making.

N. A. K. Dam, T. Le Dinh & W. Menvielle (2022): This paper's research focus is important because marketing relies on customer intelligence. In the knowledge-based economy, customer intelligence—analytic insights—is crucial to business success. The paper uses knowledge-based theory to create a customer intelligence framework for marketing decisions. The framework helps enterprises find the correct customer data for customer intelligence and marketing decisions. Thus, product-aware, customer DNA, customer experience, and stakeholder intelligence are defined. Customer intelligence and relevant marketing decisions maximise value creation. Example shows the framework. This study is important and original because it responds to customer intelligence changes in the age of huge data and covers multiple marketing decision aspects.

Dam, Nguyen Anh Khoa (2020): Customer intelligence is becoming increasingly important as businesses strive to meet the rising expectations of today's service-based consumers. In fact, the big data revolution has resulted in an explosion of customer data and altered the course of enterprise science, management, and engineering. The customers' value co-creation role is also recognised in the big data era. As a result, this paper proposes a service-based customer intelligence model, abbreviated SBCI (Service-based Customer Intelligence), to direct future research and practise in the field. Based on the foundation of service science, a three-tiered model is proposed, with the first level devoted to customer value co-creation through a network of service systems; the second to the science, management, and engineering components of service delivery; and the third to customer intelligence services.

Le Dinh, Thang; Vu, Thi My Hang (2022): Insights gained from using business analytics to boost value creation for customers are what are known as "customer intelligence" in the age of big data. For the purposes of small and medium-sized businesses (SMEs), this paper

constructs a conceptual structure in a customer intelligence system. The purpose of the proposed framework is to aid businesses in selecting the appropriate customer intelligence, data sources, and business analytics methods, and in developing an effective customer intelligence strategy. An example customer intelligence system architecture, named Trivi, is presented to show how the conceptual framework can be put into practice.

Objective Of The Study:

To Study the Impact of 'Customer Intelligence' on the Financial Performance of the Organization.

Hypothesis of the Study:

- H_0: Customer Intelligence has no beneficial influence on the Organization's Financial Performance.
- H_{01}: Web Analytics has no beneficial influence on the Organization's Financial Performance.
- H_{02}: Inventory Management has no beneficial influence on the Organization's Financial Performance.
- H_{03}: Social Media Analytics has no beneficial influence on the Organization's Financial Performance.
- H_{04}: Survey has no beneficial influence on the Organization's Financial Performance.
- H_{05}: Supply Chain Logistics has no beneficial influence on the Organization's Financial Performance.

Research Methodology:

Sample technique; probability sampling

Sample Size

Many research has been conducted to determi ne how to select an acceptable sample size. A sample size of fewer than 30 participants is measured as too small for the study. If the population is large, consider a sample size of 100 or more (Sekaran, 2006). This study customer a sample size of 700 people. As stated by Zikmund (2003), the sample size is crucial since the smaller the sample size, the higher the chance of inaccuracy. The researcher also argued that a larger sample size results in more accurate research results. The cost of data collection is an important component to consider while making decisions. The sample size is crucial for interpreting SEM results because it is used to estimate sampling error. For the sample size, we used the following criterion (Table).

Table 1: Sample Size Determination Criteria

Stated by	Criteria	Suggested Sample as per criteria
Hair et al,1999	Number of factors * 25	7 X 25=175 Sample Size.
General thumb-rule	Number of statements *5	37 X 5= 185 Sample Size.
Nunnally 1978; Friedel 2001	For factor analysis, 700 sample size is adequate	700

A structured questionnaire was used for the collection of data.

Statistical Analysis: SPSS version 21.0 and SPSS AMOS version 21.0, Structural equation modeling (SEM).

Data Analysis and Interpretations:

Following that, the measuring model for each of the elements studied in turn is presented (Convergent Validity Test). Consider Customer Intelligence first, and then examine the following hypotheses.

Customer Intelligence

Customer Intelligence variable has a number of different constructs, as shown in the following table 1.

Table No:1 Constructs in Customer Intelligence

Factor	Constructs
Customer Intelligence	**Web Analytics**
	Inventory Management
	Social Media Analytics
	Surveys
	Supply Chain Logistics

H_0: There is no significant relation between constructs of Web Analytics, Inventory Management, Social Media Analytics, Surveys, Supply Chain Logistics, and Financial Performance of Organization.

H_1: There is a significant relation between constructs of Web Analytics, Inventory Management, Social Media Analytics, Surveys, Supply Chain Logistics, and Financial Performance of Organization.

Table No: 2 CFA Model Fit Indices – Customer Intelligence

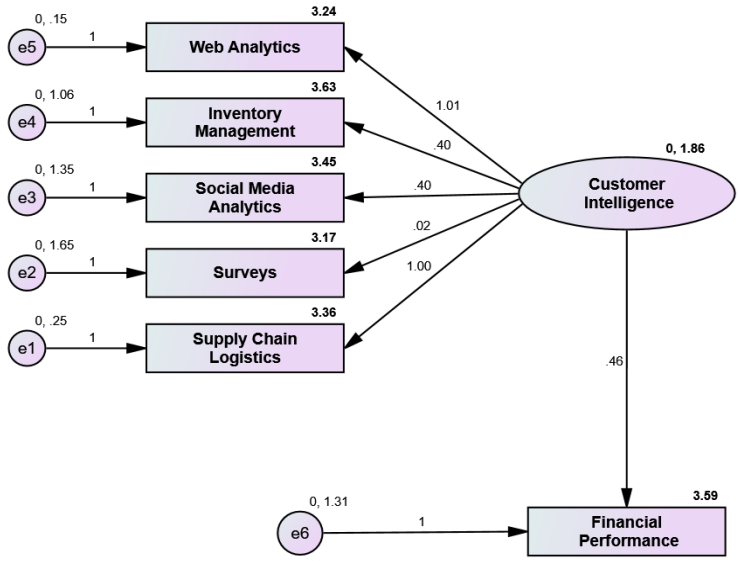
	χ2	DF	P	Normed χ2	GFI	AGFI	NFI	TLI	CFI	RMR	RMSEA
Customer Intelligence	367.674	9	0.706	191.45	0.758	0.275	0.779	0.491	0.782	0.254	0.270

All of the attributes had a substantial effect on the latent constructs. The value of the fit indices indicates that the measurement model fits the data reasonably well. The regression coefficients are shown in table 3.

Table No: 3 Customer Intelligence / Regression Coefficients

Factors (Dependent Variable)	Construct (Independent Variable)	Regression Coefficient	S E	C R	P
Financial Performance	Web Analytics	0.016	.041	0.377	0.706
	Inventory Management	0.400	0.038	10.496	***
	Social Media Analytics	0.403	0.034	11.914	***
	Survey	1.014	0.030	33.829	***
	Supply chain Logistics	0.459	0.038	12.162	***

In this scenario, the regression coefficients for all of the Web Analytics, Inventory Management, Social Media Analytics, Surveys, and Supply chain logistics are more than 0.4. Thus, these components have a significant relation with Financial Performance.



The above test shows that all constructs are valid in Customer Intelligence. Valid constructs are Web Analytics, Inventory Management, Social Media Analytics, Surveys, and Supply Chain Logistics.

Finding of the Study

This quantitative research based on 700 surveys of Industries customers in Bangalore concludes that:

• Customer Intelligence has a significant impact on financial performance and can explain up to 35.9% of variation

Conclusion:

In today's competitive company climate, data-driven organisational performance management increases financial performance. Customer Intelligence (CI) increases financial performance and competitive advantage, both of which are critical to corporate success, thus it has received a lot of attention from business practitioners and academic academics in recent years.CI helps businesses succeed. This research should help us better understand how CI improves financial success. The impact of data, technology, and customer intelligence on financial performance, performance management, and competitive advantage was investigated.

To put the theoretical hypothesis to the test, we polled 700 Industries consumers. According to the survey, industries have a lot of important data. Logistics administration systems rely on these assets to execute in a timely and effective manner. In terms of financial success, CI capabilities exceed information resources for managing outcomes and organisational capabilitiesThis study investigated the influence of Customer Intelligence (CI) on competitive advantages, offering theoretical basis for why organisations should promote CI. It suggests that CI enhances decision-making. The study discovered that Customer Intelligence (CI) solutions boost financial decision-making in industries, providing them with a competitive advantage. The financial return on investment of Customer Intelligence (CI) systems may be maximised by aligning the CI strategy with the organisational plan and combining financial performance management with long-term goals. CI tools increase decision-making. According to a literature analysis, customer intelligence enhances financial performance, taking decisions acceleration, and data accessibility. Data-driven choices may be improved using CI systems, increasing value.

Future Research:

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