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Impact of accounting information system on profitability: A perceptual study of insurance sector in India

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Abstract

Accounting information system is a mechanism that use the system, internal controls, and security measures to gather, record, store, and convert data into information so that management may make the best decisions possible, resulting in a rise in the organization's profitability. This research aims to find out the challenges encountered during the usage of AIS & how the Accounting Information System (AIS) affects the profitability of selected Indian insurance companies. The Accounting information system measures based on five variables via efficiency, reliability, ease of use, data quality, and accuracy. Using a questionnaire method, data were obtained from 400 respondents. Using a purposive sampling technique of non-probability sampling, the data were then analyzed by rank analysis and the step wise regression method. The regression results show that the AIS variables (reliability, accuracy,

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ease of use) have a considerable impact on profitability. AIS efficiency and data quality, on the other hand, do not influence the profitability of insurance companies.

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Keywords: *Accounting information system, Profitability, Rank analysis, Stepwise regression, Insurance sector.*

1. Introduction

The concept of information in the context of an organisation is more complicated and difficult than its everyday usage suggests. Every organisation and every society is an information society. As a result, information, like materials, money, and labour, is a fundamental resource that must be managed properly to ensure that it is used profitability. Accounting data allow users to make well-informed decisions. Accounting data should assist the user in making decisions about his next steps because every decision contains multiple options. It also aids in the development of efficient internal control, the enhancement of financial report quality, the facilitation of financial transaction procedures, and the expansion of the organisation's profitability. Banukumar & Vijayalakshmi (2022) Information and communication technology has made statistical data on geographic factors categorized by zones, areas, and states much easier to obtain. Belfo and Trigo (2013) When making decisions, managers may struggle with complex accounting data. Contrarily, data visualisation works with the brain's innate capacity to digest information visually. Information users can more readily analyse and generate defensible conclusions based on their perceptual knowledge when data is presented in the form of visual graphics and images. Hafnawi (2001). There are several different types of information systems, including the accounting system, which includes related accounting components. The logical complexity of this system includes the information required for precisely measuring the results of activities and protecting the interests of the economic entity and the state. Haje et al. (2019) The system is defined as a group of elements that are connected in specified ways or through specific communication channels in order to achieve specific goals. Some definitions of the system emphasise that its components are a collection of facts and principles that work together to bring the system back to balance. Hajar (2014) Conventional Accounting Systems were primarily paper-based systems, which seems to be outdated in today's rapidly changing commercial world. By enabling IT and Information Systems (IS) services to take a lead, the Information Technology (IT) revolution has transformed how organisations run, including accountancy. The extensive usage of this software increases transparency and financial performance inside firms, while also providing year-round access to financial information. Mohammad et al (2020) Information and communication technology (ICT) developments have decreased transaction costs and times. This is accomplished by better and expanded communication and enhanced and increased transactions, both of which considerably boost commercial interactions. Lin et al. (2011) The life insurance market is essential to maintaining the stability of the financial system and influencing economic growth. Manoharan et al. (2014). As a result, it's crucial to figure out how accounting information system aspects impact the insurance industry's profitability. Chaturvedi and Sharma (2021) IS infrastructure and information systems-assisted strategic enterprise management practises should be investigated by AIS practitioners and researchers. By doing this, they can encourage strategic flexibility and innovation while improving decision-making performance (DMP).

2. Review of Literature

(Ahmad 2016) Generally, profitability is the most significant for every company. It is hard for a firm to continue if it is not profitable, and commercial expansion is tough. A firm needs short-term financing to cover its daily operational demands and other criteria to produce a profit. When commercial operations produce short-term financing requirements rather than external debt, the firm becomes more lucrative. (Majeed, 2011) Consistency, understandability, relevance, appropriateness, and comparability of accounting information are characteristics of accounting information that are intimately linked to decision-makers and their outcomes and have an impact on the organisation's profitability. (Finance managers utilise the information of accounting, provided by AIS to assess the company's historical growth and chart out business strategy, resulting in a ROE and ROA. These are metrics for determining profitability. (Ganyam, 2019) Information systems that can quickly convert transaction data into accounting information, saving time and money, have mostly replaced general ledgers, worksheets, and handwritten accounting records. It demonstrates that the accounting information system and profitability have a beneficial link Alanjjar (2018) AIS has a considerable impact on an organisation's Performance Management and Organisational Performance, as well as improving performance management. Radi (2014) found a significant statistical link between the quality of the hardware utilised (computer) and commercial bank profitability. Wickramsainghe et al. (2017) investigated the effect of accounting software programs on SMEs' profitability in Sri Lanka's Anuradhapura district, concluding that A strong link is perceived between the system of accounting and enterprise performance, implying that getting entry to accounting records, leads to the performance of organisations. Yahya & Jogdand (2020) The availability of General Control Procedures in sustaining AIS is dependent on organisational control, security, and protection procedures, and the accessibility of General Control Procedures in retaining the security of Information systems of Accounting in banks has a great statistical impact in the organisational control, security and protection procedures of Accounting Information System. Tarabulsi (2018) studies the efficacy of Accounting Information Systems to achieve organisational performance (improved quality, reduction of cost, making decisions effectively), and finds that it has a considerable beneficial impact on quality improvement. Fery (2018) discovered that implementing an AIS has a favourable and considerable influence on a company's financial performance and that ROE, Profit Margin, and ROA have all been generally accepted as financial performance measures in an empirical study. Amanamah et al. (2016) investigated that computerised accounting systems are critical for SMEs to fulfil their goals of managing information on time, high capacity storage, reducing office work, and improving consumer satisfaction. Ismail and King (2005) observed that many Malaysian small and medium enterprises have achieved high alignment of Accounting Information systems. Furthermore, small enterprises with a high alignment of AIS performed better than those with poor AIS alignment in terms of organisational performance. Sori (2009) The use of ZYXW's Contract Plus software and the deployment of AIS benefits a wide spectrum of employees involved in the company's operations. Furthermore, the research indicated that the AIS provides value to the organisation's data processing. Hashem (2021) Accounting information systems were found to have benefited in the improvement of accounting information consumption and use in the service of financial performance during the pandemic era by providing confidence in the information's timeliness, correctness, efficiency, and classification.

3. Research Gap

Following the review of the literature, it was discovered that many studies have been conducted in the SMEs, Stock market, Industrial Sector, FMCG, and banking sectors on Accounting Information Systems (AIS) and their effect on business performance, financial performance, internal control, information quality, decision making, value chain analysis, and so on. However, relatively little research has looked the association between AIS and profitability. In particular, no study has looked at the importance of AIS in India's insurance industry. Hence, the focus of this study is to ascertain how the accounting information system affects the profitability of the Indian insurance sector.

4. Research Methodology

In this research study, the focus is on exploring the impact of Accounting Information Systems (AIS) on the profitability of selected insurance companies, namely LIC, HDFC Life, ICICI Prudential, and SBI Life in India. The study identifies the independent variable as AIS, comprising efficiency, reliability, ease of use, data quality, and accuracy, while profitability is the dependent variable under consideration. The objectives of the study are twofold: first, to uncover challenges faced in the usage of AIS within the insurance sector, and second, to analyze how AIS influences the profitability of the chosen insurance companies. The research hypothesis, denoted as H0, posits that there is no significant impact of AIS efficiency, reliability, ease of use, data quality, and accuracy on the profitability of insurance companies. The study population consists of employees working in these selected life insurance companies, with a sample size of 400. The research design employed non-probability sampling techniques, specifically purposive sampling, to gather data from the employees. Primary data was collected through a structured questionnaire focused on AIS usage. To analyze the gathered data, the research utilizes statistical tools such as Rank Analysis and Step-wise Multiple Linear Regression Analysis. Through these methodologies, the study aims to provide valuable insights into the relationship between AIS and the profitability of insurance companies, shedding light on the challenges faced and the impact of AIS on their financial performance.

5. Discussions and Findings

The demographic profile of respondents in our study unveils notable trends within the industry. The workforce demonstrates a significant gender imbalance, with 76.8% being male. Age-wise, a substantial 55.5% fall between 25-35 years, indicating a youthful workforce, while 10.25% are experienced professionals above 45 years old. Regarding qualifications, a vast majority (90.3%) lack specialized credentials such as Chartered Accountant or Company Secretary, emphasizing the diverse skills present. Experience-wise, 43.75% have 0-5 years of experience, showcasing a blend of novice and seasoned professionals. In terms of accounting practices, 88% of companies prefer monthly accounting, emphasizing real-time financial tracking. Crucially, 67.5% conduct regular audits, and 75% have dedicated AIS auditors and security policies, highlighting a proactive stance on financial integrity and data security. This demographic snapshot provides valuable insights into the industry's composition and prevailing financial practices in the Indian insurance sector.

Objective 1: To find out the challenges encountered during the usage of AIS in the Insurance sector.

Table 1

Challenges Encountered During Usage of AIS

S. No	Name of the Factor	Weighted Mean	Rank
	Low data quality inputs may affect the effective analytics in AIS	98.8	2
2	Inconsistent and incomplete information can lead data corruption in AIS	111.06	1
3	Organisation faces testing and implementation issues during initial phase of AIS adoption	83.6	8
4	Excess cost is required to spent for AIS maintenance & customization	97.13	5
5	Accounting information system are difficult to use and required proper functioned training	82.46	9

Contd...

6	Depends on the organizations rules and regulations, AIS required specific system configuration	97.05	6
7	Faulty information is difficult to evaluate in AIS	95.86	7
8	There are security issues like risk of hacks and virus attacks in use of AIS	97.33	4
9	Loss of data, computer fraud, power failure can affect the performance of AIS	98	3

Source: Self-made using SPSS Software.

Table 1 indicates the problems faced during usage of Accounting information system. Incomplete information is major problem which is faced that can lead data corruption with weighted mean 111.06 followed by Low data quality inputs may effects the effective analytics in AIS. While loss of data, computer fraud, power failure can affect the performance and Security issues like risk of hacks and virus attacks in using AIS are as 3 to 4 with weighted mean 98 and 97.33. Excess cost spent for AIS maintenance & customization moderately on 5th rank with weighted mean 97.13. AIS is difficult to use and required functioned training is least encountered problem in AIS with weighted mean 82.46 which is followed by testing and implementation issues during initial phase of AIS adoption with weighted mean 83.6 respectively while AIS depends on the organizations rules and regulations, required specific system configuration and Faulty information is difficult to evaluate in AIS are ranked as 6 and 7 with weighted mean 97.05 and 95.86.

Objective 2

The aim of the study is to see how AIS affects the profitability of selected insurance companies.

Hypothesis

H0: The profitability of insurance companies is not considerably impacted by an accounting information system's effectiveness, dependability, usability, data quality, and correctness.

Before applying regression, multicollinearity was checked.

Table 2

Coefficients

Model Tolerance		Collinearity Statistics	
		VIF	
1	Efficiency	.445	2.247
	Reliability	.221	4.533
	Ease of Use	.207	4.840
	Data Quality	.162	6.175
	Accuracy	.231	4.334
a. Dependent Variable: Profitability			

The coefficient Table 2 shows that, the VIF value of data quality is more than 5, which indicates severe correlation between a given predictor variable and other predictor variable. Therefore, stepwise regression is applied, which is a method that almost always resolves multicollinearity problem.

Table 3

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.841[a]	.707	.707	.17449
2	.897[b]	.804	.803	.14288
3	.900[c]	.809	.808	.14123
a. Predictors: (Constant), Reliability				
b. Predictors: (Constant), Reliability, Accuracy				
c. Predictors: (Constant), Reliability, Accuracy, EOU				

Table 3 indicates a version in Three steps, every of which provides a analyst of equation. Our very last adjusted r-rectangular is 0.808, this means that our three interpreters account for 80.8% of the variance in ordinary satisfaction.

Table 4
ANOVA

Model		Sum of Squares	Degree of freedom	Mean Square	F	Sig.
1	Regression	29.089	1	29.089	955.414	.000[b]
	Residual	12.026	395	.030		
	Total	41.115	396			
2	Regression	33.071	2	16.535	809.938	.000[c]
	Residual	8.044	394	.020		
	Total	41.115	396			
3	Regression	33.276	3	11.092	556.098	.000[d]
	Residual	7.839	393	.020		
	Total	41.115	396			

a. Dependent Variable: Profitability
b. Predictors: (Constant), Reliability
c. Predictors: (Constant), Reliability, Accuracy
d. Predictors: (Constant), Reliability, Accuracy, Ease of Use

The F-test figured the usage of SPSS with inside the shape of ANOVA Table are proven in Table 4. We will look at the third model. The F-test has a p-value of 0.05 or less. At a 5% level of significance, it implies that the test is significant and that the null hypothesis should not be accepted. The model is found to be suitable for the given data.

Table 5
Coefficients

Model B		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		Std. Error	Beta			
1	(Constant)	.568	.123		4.619	.000
	Reliability	.856	.028	.841	30.910	.000
2	(Constant)	.371	.102		3.646	.000
	Reliability	.599	.029	.588	20.493	.000
	Accuracy	.317	.023	.401	13.967	.000
3	(Constant)	.297	.103		2.884	.004
	Reliability	.492	.044	.484	11.172	.000
	Accuracy	.299	.023	.379	12.964	.000
	Ease of Use	.139	.043	.139	3.206	.001

a. Dependent Variable: Profitability

In Table no. 5 of coefficient's, We're looking at our third and final model right now. All of the beta coefficients appear significantly and heading in the right direction, which is exactly what we expected. Because all predictors have similar (Likert) scales, we interpret the b-coefficients instead of the beta coefficients.

$$\text{Profitability} = 2.97 + 0.492\ (\text{Reliability}) + 0.299\ (\text{Accuracy}) + 0.139\ (\text{Ease of Use})$$

Our most reliable prediction is Increased reliability is linked to a 0.492point improvement in profitability. Three variables of AIS has significance impact i.e. reliability, accuracy and ease of use is found on profitability of insurance companies. No significant of data quality and efficiency was found on profitability.

6. Conclusion

Accounting information systems are a tools that gather, collect, and convert data into useful information so that management may make the best decisions possible, resulting in increased profitability of the organisation. Such dataset assists management in decision making that has a substantial influence on the profitability of the company. It helps with data analysis and the production of a variety of possibilities, resulting in increased profits for the company. The study examines the employees' perception of the impact of AIS profitability. The analysis was done by 400 employees of the selected insurance companies. Rank analysis shows that the major challenges with AIS are that inconsistent and incomplete information in AIS leads to corruption, and Low data quality inputs may affect the effective analytics in AIS. The coefficient table also reveals that a severe correlation between the variables when the VIF value of data quality is more than 5. Therefore, Stepwise regression, a technique that usually always addresses the multicollinearity problem, is used as a result before interpreting the regression coefficient. By applying stepwise regression it is found that there is a significant impact of 3 variables of AIS i.e. reliability, accuracy, and ease of use is found on the profitability of insurance companies. Therefore, it is suggested to the management of insurance companies to focus on the major challenges with AIS highlighted in the study, And to check on the data entered in AIS is reliable, accurate and the software is easy to use to increase the profitability.

While conducting the study on the aforementioned topic, the main problem the researcher encountered was the respondents' quiet and reserved, Since accounting-related information is private, it was difficult to obtain accurate data on the subject. Several resources and effort were required, and secondary data that businesses could simply maintain on an internet database was also unavailable. To improve the quality of accounting information, procedures must specifically define the duties and authority of every person inside the company's accounting department. There are one public sector and other three private sector companies, For a more comprehensive understanding of the issue and conversation, it is advised to include all insurance companies of India from the private and governmental sectors. In order to boost their efficiency at the workplace and enhance the reliability of accounting information and records, accounting department employees of insurance firms have to concentrate on learning and up gradation programmes. Therefore, it is suggested to the management of insurance companies to focus on the major challenges with AIS highlighted in the study. And to have check on the data entered in AIS is reliable, accurate and the software easy to use so as to increase the profitability. Additional research on insurance enterprises outside of Rajasthan is required in other states across the country. Other AIS variables, such as internal control measures, can be studied to decrease the risk of accounting & financial data theft and thereby improve the accuracy of financial records. A similar study might be undertaken on the issues that arise when using an accounting information system.

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