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Resource Control in Hospitality Firms: An Information Management System Dynamics

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Abstract

Despite the critical role of data in modern enterprise management, hospitality firms in this region have yet to fully leverage the potential of IMS to optimize operational excellence, hence necessitating this study to examine the impact of Information Management Systems (IMS) on resource control dynamics within the hospitality industry in Anambra State, Nigeria. Adopting a descriptive survey research design, the study focused on managerial and ICT personnel across 24 selected hotels in the urban centres of Awka, Onitsha, and Nnewi. A census approach was utilized due to the manageable population size, resulting in 184 valid responses analyzed through the Ordinary Least Squares (OLS) regression method, and hypotheses tested at a 5% significant level. The empirical results revealed that all three dimensions of IMS exert a statistically significant positive effect on operational efficiency. Information analysis emerged as the strongest predictor, with a one percent improvement leading to a 30% increase in efficiency by enabling accurate forecasting and identifying areas of wastage. Information quality and information security contributed 21% and 13% variances in operational efficiency, respectively, by ensuring data reliability and safeguarding sensitive organizational assets. The study concluded that IMS serves as a foundational pillar for sustainable resource management in the digitalized competitive market. Recommendations included the automation of core operational processes, such as reservations and financial tracking, and the implementation of rigorous cybersecurity policies.

Keywords: *Resource Control, Information Management System, Information Analysis, Information Security, Information Quality, Operational Efficiency*

INTRODUCTION

Information Management Systems (IMS) serve as the backbone of contemporary businesses, ensuring effective and efficient organization and utilization of critical data for organisational decisions making. Its core operation consists of four steps: collect, manage, enrich, and distribute. Malak (2025) opines that an IMS is a structured framework that enables organizations to collect, store, process, and retrieve data and information efficiently. It integrates technology, processes, and people to support decision-making, streamline operations, and ensure data security, enhancing productivity and organizational effectiveness. IMS could be viewed as an integrated framework used by firms or organizations to collect, store, manage, process, restore, interpret and disseminate information (data) critical for decision-making and operational excellence of firms. These systems are pivotal to digital changes and organizational efficiency across different sectors of an organisation.

Information is simple knowledge derived from data, whereas data are recorded facts or figures. Barry (1998) in his information system theory, opines that information is a generic term, because it has been described as the livewire of any enterprise (public, private, local firm,

multinational company, manufacturing, merchandise, and franchise business, retailing stores, multiple chain stores or service oriented organization). These systems were necessitated consequent to larger quantity of data available for analysis in the contemporary organisational management. Thus, business analysts responded to such unavoidable demands by developing programs to access the data in response to queries by management. With this faster access to needed information, better decisions about procedures, future directions and developments are made quickly in order to remain relevant in the competitive market and control resources better.

The role of IMS is very vital in any business environment, especially in Hotel industries. It has seen many evolutions that led to its integration into business operations. The speed of globalisation has indeed made IMS to be of high necessity and basic requirement of any organisation that aims at profit making in the digitalized competitive markets. Such proxies of IMS like information processing, information analysis, information security, information quality and timely decision support system are very vital in assessing resource control of hospitality firms like hotels. Thus, the integration of IMS and resource control presents a vital area of study for hospitality firms in Anambra state, Nigeria. While IMS provides accurate data for decision-making, monitoring, and strategic planning, resource control ensures that available resources are effectively deployed to achieve organizational goals. Efficient resource control requires timely and accurate information, making the role of IMS indispensable. For instance, firms that leverage IMS can streamline procurement processes, optimize staff scheduling, manage inventory efficiently, and track financial performance in real-time (Agwor & Ifeoma, 2021). The hospitality firms in Anambra state appear not to have fully started leveraging on the potential of IMS in improving their control of resources, hence, the need for this study to examine the role of IMS in enhancing the resource control of hospitality firms in Anambra state, Nigeria. The study specifically seeks to:

i. Ascertain the effect of information analysis on operational efficiency in hospitality firms in Anambra state, Nigeria.
ii. Evaluate the effect of information security on operational efficiency in hospitality firms in Anambra state, Nigeria.
iii. Examine the effect of information quality on operational efficiency in hospitality firms in Anambra state, Nigeria.

REVIEW OF RELATED LITERATURE

Information Management Systems (IMS)

According to Malak (2025), an Information Management System (IMS) is categorized as a specialized subset of the broader Information System (IS) domain, a concept that encompasses the comprehensive lifecycle of data acquisition, processing, archival, and dissemination within an organizational context. An Information System represents the strategic synthesis of information technology and human agency, designed to facilitate operational efficiency, management oversight, and executive decision-making. Furthermore, information technology is defined as the technical application of computing resources to manage and communicate diverse data formats, including textual, graphical, auditory, and multi-media content. This technological infrastructure spans a wide spectrum of hardware capabilities, ranging from high-performance supercomputers and mainframes to distributed network architectures and personal computing devices.

Malak (2025) posits that an Information Management System (IMS) functions as a sophisticated architectural framework designed to optimize the acquisition, preservation, processing, and extraction of organizational data. By aligning technological infrastructure with

procedural methodologies and human capital, an IMS facilitates evidence-based decision-making, refines operational workflows, and reinforces data security, thereby augmenting overall institutional productivity and strategic efficacy. The technical architecture of an IMS is defined by several critical functionalities, including rigorous data governance, advanced analytics, high-capacity data integration, and the management of large-scale datasets. Additionally, these systems encompass comprehensive search and retrieval mechanisms, digital collaboration environments, and the automation of complex administrative workflows. In the contemporary corporate landscape, an IMS serves as a foundational necessity, ensuring that critical information assets are organized and exploited to support executive objectives. This systemic process is governed by a fundamental four-stage operational cycle: data collection, administration, enrichment, and strategic distribution.

Microdeft (2023) identified different types of IMS:

i. Data Management Systems (DMS): They store, handle, and retrieve data, assisting organizations in keeping track of and utilizing their data efficiently. DMS can store all data types, including text, images, and videos.
ii. Document Management Systems: they are computer program-based systems used for tracking, managing, and storing documents while minimizing paper usage.
iii. Content Management Systems (CMS): These software applications or related program sets enable creating and managing digital content. CMS is typically employed for enterprise content management (ECM) and web content management (WCM). Where ECM involves document management, digital asset management, and record management, WCM strictly deals with web content management.
iv. Web Content Management Systems: These software applications or related program sets are used to create and manage digital content, primarily focusing on web content management and enterprise content management.
v. Enterprise Content Management Systems: These are software systems that assist organizations in managing digital information, including document and digital asset management, and records management. An ECM can be used to store, track, and manage all kinds of digital content, be it text, images, videos, or audio files.
vi. Digital Asset Management Systems: they are crafted to aid organizations in managing their digital assets like images, videos, and documents. They offer a central repository for asset management and storage and facilitate tagging, searching, and collaboration. DAM systems enable organizations to enhance their efficiency, productivity, and maintain better control over their digital assets.
vii. Records Management Systems: They help organizations maintain and track their records. They are typically used to store and track both physical and electronic records.
viii. Library Management Systems: These software programs help libraries in tracking and organizing their collections and simplify several daily operational tasks. They track borrowed items, manage patron records, and automate tasks like ordering new books or processing interlibrary loan requests.
ix. Archives Management Systems: They are used in the storage and management of electronic and physical records, focusing on capturing, storing, and preserving data for future use.

Information Analysis

Wintraecken (1990) holds that Information analysis is that field and also that phase of development of an information system in which the grammar or the conceptual scheme of the information system is determined. The grammar or the conceptual scheme is an essential part of the specifications of present day information system. Information analysis could be described as the process of extracting valuable information, using statistics from available data, and transforming it into actionable information for decision-making and performance improvement.

It helps to improve the efficiency, effectiveness, and profitability of businesses and organizations. Some standard tools used in information analysis are: Microsoft Excel, Tableau, Statistical Analysis System (SAS), Statistical Package for the Social Sciences (SPSS),R Programming Language (R), Python, et cetera. In addition, analyses of information are done with the application of different techniques and methods as seen in Information Cascade Analysis by Zhou et al (2020), Social Network Analysis by Camacho et al (2020), Explainable Artificial Intelligence by Vilone and Longo (2020), et cetera. These are applied in business intelligence, cyber security, and other aspects of hospitality industry.

Information analysis has emerged as a pivotal component in the evolution of global hospitality industry. In hospitality industry, it involves collecting, processing and interpreting data in order to gain insights that can improve operational efficiency and optimize business decisions. It is used in the hospitality industry in the areas of revenue management, customer experience, operational efficiency, market and sales, and demand forecasting. Writer (2025) opines that the integration of information analysis like data analytics, artificial intelligence, digital marketing strategies, et cetera, has significantly influenced operational efficiency and strategic decision-making within this industry.

Information Security

The international standard, ISO/IEC 27002 (2005), defines information security as the preservation of the confidentiality, integrity and availability of information. In this context, information can take on many forms. It can be printed or written on paper, stored electronically, transmitted by post or electronic means, shown on films, conveyed in conversation, and so forth. Whitman and Mattord (2009) define information security as the protection of information and its critical elements, including the systems and hardware that use, store, and transmit that information. They hold that ensuring the confidentiality, integrity and availability of information (known as the CIA triangle) has traditionally been the industry standard. They opine that the security of these three characteristics of information is as important today as it has always been, but the CIA triangle model no longer adequately addresses the constantly changing environment of the computer industry. Thus they add accuracy, authenticity, utility and possession to the list of information characteristics that needs to be protected. Mitnick and Simon (2002) argue that information security is not a product or a technology, but a process. NSTISSC (1994) holds that information security is the protection of information and the systems and hardware that use, store and transmit that information.

Bodin, Loeb, and Godon (2008) aver that Information security is important in proportion to an organization's dependence on information technology. When an organization's information is exposed to risk, the use of information security technology is obviously appropriate. They argue that Information security is required because the technology applied to information creates risks. Hence, information might be improperly disclosed (that is, its confidentiality could be compromised), modified in an inappropriate way (that is, its integrity could be compromised), or destroyed or lost (that is, its availability could be compromised). Furthermore, failures of information security cause losses to business; therefore, information security is a risk management discipline, whose job is to manage the cost of information risk to the business. Bodin, Loeb and Godon (2008) further opine that Information security starts with policies which must be enforced. These policies describe "'who should be allowed to do what" to sensitive information. To enforce these policies requires mix of processes and technical mechanisms that fall into four categories:

i. Protection measures (both processes and technical mechanisms) aim to prevent adverse events from occurring.
ii. Detection measures alert the business when adverse events occur.

iii. Response measures deal with the consequences of adverse events and return the business to a safe condition after an event has been dealt with.
iv. Assurance measures Validate the effectiveness and proper operation of protection, detection, and response measures.

The final information security task is an audit to determine the effectiveness of the measures taken to protect information against risks. Chang and Lin, (2007), Hagen, et al. (2008), Sipponen, et al. (2009), Doherty, et al. (2009), Albrechtsen and Hovden, (2010), Singh, et al. (2013), Siponen, et al. (2014), Parsons, et al., (2014), et cetera, have also shown that information security policy, awareness and training are very important in the managerial effectiveness. They hold that Information security policy has a significant role in the security of organisational data. They also hold that information security policy awareness makes employees aware of the reasons to keep information assets safe from malicious attacks and other vulnerabilities, while training enables them to effectively carry this out. Von Solms (1998) holds that the aim of information security is to ensure business continuity and minimise business damage by limiting the impact of security incidents.

Within organisations, humans are the most critical element in information security management. Vance et al., 2013 holds that employees have two way effects: negative and positive. Negatively, they may be involved in stealing information with malicious intention and violating access policy, which is a major threat to business organisations. Positively, compliance to security policy, awareness and training will have significant impact on information security. There are many kinds of threats to information security. Gorden et al. (2006) opine that the 2006 Computer Security Institute/Federal Bureau of Investigation (CSI/FBI) survey on computer crime and security found that 72% of respondents (primarily corporations and government agencies) had detected computer security incidents within the last 12 months. The top four types of attack were viruses, laptop/mobile theft, insider abuse of net access and unauthorised access to information, which accounted for more than 74% of financial losses.

Huang, Rau and Salvendy (2010) discuss the common threats to information security in their research work on Perception of Information Security.

Information Quality

Information, as a critical resource, cannot be neglected in contemporary organisation. Stvilia et al (2007) opine that the quality of information is one of the key determinants of the quality of organisation's decisions and actions. Tactical and strategic decision-making, among other factors, is dependent on the quality of the data used in the decision making process. An organization's vulnerability with respect to poor data quality is curbed by information quality management policies. Thus, management of information quality is critical to the effectiveness of the decision support systems.

Price and Shanks (2005) argue that definitions of quality and its associated set of quality criteria and categories (used to group criteria) found in information system(s) (IS) literature and practice can, in general, be described as coming from either product based or service-based perspectives and employing either empirical, practitioner, theoretical, or literature-based approaches. They hold that the product-based perspective, commonly called data quality, focuses on the design and internal IS view. From this view, quality is defined in terms of the degree to which the IS data meets initial requirements specifications or the degree to which the IS data corresponds to the relevant real-world phenomena that it purports to represent. Typical criteria include completeness and accuracy, evaluated using objective measures. On the other hand, service-based perspective of quality, commonly called information quality, focuses on

the information consumer's response to their task-based interactions with the IS. It is this view of quality that directly addresses the question of how to ensure sufficient quality for unpredicted or changed data uses, i.e. by continuous assessment of information consumer quality perceptions. Typical criteria include timeliness, relevancy, and accessibility as judged by the information consumers. Thus they concur to the single most widely accepted definition of quality as 'fitness for use'. Consequently, Information quality has been referred to constantly as information which must satisfy the needs of the user. Strong et al (1997) argue that high quality data is data that is fit for use by the data consumers. Hence, the quality or usefulness of data is dependent on the individual who is going to be using it. Thus, good quality data would therefore meet the requirements of its intended use. Therefore, the concept of quality is relative, depending on the different perceptions and needs of the users of the data.

Stvilia et al (2007) aver that one of the main components and cost drivers in IQ assurance is the development and operationalization of an IQ measurement model. One cannot manage IQ without first being able to measure it meaningfully. Jeong & Lambert (2001) developed four constructs to measure information quality: perceived usefulness, perceived ease of use, perceived accessibility, and attitude. All constructs were explored to measure the influence of information resource on a customer's use of information.

Resource Control

Cambalikova and Misun (2017) posit that the control function constitutes a systematic process whereby management ensures the efficient and effective procurement and utilization of resources to fulfil organizational objectives. As a dynamic and interrelated component of the broader management framework, control serves as a critical determinant of institutional success. This function necessitates the continuous tracking, measurement, and rectification of activities to ensure that actual performance aligns with established strategic plans. Consequently, the efficacy of the control process is predicated upon the existence of robust planning, which provides the essential benchmarks and performance standards. Within this framework, resource control is defined as the monitoring and regulation of resource consumption to maintain compliance with pre-defined objectives and budgetary constraints. This involves the rigorous evaluation of performance indicators, the identification of deviations, and the implementation of corrective measures or procedural adjustments.

The application of resource control varies across diverse industrial contexts. Within the hospitality sector, it encompasses financial, human, material, informational, and strategic dimensions. Financial control is operationalized through budgeting, forecasting, and cost monitoring to ensure fiscal efficiency and profitability. Human resource control focuses on the optimization of labor costs, staffing configurations, and performance appraisals to meet quality standards. Material resource control emphasizes the oversight of inventory, procurement, and equipment maintenance to minimize waste and preserve operational continuity. Furthermore, information control leverages technological systems to facilitate data-driven decision-making and the monitoring of Key Performance Indicators (KPIs). Finally, strategic control ensures that resource deployment remains strictly aligned with long-term corporate goals.

The integration of advanced technology and the enhancement of Information and Communication Technology (ICT) literacy are fundamental to the modernization of resource control mechanisms. Lukose and Agbeyangi (2024) demonstrated that elevated levels of ICT literacy among small-scale hospitality operators in South Africa directly correlate with increased rates of technology adoption. Accordingly, fostering ICT proficiency facilitates

superior resource management by enabling the deployment of sophisticated systems for managing reservations, consumer data, and complex operational workflows.

Operational Efficiency

Afandy (2024) states that operational efficiency is the ability of a company to deliver high-quality products and services while minimizing resource use, and it plays a critical role in profitability and long-term sustainability in the hospitality industry. Thus it minimises wastes and improves the ability of a business to provide products of good quality and render services of high standards to their clients. It also recognised uneconomical processes that contributed negatively to the bottom-line and strategise on better processes that will enhanced output and quality (Devina & Gupta cited in Akinrinola, 2019). It optimizes processes to minimize waste and maximize resource utilization and cost reduction. The profitability of a firm depends on the effectiveness of its operational efficiency.

KarimZadeh (2012) holds that Operational efficiency can be measured both in quantitative and qualitative terms. Among these measures are financial performance, customer satisfaction, internal control and business process, and employees' growth and development in the organisation. Employee skills, motivation and engagement, effective organisational structure, clear roles and efficient decision-making process play vital roles in operational efficiency of a firm. Furthermore, Afandy (2024) highlights the close relationship between operational efficiency, financial leverage, and cost management, which together influence a company's ability to control costs and generate the revenue needed to meet financial obligations.

Empirical Review

Alake, Awodiran, Ayomide and Adeyemo (2025) examined the effect of Decision Support System on Strategic Business Decisions from selected manufacturing companies in Nigeria. The study employed a survey research design and was anchored on agency theory and contingency theory. The population of study was 1,014 top, middle, and operational managers in 34 manufacturing firms using stratified random sampling. The sample size was 286 respondents. Data were collected through close-ended five point Likert-scale questionnaires and analyzed with ordinal regression and correlation techniques via STATA. The findings revealed a significant positive influence of DSS on business decisions, with a regression coefficient of 0.7811 ($p < 0.000$) and an odds ratio of 2.1839. DSS was moderately but significantly correlated with strategic business decisions ($r = 0.4814$, $p < 0.0000$), and 62.85% of respondents agreed that DSS enhances decision-making.

Amaechi-Chijioke, Fashakin, Ibe, and Omolaja (2024) investigated how management control systems affect human factors and enhance productivity in hotel operations in Umuahia, Abia State, Nigeria. The objective of the study was to ascertain the effect of management control systems on organizational productivity in hotels in the study area. The population of the study was 520, which comprises junior, senior and managers of hotels. The sample size was 226 respondents. The study was anchored on contingency theory. Descriptive survey research design was the method used and data were collected using structured questionnaires and interviews. The data collected were statistically analysed using descriptive and regression analyses. The study revealed that management control systems significantly influence organizational productivity and significantly impact hotel revenue in hotels.

Habamenshi and Nibeza (2024) assessed the effectiveness of Internal Control Systems on the performance of Hospitality Industry Management on Moriah Hill Resort, Rwanda. The study employed a mixed methods approach involving a census of 40 staff as the study's population. Because the population is not large, the research used no sample. It made use of Systems Theory and Management Control Theory. Quantitative data were collected using structured

questionnaires (Likert scale), while qualitative data came from interviews and focus groups. The data were analyzed using IBM Statistics SPSS 23. The research found that Control Environment component is effective (x= 3.74; σ= 0.237); Risk Assessment component is effective (x= 4.91;σ= 0.338); Control Activities component is effective (x= 4.59 σ= 0.471); Information and Communication component is effective with (x= 4.94 σ= 0.234); Monitoring component is effective (x= 4.87;σ=0.409); with information and communication (Mean = 4.94) and risk assessment (Mean = 4.91) showing the strongest performance.

Zaim and Dinibutun (2019) examined the effects of knowledge management processes on human resource management performance. The location of the study was Turkey service sector. The population of study was 2,000 employees and managers working in the service sector in turkey. Survey research design was used and data were collected using questionnaires. The 835 questionnaires collected were analyzed through multiple regression and ANOVA. In order to test the hypotheses, a linear model was constituted and a regression analysis was performed using "Ordinary Least Squares Estimates" technique. Findings indicated that all KM processes positively influenced HRM performance, with knowledge generation having the strongest effect ($\beta = 0.539$, $p < 0.01$), followed by knowledge sharing ($\beta = 0.212$, $p < 0.01$), and knowledge storage ($\beta = 0.103$, $p = 0.001$). The model accounted for 55% of the variance in HRM performance (Adjusted $R^2 = 0.55$).

Kuźmicki (2019) explored the use of modern information and communication technologies in the market of hotel service. The study was situated in Lublin Voivodeship, Poland. The general population amounted to 290 entities while the research sample amounted to 110 entities. Adopting a descriptive research design, data were collected from 110 year-round accommodation facilities through Computer-Assisted Telephone Interviewing (CATI) and analyzed using descriptive statistics and the Kruskal–Wallis test. The results revealed that entrepreneurs who participated in the study saw the potential of the Internet as a technical means which facilitates access to potential customers. It also revealed the low level of awareness among the respondents as to the significance of modern technological solutions which are essential for the hotel product and are the source of companies' competitive advantage.

Azeez and Yaakub (2019) investigated the impact of management information systems on organisational performance with total quality management as the mediator. The main objective of this research is to investigate the relationship of MIS and organisational performance along with the mediating role of TQM at Missan Oil Company in Iraq. It adopted a descriptive, cross sectional design. The population of study was managers of high, middle and low levels at Missan Oil Company and the sample size was 250. Questionnaires were used to collect data from 250 managers across various levels, from which 201 valid responses were analyzed. The collected data were analyzed using Structural Equation Modeling (SEM) via AMOS. The results revealed that information quality, user satisfaction, and net benefits positively influenced organisational performance, whereas system quality, service quality, and use of system had negative effects due to poor MIS infrastructure. It revealed that TQM significantly mediated most of the relationships between MIS and organisational performance.

Oladiti, Sukurat and Omolola (2018) examined the impact of Management Information Systems (MIS) on business performance using Union Bank of Nigeria Plc as a case study. Cognitive Fit Theory, Socio-Technical Theory, Competitive Strategy Theory, Task-Technology Fit, and Competitive Strategy Theory were used. The population and sample size of the study was 50 staff of Union Bank. The method of Quantitative survey design was used and structured questionnaires were used in collecting data. Data were analysed statistically using chi-square and descriptive statistics. The study found out that there is significant relationship between effective decision making by the management, and adequate supply of

information in the organization and that management information system facilitates and enhances decision making in an organization to improving productivity and performance in an organization.

Gap in Literature

The existing literatures studied have shown that there are limited or no research works on the impact of information management system on resource control in the hospitality sector. There are many research works on management information system on various aspects of organisational performance, enterprise research planning, customer relationship management, et cetera. To the best knowledge of the researchers, no study has dealt on the impact of information management system on resource control management system. Again, no study has been done on the operational efficiency of hospitality firms via the application of information management system proxies like information analysis, information security and information quality in the context of resource control in hospitality firms. These gaps have led to poor information management practices of resource control in the hospitality firms.

METHODOLOGY

This study adopted a descriptive survey research design. The study was carried out in Anambra State with specific focus on the major urban centres of Awka, Onitsha, and Nnewi metropolises, selected due to their commercial and industrial significance within the state. The study covered both registered and unregistered hospitality firms offering lodging and related services. The population comprised Information and Communication Technology (ICT) personnel and managerial staff of selected hotels in Anambra State. Using a multistage sampling technique, 24 hotels were identified, with an estimated total of 221 managers and ICT personnel. Given the manageable size of the population, a census approach (complete enumeration) was adopted. Primary data were collected through a structured questionnaire administered directly to respondents. The research instrument was subjected to face and content validity tests, while reliability was assessed using the Cronbach Alpha method to establish internal consistency. A pilot study involving 30 hospitality firm employees in Enugu metropolis, Enugu State, was conducted to confirm the reliability of the instrument. Data obtained were analyzed using both descriptive and inferential statistical techniques. Descriptive statistics, including frequencies and mean scores, were used to address the research objectives, while hypotheses were tested using simple regression analysis based on the Ordinary Least Squares (OLS) method at a 5% (0.05) level of significance.

DATA PRESENTATION AND ANALYSIS

The analysis was conducted using a total 184 copies out of 221 copies of questionnaire distributed in alignment with the population/sample size of the study.

Table 1: Distribution of responses for Information Analysis

S/N	Information Analysis	SA	A	N	D	SD	Mean	Decision
1	My firm regularly analyzes important data like reservations, sales, inventory, etc.	92	70	16	6	-	4.35	**Accept**
2	The analysis of relevant data is used to make important forecast in my firm.	81	58	36	9	-	4.15	**Accept**
3	The analysis of relevant data helps my firm in resource allocation.	63	86	31	2	2	4.12	**Accept**
4	My firm uses data analysis to identify areas of wastage.	56	92	29	4	3	4.05	**Accept**
5	Errors are detected early in operations in my firm through analysis of data.	44	95	35	7	3	3.92	**Accept**

Source: Field Survey, 2025

Table 1 indicates the distribution of responses for Information Analysis in the studied hotels. All mean values (3.92–4.35) as seen in the Table surpass the threshold, implying that data analysis is a consistent practice in the firms. Regular data analysis (mean = 4.35) and its use for forecasting (mean = 4.15) were most agreed upon, showing analytical integration in planning. Respondents also accepted that data analysis aids resource allocation (mean = 4.12) and identifies wastage (mean = 4.05). Early error detection (mean = 3.92) was slightly lower but still acceptable.

Table 2: Distribution of responses for Information Security

S/N	Questionnaire Items	SA	A	N	D	SD	Mean	Decision
6	My firm has clear policies on protecting customer data.	123	60	1	-	-	4.66	**Accept**
7	Access to sensitive information is restricted to authorized staff only in my firm.	122	50	10	2	-	4.59	**Accept**
8	Backup systems (manual or digital) are in place to prevent data loss in my hotel.	72	75	31	4	2	4.15	**Accept**
9	My hotel uses antivirus, firewalls, or other tools to protect data from cyber threats.	48	70	51	7	8	3.78	**Accept**
10	Data leaks rarely occur in the operations of my hotel.	78	71	19	13	3	4.13	**Accept**

Source: Field Survey, 2025

Table 2 details the distribution of responses for Information Security in the studied hotels. From the Table, all mean values were above 3, indicating that data security measures are well implemented. The highest mean (4.66) was for clear data protection policies, followed by restricted data access (4.59). Backup systems (4.15) and antivirus/firewall usage (3.78) also scored well, indicating strong cybersecurity awareness. The mean of 4.13 for rare data leaks demonstrates reliability in data protection.

Table 3: Distribution of responses for Information Quality

S/N	Questionnaire Items	SA	A	N	D	SD	Mean	Decision
11	The data available in my firm is reliable.	87	79	18	-	-	4.38	**Accept**
12	Data provided for decision-making is usually complete in my firm.	42	100	27	9	6	3.89	**Accept**
13	Information is updated regularly to reflect current operations in my hotel.	54	91	25	14	-	4.01	**Accept**
14	Information is consistent across different departments in my organization	56	87	35	6	-	4.05	**Accept**
15	Data is presented in a clear and understandable format in my hotel.	69	88	15	10	2	4.15	**Accept**

Source: Field Survey, 2025

Shown in Table 3 is the distribution of responses for Information Quality in the studied hotels. From the Table, the mean scores (3.89–4.38) indicate respondents' agreement that data used in their firms is of high quality. Reliability (4.38), consistency (4.05), and clarity (4.15) were well rated, implying that the information system supports accurate decision-making. Regular updates (4.01) and data completeness (3.89) were also affirmed, highlighting commitment to information accuracy and timeliness.

Table 4: Distribution of responses for Operational Efficiency

S/N	Questionnaire Items	SA	A	N	D	SD	Mean	Decision
16	Processing data the right way can help to reduces duplication of tasks in my hotel.	101	67	14	2	-	4.45	**Accept**
17	Information processing can help my hotel to minimize wastage of resources.	110	63	9	2	-	4.53	**Accept**
18	Making decisions on time can help my hotel to control operational costs better.	120	58	6	-	-	4.62	**Accept**

19	Inventory and procurement can be more effectively managed by my firm due to timely decisions.	90	79	12	2	1	4.39	**Accept**
20	Accuracy of operational decisions in my hotel can be improved on with better information analysis.	105	68	11			4.51	**Accept**
21	Resource wastage can be reduced through proper data analysis in my hotel.	97	66	12	5	4	4.34	**Accept**
22	Information analysis can help my form to reduce customer-related errors	96	62	21	3	2	4.34	**Accept**
23	Operational disruptions due to data loss or system breakdowns can be minimized in my firm through improved data security.	108	68	7		1	4.53	**Accept**
24	Information security builds customer trust, which improves business efficiency.	126	48	8	1	1	4.61	**Accept**
25	Accurate information can reduce errors in reservations, billing, and reporting in my hotel.	128	43	6	5	2	4.58	**Accept**
26	Reliable information can help my firm to reduce operational costs	98	68	11	3	4	4.37	**Accept**
27	Information quality enables faster and better decision-making.	134	44	6	-	-	4.70	**Accept**

Source: Field Survey, 2025

Table 4 presents the distribution of responses on operational efficiency among the hotels studied. All items recorded high mean scores ranging from 4.34 to 4.70, well above the acceptance benchmark. The highest mean score (4.70) was obtained for the item indicating that high-quality information facilitates faster and more effective decision-making, underscoring its strategic relevance. Respondents also rated efficient data processing, timely decision-making, reduced resource wastage, and improved operational accuracy positively. Overall, the results suggest that effective information management practices significantly enhance operational cost control and productivity within the hospitality firms.

Test of Hypotheses

Hypotheses One

H_{01}: Information analysis has no significant effect on operational efficiency in hospitality firms in Anambra state, Nigeria.

Table 5: Model Summary for Hypothesis Three

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	t	Sig.
1	.552[a]	.304	.300	2.489	79.570	8.920	.000[b]

a. Predictors: (Constant), OE

Source: Field Survey, 2025

Table 5 reveals the test of hypothesis three which states that information analysis has no significant effect on operational efficiency in hospitality firms in Anambra state, Nigeria. From the analysis, the R is .552, the R-Square is .304, the F is 79.570, the t is 8.920 and the p-value is .000 (p-value < .05). This result shows that a one percent change in information analysis will lead to a 30% change in operational efficiency. Going by this, therefore, the null hypothesis is rejected and the alternate hypothesis is accepted. Hence, it is stated that information analysis has a positive statistical significant effect on operational efficiency in hospitality firms in Anambra state, Nigeria.

Hypotheses Two

H_{02}: Information security has no significant effect on operational efficiency in hospitality firms in Anambra state, Nigeria.

Table 6: Model Summary for Hypothesis Four

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	t	Sig.
1	.361[a]	.131	.126	2.152	27.323	5.227	.000[b]

a. Predictors: (Constant), OE

Source: Field Survey, 2025

Table 6 shows the test of hypothesis four which states that information security has no significant effect on operational efficiency in hospitality firms in Anambra state, Nigeria. From the analysis, the R is .361, the R-Square is .131, the F is 27.323, the t is 5.227 and the p-value is .000 (p-value < .05). This result shows that a one percent change in information security will lead to a 13% change in operational efficiency. This study, therefore, rejects null hypothesis in favour of the alternate hypothesis. Hence, it is stated that information security has a positive statistical significant effect on operational efficiency in hospitality firms in Anambra state, Nigeria.

Hypotheses Three

H_{03}: Information quality has no significant effect on operational efficiency in hospitality firms in Anambra state, Nigeria.

Table 7: Model Summary for Hypothesis Five

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	t	Sig.
1	.453[a]	.205	.201	2.569	47.019	6.857	.000[b]

a. Predictors: (Constant), OE

Source: Field Survey, 2025

Table 7 indicates the test of hypothesis four which states that information quality has no significant effect on operational efficiency in hospitality firms in Anambra state, Nigeria. From the analysis, the R is .453, the R-Square is .205, the F is 47.019, the t is 6.857 and the p-value is .000 (p-value < .05). This result shows that a one percent change in information quality will lead to a 21% change in operational efficiency. Against this backdrop, therefore, the null hypothesis is rejected in favour of the alternate hypothesis. Hence, it is stated that information quality has a positive statistical significant effect on operational efficiency in hospitality firms in Anambra state, Nigeria.

Conclusions

This study concludes that Information Management Systems (IMS) are fundamental to enhancing the operational efficiency and resource control dynamics of hospitality firms in Anambra State. The empirical findings demonstrate that key IMS dimensions, specifically information analysis, information security, and information quality exert a statistically significant positive influence on hospitality firms ability to deliver high-quality services while minimizing resource wastage. Statistical analysis reveals that information analysis is a primary driver of operational excellence, accounting for a 30% variance in efficiency by enabling precise forecasting and optimized resource allocation. Furthermore, robust information security protocols and high-quality, reliable data are essential for reducing costly operational disruptions, preventing data leaks, and facilitating rapid executive decision-making. Despite these benefits, a gap remains in the full adoption of these systems among local hospitality providers. Ultimately, the integration of technology and human capital through a structured IMS framework allow firms to transition from reactive management to a proactive, data-driven operational paradigm.

Recommendations

Following the findings of the study, it is recommended that:

i. Hospitality firms in Anambra State need to automate and integrate their operational processes such as reservations, inventory, and financial management through centralized information systems to ensure accuracy, timeliness, and reduced redundancy in resource utilization.
ii. The management and owners of hospitality firms need to implement strong cybersecurity measures, including access controls, regular data backups, and staff awareness programs, to safeguard sensitive operational and financial data against unauthorized access or loss, so as to build trust in the system.
iii. Hospitality firms need to adopt clear data/information quality management policies to ensure that the data/information used for planning and operations is accurate, complete, reliable, and up to date. This will make for improved decision outcomes and promote sustainable operational efficiency.

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