An Empirical Examination Of The Nexus Between Information Systems And Organizational Performance Behaviors Of Quick - Service Restaurants In Port Harcourt

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ABSTRACT

This study examined the association of information systems and organizational performance behavior. The population of the study was 156 top echelon members of the selected organizations; whereas the sample size was 112 as determined using the Taro Yemen's formula. Questionnaire was the instrument for data collection. Data were presented using descriptive statistics and hypotheses were tested with the Spearman's Rank Order Correlation Coefficient and results showed that there is a significant association of three dimensions of information systems with the measures of organizational performance. The study concluded that adoption of information systems in the fast food outlets is capable of bringing about better performance because it allows the organizations to:(1) have hands-on information on virtually every bit of its operations, (2) promotes prudent and transparent resource application and (3) makes organizations to speedily and flexibly respond to service requests. The study recommended that: (1) Organizations should ensure that reasonable attention is accorded the application of information systems in the running of its operations by giving it a priority attention during resource allocations. (2) Staff should be periodically trained on the use of information systems' supporting technologies so that everyone in the organization can use the systems effectively, and (3) Good systems development experts should be consulted periodically to analyze and design new systems or update existing ones to match with organizations' current realities.

Keywords: Information Systems; Organizational Performance Behavior; Nexus; Empirical

INTRODUCTION

Quick service restaurants in Nigeria are known as fast food outlets where food is used as a collective term for the end products consumers eat or drink (Mustapha et al, 2014). The fast food culture in Nigeria is fast expanding due to continuous urbanization growth, increasing affluence, coupled with the fact that more women are joining the work force. These changes in lifestyles and demographics throughout the country have resulted in the ever increasing demand for fast food restaurants over the last 25 years. The modern fast food industry is highly commercialized and characterized by various pre-formulated procedures with greater emphasis always placed on ensuring certain level of flavor and quality, consistency of products and quick services as expected by customers (Iwarere and Fakokunde, 2011). It is considered not merely as a collection of inputs to satisfy human nutritional requirements, but also possesses a multi- dimensional set of consumer-satisfying attributes such as taste, appearance, security, and convenience. With these, how important is it for fast food outlets to have a workable information system in place?

A business information system as defined by Hooper and Page (1997) is "the sum of all the tools, techniques and procedures used by the business to process data". Within the fast food industry, components of information systems include, computer hardware and software, cooking machinery, lines of authority, food supply chain from farm to table, food development, recipe development, all manpower – chefs, managers, waiters and waitresses, cleaners, farmers, logistics etc.

Carton and Hofer (2006) described organizational Performance as a measure of the state of an organization, or the outcomes that result from management decisions and the execution of those decisions by employees of the organization. Organizational performance remains one of the most search-lighted constructs in management sciences; it is multidimensional and complex to measure. Measurements used to represent performance are selected based upon the circumstances of the organizations being studied (Hofer, 1983). One essential determinant of organizational functionality is information. Information is not only important for organizational theory and behavior, but for organizational design as well (Bumer, 1992); hence the concern over information systems. Fisher and Kenny (2000) suggested that organizations infuse information systems into their operations so as to enhance competitiveness and facilitate business growth and success. On the other hand, Laudon and Laudon (2001) believed that information systems are embedded in organizations and are the result of standard operating procedures, work flows, politics, organizational culture and structure.

Despite the reality that organizations utilize diverse information systems as a result of their varying needs, strive for competitive advantage through constant reinvention and close benchmarking of effectiveness and efficiency is a common strategy (Chaffey and Wood 2005). Therefore this study sought to examine the extent to which information system or the lack of affects the performance of fast food outlets in a developing country like Nigeria, taking into consideration, macro-factors within the operating environment of the business.

The purpose of this study is basically to examine the relationship between information systems and organizational performance behavior. See conceptual framework in figure 1.

Figure 1. Conceptual Framework of Dependent and Independent Variables
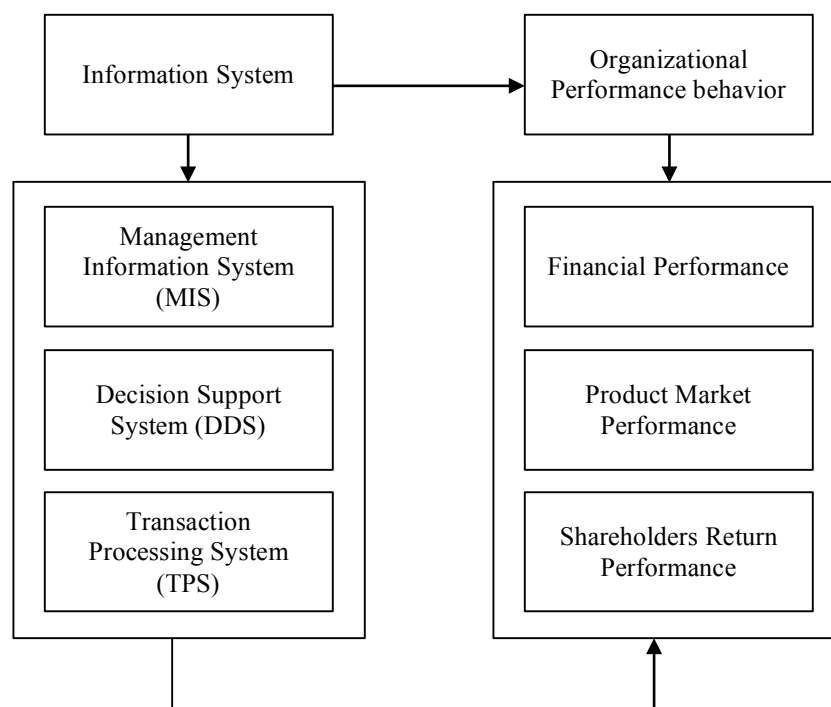
This research will take into account the role of information systems in the success of quick service restaurants by examining if and to what extent the application of detailed information systems increases the performance of quick service restaurants. By so doing, this research will;

1) Identify the components of an information system within the fast food industry. This will help managers fully understand the constituents of an information system within this context
2) Determine the level of information system used in quick service restaurants

3) Analyse the statistical relationship between information system and organizational performance in fast food outlets

4) Determine how information systems impacts organizational behaviour. This will assist in drawing up recommendations on the importance of information systems in fast food outlets.

Research Questions

1) Is there any significant relationship between management information systems and organizational performance behavior quick service restaurants?

2) Is there any significant relationship between decision support systems and organizational performance behavior quick service restaurants?

3) Is there any significant relationship between transaction processing systems and organizational performance behavior quick service restaurants?

LITERATURE

The Concept of Information

Information is data that has been shaped into a form that is meaningful and useful to its users (Laudon *et al.,* 2004). According to Drucker (1992), from being organized around the flow of things and the flow of money, the economy is being organized around the flow of information. Information is the equivalent of finished goods in a production process because data is to information what raw material is to a production process. However, what constitutes information at one point might be data at another point, depending on who uses it and for what purpose.

Information Systems

According to Hooper and Page (1997), "information system is the "sum of all tools, techniques and procedures used by the business to process data". Fisher and Kenny (2000) argued that organizations infuse information systems into their operations to enhance competitiveness and facilitate business growth and success. In fact information systems is a structure that handles every information that is relevant to an organization in such a way that the information is accessible and useful to those who wish to use it, including managers, staff, clients and citizens. It is also the integrated set of components for collecting, storing, and processing data and for delivery of information, knowledge and digital products. Information system encompasses data, the people and machines that collects, process, output, and store data, the networks that transmit and receive data, and the procedures that govern the way data is handled (Parsons, 2012).

Information system is a system that collects, stores, and processes data to provide useful, accurate, and timely information, typically within the context of an organization. The importance of information systems has increased as the business environment has grown more dynamic and the ability to collect, assess, and disseminate information have become a valuable strategic resource – one that any organization can use to improve its competitive advantage. Information systems are of several dimensions that are discussed hereunder; including-Management Information Systems, Transaction Processing Systems, Decision Support Systems, Expert Systems, Enterprise Resource Planning Systems and Artificial Intelligence.

Management Information Systems (MIS) has been defined diversely; including as a system that converts data from internal and external sources into information, and communicates that information in an appropriate form to managers at all levels, in all functions to enable them make timely and effective make decision for planning, directing and controlling the activities for which they are responsible (Lucey, 2005); or, an information system that uses data collected by transaction processing system, and manipulates the data to create reports that managers can use to make routine business decisions in response to structured problems (Parson, 2012). Examples: sales analysis, production performance and cost trend reporting systems. Looking at management information systems from a functional perspective, it encompasses accounting information systems, human resource information systems, marketing information systems, financial information systems as well as several other information systems covering various functional parts of the organization.

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Transaction Processing System (TPS) is a type of information system that provides a way to collect, process, store, display, modify, or cancel transactions (Parson, 2012); or an organized collection, of people, procedures software, databases, and devices used to record completed business transactions. It is important to note that, TPS meets the data collection, storage, processing and outputting functionalities for the core operations of a business. It collects data from users, inputs and then generates outputs based on the data collected. One prominent example of a TPS is the ATM system which records all transaction between customers and banks with minimal human interference. Oscar (2011) in explaining this further exuded that a withdrawal of cash from an ATM prompts the bank's computer to make sure the paying account contains sufficient funds before it deducts the withdrawal and enables the ATM to deliver cash.

Decision Support System (DSS) is an organized collection of people, procedures, software, database, and devices used to support problem-specific decision making (Stair and Reynolds, 2003). Anyawu and Shiva (2009) defined DSS as a system that helps people make decisions by directly manipulating data, analyzing data from external sources, generating statistical projections, and creating data models of various scenarios. Similarly, O' Brien (1998) perceived a DSS as an information system that utilizes decision models, a database, and a decision maker's own insights in an ad hoc, interactive analytical modeling process to reach a specific decision by specific decision maker. Going by these views, it can be summarized that a DSS provides tools for routine decisions, non-routine decisions, structured problems, and even semi structured problems in which a decision might be based on imprecise data or require "guesstimates".

A DSS does not make decisions; however, that task remains the responsibility of the human decision maker; examples: product pricing, profitability forecasting and risk analysis systems. Decision makers use DSS to design decision models and make queries. A Decision Model refers to a numerical depiction of a realistic scenario, such as a cash-flow model of a business that indicates how income adds to cash accounts and expenses deplete those accounts. Similarly, a decision query is a question or set of instructions describing data that must be gathered to enable decision making.

Expert Systems (ES) are systems that confer a computer user with the ability to make suggestions and act like an expert in a particular field (Gabriel, 2012); or a computer-based information system that uses its knowledge about a specific complex application area to act as an expert consultant to users (O'Brien, 1998). The unique value of expert systems is that they allow organizations to capture and use the wisdom of experts and specialists; and it can retain the expertise, experiences and skills of dead, retired or exited employees (Gabriel, 2012:71). Expert systems can be applied to almost any field or discipline and they have been used to monitor complex systems such as nuclear reactors, perform medical diagnoses, locate information system components, perform credit evaluations, and develop marketing plans for a new product or new investment strategies. Examples: credit application advisor, process monitor, and diagnostic maintenance Systems.

Enterprise Resource Planning System (ERPS) is a set of integrated programs that is capable of managing a company's vital business operations for an entire multisite or global organization (Stair and Reynold, 2003). It is a system that is capable of managing organization's day-to-day activities. **ERPS** may vary from company to company, but most ERP systems provide integrated software to support the manufacturing and finance business functions of an organization. In such an organization, a demand forecast is prepared that estimates customer demand for several days, weeks or months.

Artificial Intelligence (AI) is a field in which the computer system takes on the characteristics of human intelligence. O'Brien (1998) describes it as a science and technology whose goal is to develop computers that can think, as well as see, hear, walk, and feel. Example, robotics is an area of artificial intelligence in which machines take over complex, routine, boring tasks, such as sea diving, welding car frames or assembling computer systems, and components. Through its application, highly risky tasks can be performed without human involvement. Through this system, employer-employee grievances are largely minimized because there is a reduction on the need for real humans and the machine are non-minding beings also. Because organizations have different missions and face different problems and operate in different contexts; they need different kinds of information systems to function effectively. A small business might require a basic information system for accounting, inventory and payroll; while,

a large or multinational organization/business might require several information systems integrated into an enterprise computer system capable of supporting a variety of business activities such as inventory management, managerial planning, e-commerce, payroll etc.

Organizational Performance Behavior

The concept of organizational performance behavior is connected to the ideals of effectiveness and efficiency. A business organization must produce the right things and it must produce them using the fewest possible inputs if it to have a strong organizational performance behavior. Business typically tries to perform well in a number of areas of the organization. Importantly, organizations strive to perform well financially because after business ideas, finance is the bedrock of the business. That is, they need to realize a good return on their investment. They need to add as much value as possible in their production process.

Again, organizations focus on increasing performance by increasing their presence and market share relative to the available consumers. What this means is that they must gain as much market share as they can in relation to the available consuming audience. This is further smoothened when they produce products that consumers crave for and such products must be produced at a price that allows for reasonable competitiveness in the market. Lastly, organizations need to perform well in terms of creating value for their stakeholders; they need to make money that can be distributed in the form of dividends to shareholders and have their stock price rise at a reasonable pace (Bryan, 2012). However, what constitutes performance of any organization is a function of what the organization is into. Organizations may develop their own categories as appropriate depending on the organizational mission. However, scholars have suggested some criteria for assessing organizational performance; of which we have adopted Richard et al's (2009) model of financial performance, product market performance and shareholders return performance.

Information Systems and Organizational Performance Behavior

Basically an information system handles the flow and maintenance of information about significant people, places and things within the business environment (Jackson, 1997). Fisher and Kenny (2000) suggested that organizations infuse information systems into their operations so as to enhance competitiveness and facilitate business growth and success. Again, Laudon and Laudon (2001) believed that information systems are embedded in organizations and are the result of standard operating procedures, work flows, politics, organizational culture and structure.

Information systems are changing rapidly and considering their strategic effect on organizational operations, the successful management of information system is of the utmost importance. Further, it has been claimed that to be competitive in today's "high-tech environment" world organizations need to offer specialized services and develop an innovative strategy that employs new technologies especially information system (Williams, 2005). Research has indicated that effective and efficient use of information system is a major factor differentiating successful organizations from their less successful equivalent (Robert, 2006). Information systems are strategic ingredient that helps create competitive advantages and supports organizational survival (Kaplan, 1992) and development (Abugabah, Sanzogni and Poropat, 2008); a practical response in overcoming numerous organizational challenges (Akata, 2003). Based on the foregoing discourse, we therefore state the research hypotheses below.

Ho$_1$: There is no significant relationship between management information system and organizational performance behavior

Ho$_2$: There is no significant relationship between decision support system and organizational performance behavior

Ho$_3$: There is no significant relationship between transaction processing system and organizational performance behavior

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Quick Service Restaurants and Information Systems: Farm to Table

In identifying a relationship between information systems and its impact on quick service restaurants, there is a tendency to analyze this myopically with a view that limits the supply chain of these restaurants to a mere kitchen to table process. However, in reality, the supply chain of a quick service restaurant largely incorporates all activities and processes concerned with getting the raw products from the farm, processing, storing and finally transforming them into well prepared meals served at the restaurants. The former view will most likely generate results that undervalue the extent of information systems that go into quick service restaurant activities. The latter however, will generate results that have taken all activities into consideration.

Figure 2. The Food Production and Supply Chain
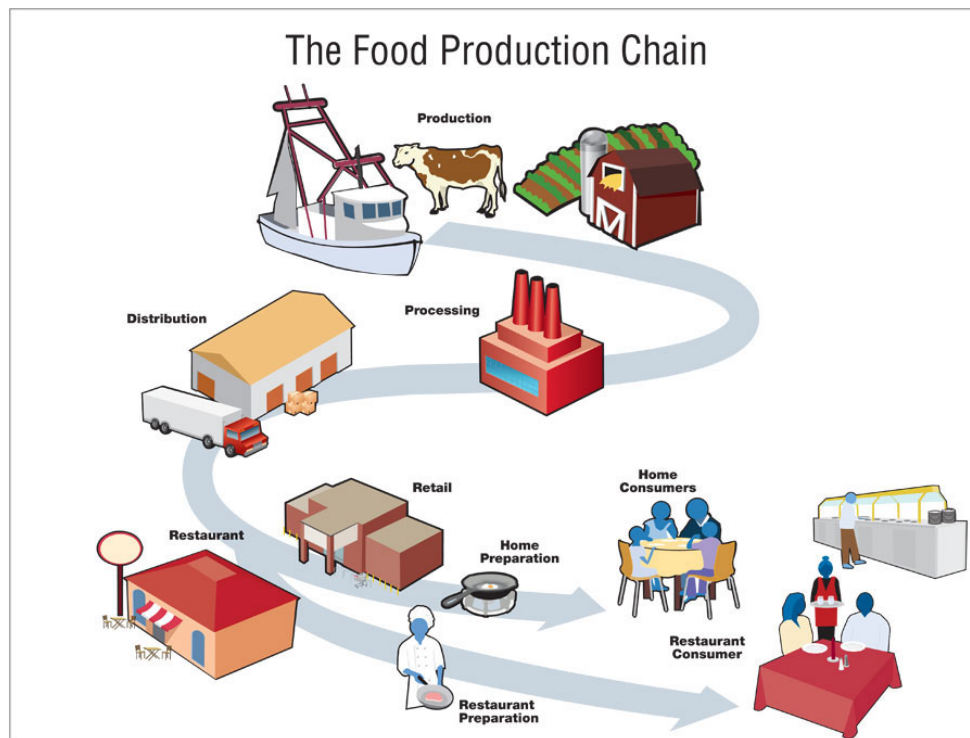
Source: Center for Disease Control and Prevention

METHOD

The study adopted a survey design, which Kothari (2004) described as a method that involves asking a large audience questions concerning a particular issue. The target population for the study comprised one hundred and fifty-six (156) top executives of selected fast food outfits in the city of Port Harcourt. This category of respondents was chosen because of the needed information cannot be at the disposal of members of every cadre of the organization except those at the top echelon. From that number, a sample size of one hundred and twelve (112) was arrived at using the Taro Yemen's formula. Questionnaire was the instrument for data collection and descriptive statistics was used to represent the demographic status of respondents whereas the data were analyzed through the Spearman's Rank Order Correlation Coefficient that was powered by the Statistical Package for Social Sciences (SPSS).

Method of Data Collection and Data Analysis

Data were collected through the use of questionnaires, where questions were structured for the respondents to provide answers. The target respondents were CEOs or other top-level management members who have the information about the organization's marketing strategy (Kumar et al., 1993), who have the greatest insight into

these organization practices (Lee-Kelley et al., 2003) and who have the most influence on organization outcomes (Stubbart, 1989).

Table 4.1. Questionnaire Distribution and Retrieval

Questionnaire	Frequency	Percentage
Copies distributed	132	100%
Copies retrieved	119	90.1%
Copies considered usable	107	81.1%

Demographic Analysis

In this section, the outputs of the demographic analysis are presented. These presentations would further enable the understanding of the nature of the demographic distribution of the sample

Table 4.2. Gender of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	57	53.3	53.3	53.3
	Female	50	46.7	46.7	100.0
	Total	107	100.0	100.0	

From the above table the male in the study exceed the number of female respondents in the companies by 57 (53%) to 50 (47%). This shows a greater number of men make up and occupy management positions in the companies studied when compared to their female counterparts.

Table 4.3. Age of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	36 - 45 years	38	35.5	35.5	35.5
	46 - 55 years	41	38.3	38.3	73.8
	56 and above	28	26.2	26.2	100.0
	Total	107	100.0	100.0	

From the above table the male in the study it can be observed that most respondents fall within the 46 – 55 years age bracket which accounts for 38% of the total respondents. This is followed by the 36 – 45 years age bracket which accounts for 35% and finally the 56 years and above which makes up 26% of the total number of respondents.

Table 4.4. Education level of Respondents

		Frequency	Percent	Valid Percent
Valid	PhD	2	1.9	1.9
	Masters	30	28.0	28.0
	Ordinary National Diploma (OND)/ Higher National Diploma(HND)/ Bachelor of Science(B.Sc.)	75	70.1	70.1
	Total	107	100.0	100.0

Table 4.4 is used to portray the educational level and qualification distribution of the respondents. From the chart it can be observed that a greater percentage of respondents have obtained OND/HND or BSc degrees (70.1%), this is followed by those with masters degrees accounting for about (28%) then those with PhD (1.9%).

Table 4.5. Statistics on Information Systems

	N	Minimum	Maximum	Mean	Std. Deviation
MIS	107	1.20	5.00	4.1664	.91795
DSS	107	1.17	5.00	4.1262	.78269
TPS	107	1.11	5.00	4.0644	.78286
Valid N (listwise)	107				

Note: Management Information Systems (MIS); Decision Support Systems (DSS) and Transaction Processing Systems (TPS).

The above table shows the output for the analysis of the dimensions of the independent variable, information systems. The variables are measured on a five point likert scale with five (5) representing the tendency to strongly agree and one (1) representing the tendency to strongly disagree. The mean scores distinctly express a general agreement. Thus, information systems as the independent variable (x = 4.1190; s = 0.8418) carries a central tendency for agreement based on participants' opinions.

Table 4.6. Statistics on Organizational Performance

	N	Minimum	Maximum	Mean	Std. Deviation
PMP	107	1.25	4.88	4.0923	.72894
FP	107	1.17	5.00	4.1464	.74067
SRP	107	1.13	5.00	4.0958	.76065
Valid N (listwise)	107				

Note: Product Market Performance (PMP); Financial Performance (FP) and Shareholders Return Performance (SRP).

The above table shows the output for the analysis of the measures of the dependent variable, organizational performance. The variables are measured on a five point Likert scale with five (5) denoting the tendency to strongly agree and one (1) denoting strongly disagree. The mean scores evidently confirm a tendency for agreement as indicated on the Likert scale and with very low standard deviation scores. The lowest mean score is 4.0923 and the highest standard deviation is 0.72894. Thus organizational performance, the dependent variable (x = 4.1115; s = 0.7099) carries a central tendency for agreement based on participants opinions.

Hypotheses Testing

In this section, secondary data which examines the correlation between the independent variable and the dependent variable is illustrated. All hypotheses are tested using the Spearman's rank order correlation coefficient and based on the adoption of a 95% confidence interval and therefore a 0.05 level of significance

Table 4.7. Hypotheses Testing (1)

			MIS	PMP	FP	SRP
Spearman's rho	**MIS**	**Correlation Coefficient**	1.000	.643[**]	.534[**]	.552[**]
		Sig. (2-tailed)	.	.000	.000	.000
		N	107	107	107	107

From table 4.7, it can be observed that the relationship between management information systems and product market performance (HO$_1$) is significant at a probability value of 0.000 and a rho value of 0.643. Also that of management information systems and financial performance (HO$_2$) is significant with a probability value of 0.000 and a rho value of 0.534. Following this is the relationship between management information systems and shareholders return performance (HO$_3$) which is also significant with a probability value of 0.000 and a rho value of 0.552

Table 4.8. Hypotheses Testing (2)

			MIS	PMP	FP	SRP
Spearman's rho	**DSS**	**Correlation Coefficient**	1.000	.757**	.835**	.759**
		Sig. (2-tailed)	.	.000	.000	.000
		N	107	107	107	107

From the table it can be observed that the relationship between decision information systems and product market performance (HO_4) is significant at a probability value of 0.000 and a rho value of 0.757. Also that of decision support systems and financial performance (HO_5) is significant with a probability value of 0.000 and a rho value of 0.835. Following this is the relationship between decision information systems and shareholders return performance (HO_6) which is also significant with a probability value of 0.000 and a rho value of 0.759

Table 4.9. Hypotheses Testing (3)

			MIS	PMP	FP	SRP
Spearman's rho	**TPS**	**Correlation Coefficient**	1.000	.792**	.661**	.895**
		Sig. (2-tailed)	.	.000	.000	.000
		N	107	107	107	107

From the table it can be observed that the relationship between transactional processing systems and product market performance (HO_7) is significant at a probability value of 0.000 and a rho value of 0.792. Also that of transactional information systems and financial performance (HO_8) is significant with a probability value of 0.000 and a rho value of 0.661. Following this is the relationship between transactional processing systems and shareholders return performance (HO_9) which is also significant with a probability value of 0.000 and a rho value of 0.895

Table 4.10. Showing the Decisions

Hypotheses	Significance (0.05)	Decision
There is no significant relationship between management information systems and product market performance (HO_1)	P<0.05	Reject
There is no significant relationship between management information systems and financial performance (HO_2)	P<0.05	Reject
There is no significant relationship between management information systems and shareholders return performance (HO_3)	P<0.05	Reject
There is no significant relationship between decision support systems and product market performance (HO_4)	P<0.05	Reject
There is no significant relationship between decision support systems and financial performance (HO_5)	P<0.05	Reject
There is no significant relationship between decision support systems and shareholders return performance (HO_6)	P<0.05	Reject
There is no significant relationship between transactional processing systems and product market performance (HO_7)	P<0.05	Reject
There is no significant relationship between transactional processing systems and financial performance(HO_8)	P<0.05	Reject
There is no significant relationship between transactional processing systems and shareholders return performance (HO_9)	P<0.05	Reject

Table 4.13 above illustrates the decisions on all hypothetical statements as well as the basis for such decisions. All hypotheses are as illustrated rejected owing to the adopted significance acceptance level of 0.05

DISCUSSION

Findings show a significant level of association between both variables as all three dimensions of information systems strongly and significantly associate with organizational performance.

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Management Information System and Organizational Performance: The Data analysis revealed that there is a positive and significant relationship between MIS and financial performance. This finding agrees with Gharaibeh and Malkawi (2013) research that identified a statistical relationship between Management Information System and organizational performance particularly in terms of the individuals and procedures component of MIS. This goes to further explain that within the fast food industry, the individuals and procedures through which they interact are paramount for an effective information system. The fast food industry constitutes a very long supply chain when viewed from the "farm to table" concept. Although MIS also consists of equipment, software and networks, the extent of synchronization that can be achieved with these components in the fast food industry is totally dependent on individuals and their interaction mechanism.

Also a positive and significant association was found in relations to Product market performance and this is also in line with Jules and Goddard (1985) who agreed that the main benefit of SRP is that it allows the performance of shares to be compared even though some of the shares may have a high growth and low dividend and others may have low growth and high dividends.

Decision Support Systems and Product Market Performance: Data analysis revealed that there is a positive and significant relationship between decision support system and product market performance, and financial performance, and shareholders return performance (See James and Williams Cook, 2014). According to Alnajjar and Al-Zoubi (2012), data driven DSS enables businesses to cost effectively target customers, clearly understand existing customers and identify new customers. This creates a clear picture of how quick service restaurants can benefit from such systems. While the demand for fast food has increased immensely, there is also an increase in the number of outlets offering the service. Having systems that reduce the cost of identifying, targeting and attracting customers will definitely improve the financial standing of fast food outlets.

Transaction Processing System and Product Market Performance: This revealed that there is a positive and significant relationship between TPS and product market performance, financial performance and shareholders return performance. According to Parson (2012) TPS collets, process, store, display, and modify transactions of products sold; and by so doing enhances the market performance of products. The fast food industry is one that is very sensitive to customer taste and preferences. Simply put, if customers are not satisfied with the taste and quality of food offered they simply would not patronize the business. With the aid of transaction processing systems, managers and businesses in the fast food industry are able to gather information such as customer-preferred recipes; least liked recipes, most busy hours and less busy hours. These will assist the business on identifying areas of improvements as well providing what customers really like.

SUMMARY

The results realized from the analysis of the data collected indicate that the null hypotheses previously stated are rejected. The research being quasi-experimental based its criterion on a 95% confidence level and 0.05% probability error thus producing an output that reject all previous null/hypotheses and rather shows that there is a significant relationship between information systems (MIS, DSS and TPS) and organizational performance (product market performance, financial performance and shareholders return performance).

CONCLUSION

Drawing from the result of the study, information system has been validated as having a positive association with organizational performance in the quick service restaurant industry. In essence, it implies that the adoption of information systems in the fast food outfits is capable of bringing about better performance because it allows the organizations to have hands-on information on virtually every bit of its operations, it allows for prudent and transparent resource application and also promotes speedy and flexible response to service requests.

Base on the findings and conclusion, the following are recommended:

- ✓ Organizations should ensure that reasonable attention is accorded the application of information systems in the running of its operations by giving it a priority attention during resource allocations.
- ✓ Staff should be periodically trained on the use of information systems' supporting technologies so that everyone in the organization can use the systems effectively.
- ✓ Good systems development experts must be consulted periodically to analyze and design new systems or update existing ones to match with current realities.

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APPENDIX 1

Questionnaire
Information System and Organizational Performance

ID: Section (A) Demographic Data

Gender
- ☐ Male
- ☐ Female

Qualification
- ☐ First Degree
- ☐ Master Degree
- ☐ PhD Degree

Age
- ☐ Less than 25 years
- ☐ 25 – 35 years
- ☐ 36 – 45 years
- ☐ 46 – 55 years
- ☐ 56 years and above

Staff Strength
- ☐ Less than 10 staff
- ☐ 11 – 20 Staff
- ☐ 21 – 30 staff
- ☐ Above 30 staff

Database Systems Software
- ☐ SQL Server
- ☐ Versant
- ☐ DB2
- ☐ Others

Section (B) Study Variables

Please tick accordingly as provided by the options below:
- ☐ Strongly Agree -SA
- ☐ Agree --A
- ☐ Undecided -U
- ☐ Disagree -DA
- ☐ Strongly Disagree -SDA

	SDA	DA	U	A	SA
Management Information Systems					
There is high interconnectivity and work synchronization in my company					
Information dissemination across departments is efficient and effective					
Decision Support Systems					
Decision making draws upon the companies database which is suitable and in line with the dynamics of the industry					
There is a high level of reliance on data accuracy and market trends for decision making					
Transaction Processing Systems					
My organization relies a centralized database system for effective transaction processes					
There is a functioning database for customers, clients, suppliers and other business oriented stakeholders.					
Product Market Performance					
There has been sustained improvement and increase in production and its processes as a result of adopted information system					
There is has been high patronage and sales of the company product and service due to the effective management information system					
Financial Performance					
There has been increased sales and revenue as a result of the adopted information systems.					
Much has been achieved in terms of profitability and asset acquisition by the organization					
Shareholders returns Performance					
Considerable returns have been realized in recent months owing to various information system processes and technological advancements in the organization					
Investment yields have been very encouraging in the organization					