



## EFFECTS OF KNOWLEDGE INVESTMENT ON MARKETING PERFORMANCE OF AIRLINE OPERATORS IN NIGERIA

Obabuike Ikeni Nkpurukwe<sup>1</sup>; Emmanuel A. Amangala<sup>2</sup>, [Andy Fred Wali](#)<sup>3</sup>

<sup>1</sup>Department of Business Administration, Federal University Wukari, Taraba State, Nigeria (E-mail: [obason@ymail.com](mailto:obason@ymail.com))

<sup>2</sup>Department of Marketing, Niger Delta University, Bayelsa State, Nigeria, (E-mail: [olanariazi@gmail.com](mailto:olanariazi@gmail.com))

<sup>3</sup>Department of Business Administration, Federal University Wukari, Taraba State, Nigeria (E-mail: [wali@fuwukari.edu.ng](mailto:wali@fuwukari.edu.ng))



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### ABSTRACT

**Purpose:** This research aimed to empirically investigate the relationship between knowledge investment and marketing performance of airlines in Nigeria.

**Design/Method/Approach:** The study applied a cross-sectional survey design in a structured questionnaire to collect data from accessible 50 personnel of designated positions of 5 domestic airlines in the Port Harcourt International Airport. Rank Correlation Coefficient of Spearman was employed with the help of SPSS version 21.0, to test the study hypotheses statistically.

**Findings:** Results specifically revealed that Innovative Competence and computerize information has a positive and significant influence on profitability, respectively. In conclusion, the study, therefore, offers a clear understanding of the strategic importance of innovative Competence and computerized information for improving the profitability of domestic airlines.

**Research Limitations:** These study samples were limited to domestic airlines, attempt to extend this study to international airline operators might unravel new findings to advance knowledge in this field.

**Practical Implication:** Hence, the research recommends for domestic airline operators to focus on knowledge investments, specifically innovative Competence and computerized information to achieve marketing performance.

## 1. Introduction

The Nigerian aviation industry has contributed enormously to the economic growth and development of the country by providing numerous economic and social benefits to the citizens. Some of the significant economic and social impacts of the industry stem from its ability to creating employment opportunities for the young; wealth generation; build a network for social interaction and collaboration; effectively supporting global businesses and tourism; and offers the country, the opportunity to facilitate trade and technical expertise with other nations of the world (Nielson Consulting, 2018). In line with this thought and according to the Federal Airport Authority of Nigeria (FAAN, 2018), the industry supports 254,5000 jobs nationwide and contributes N184.7billion to national GDP. Globally, the economic impact of the aviation sector (direct, indirect, induced and catalytic) is around \$2.7 trillion, equivalent to 3.5% of Gross Domestic Product (GDP) of the world and generates 62.7 million jobs around the world(Air Transport Action Group; ATAG, 2016).

In recognition of the crucial role of the sector to national and worldwide GDP, however, in recent times, there have been increasing competition among airline operators, and this has assumed a sophisticated dimension driven by innovative and knowledge-based investment (Dotzel, Shankar, & Berry, 2019). Airline firms have recognized not only investing on tangible assets such as plants & equipment, machines, mechanical tools, etc.; but more importantly, on knowledge-based intangible capital such as innovative worker competencies, digital information skills, Research & Development (R&D), software and database marketing, worker training, management consulting, etc. (Filani & Ikporukpo, 2017).

Knowledge investment comprises a range of activities that are targeted on creating future benefits by focusing on employee training; skill set development, and the overall development of human assets. Unlike machines, equipment, vehicles, and structures, they are not physical. This non-tangible form of capital is, increasingly, the most significant form of business investment and a key contributor to sales growth and profitability. One widely accepted classification of knowledge investment is digital information (software and databases); innovative property (patents, copyrights, designs, trademarks); and economic competencies (including brand equity, firm-specific human capital (Nwokoro, 2015). Further Nwokoro, (2015) argued that networks of people and institutions, and organizational know-how that increases marketing performance) are also classification of knowledge investment. Growing business investment in knowledge amplifies the importance of getting human capital policies right, which is the foundation of winning in a sophisticated aviation market (Filani & Ikporukpo, 2017).

A good number of studies have been carried out in organizational investment in both tangible and intangible assets and their effect on several businesses' outcomes. However, only a few have focused on knowledge-based assets. Nwokoro (2015), examined the aviation sector with an emphasis on knowledge-based investment. The study, however, focused on

the knowledge economy and its effect on economic development. Filani & Ikporukpo (2017) studied the co-ordination of the Nigeria transportation sector, domiciled on air transport. The study adopted economic Competence and R&D as dimensions of knowledge investment, which was looked at as a key driver of economic and business performance. Given the above studies and other related ones, this research deviated from extant studies by adopting innovative Competence and computerized information as dimensions of knowledge investment to investigate their effect on the profitability of domestic airline operators in Nigeria.

Arguably, one of the main objectives of many airline operators is to improve business success by developing and implementing appropriate service strategies. Though the aviation industry has recorded tremendous growth in recent years, however, stiff competition and Operational costs have resulted in a declining profit. In this light, issues, as highlighted by FAAN, have had serious impediment on the performances of operators. According to the FAAN (2018), over the last ten years, there have been a few too many planes crashes and emergency landings resulting from inadequate infrastructure, human error, poor emergency response guidelines, procedures, capabilities to control air disasters, etc. These issues are of the utmost importance to customers in their decision-making process as they choose airlines for travel needs.

Again, Phillips ConsultingReport (2018), suggests a 62% of passengers of airlines attribute that they switch to other operators due to safety, service quality, and inconsistent ticket pricing issues. While the remaining 38% attribute to time consciousness and practical communication issues of this nature resulted in declined sales and profit. If it persists, it may lead to business failure according to the report. Given the above challenges confronted by airline operators, can knowledge investment present a workable solution to these issues by improving marketing performance? Specifically, is there a possibility of enhancing profitability through innovative Competence and computerized information knowledge, as it relates to airline operators in Rivers State? It is essential to state that answers to the above questions motivated this research.

## **2. Literature Review**

### *2.1 Theoretical Foundation*

Rapid changes in technology and increased competition in the airline industry have caused operators to have distinctive capabilities as competitive advantages. In this line of thinking, organizations enjoy a competitive advantage where distinctive capabilities that are hard to copy are built. This research is anchored on knowledge-based view theory (KBV). The theory holds that a firm considers knowledge as the most important strategic resources, and it is upon this perspective that it creates services that result in competitive advantage (Grant, 2002). The theory further holds that knowledge is a resource that mainly creates sustainable competitive advantage, as these assets are difficult to imitate; they are the foundation for sustainable differentiation.

Grant (2002) KBV coincides with the knowledge economic era, which entails changes from material-based production to information-based production, as Mathews (2003) stated that competitive rivalry among firms in this knowledge era is based on digital information capabilities. Firms that want to be at the top of the industry must invest in knowledge. Knowledge-based organizations possess superior talents that are unique and valuable to both organization and customers, non-substitutable, and hard to imitate. Lastly, several researchers have used the KBV theory in their studies demonstrating that intangible resource such as knowledge plays an important role and has impacted positively on the competitive position of the most organization that has applied it (Blackler, 2002; Boisot, 2003; Grant, 2002; Mathews, 2003). It is against this backdrop the researchers adopted KBV as the underpinning theory.

### *2.2 Concept of Knowledge Investment*

The field of knowledge investment emerged in the early 1990s within numerous grounds, including business administration, public policy, information systems management, library science, information sciences, etc. (Lambe, 2011). Although knowledge is one of the most important resources in modern organizations settings, there are a variety of different definitions for it in the academic literature exists. Knowledge investment is considered as a way of providing a platform to share the right information at the right time, to the right person, by systematic means, with the relevant of attaining greater competitive advantage to the organization (Wiig, 2012). Recently, in the business administration sector has also begun to focus on the systematic investment and management of knowledge. Knowledge investment in this sense is a deliberate management action in ensuring that every department or functional area is up to speed with new trends that calls for innovativeness in staying afloat and competitive. Inbaya and Palaniappan (2020) found that knowledge management enables Higher Education to plan Knowledge systems that will successfully improve performance at work and create a competitive advantage.

According to Nwokoro (2015), Knowledge investment comprises a range of activities that are targeted on creating future benefits by focusing on employee training; skill set development, and the overall development of human assets. Unlike machines, equipment, vehicles, and structures, they are not physical. Further, knowledge investment can be attributed as a portfolio of strategies and activities that are related to the process of acquiring, transferring, and sharing knowledge with all organization's people. This non-tangible form of capital is, increasingly, the largest form of business investment and a key contributor to sales growth and profitability.

### 2.3 Marketing Performance

Marketing performance describes the health of a firm as an outcome of marketing programmes and activities measured against stated marketing objectives or compared to the health of competing firms (Ateke & Kalu, 2016). It is a measure of the extent to which the firm achieves stated marketing objectives to its marketing programmes and activities (Ateke & Iruka, 2015). It assesses the contributions of the firm's marketing efforts to its corporate goals (Buzzel, Gale, & Sultan, 2005). Marketers have developed and used various marketing performance measures to assess the impact of marketing (Terblanche, Gerber, Erasmus, & Schmidt, 2013). Although financial measures account for a higher percentage of performance measures used in marketing practice (Pont & Shaw, 2003), these seem to be inadequate for measuring essential elements of marketing performance. Studies have revealed that a combination of quantitative and qualitative measures have become critical for assessing marketing performance (Terblanche et al., 2013; O'Sullivan & Abela, 2007). Qualitative measures are better predictors of companies' long-term goals than quantitative measures (Chendall & Langfield-Smith, 2007). They are obtaining a balance between the two perspectives is the key to greater respect for marketing managers in boardrooms, as well as to better learning within the marketing department (Rust, Ambler, Carpenter, Kumar, & Srivastava 2004). Firms pursue several different performance objectives simultaneously. Managers, therefore, set goals and monitor performance from a balanced scorecard perspective using financial, customer, internal, and learning-based metrics. The degree of importance attached to a parameter depends on the firm's marketing plan and strategy (Ambler, 2003).

### 2.4 Knowledge Investment and Marketing Performance

Studies on knowledge investment and marketing performance are relatively few, and most of them concentrated at the macro level of analysis. Hayfa & Blaquees (2018) studied the impact of knowledge investment and management on organization performance. The authors argued that knowledge investment is a technique that uses the values of knowledge resources in enhancing organization sales and its performance. Also, innovative Competence which was one of the dimensions of knowledge investment, was found to have a positive and significant effect on organization performance. Moreover, Mills & Smith (2018) found that computerized information which is one of the components of knowledge investment; including knowledge process and infrastructure capabilities have a significant impact on all aspects of organizational performance directly or indirectly. Consequently, there is a considerable need to continuously train and educate the learning organizations' employee about the importance of database and software marketing through group works and training programs.

Also, Marie & Alexander (2018) investigated knowledge-based capital and product diversity. The authors applied economic Competence and innovative property as knowledge-based capital tools in improving firms' competitive advantage. They found that both economic Competence and innovative property have a strong and positive effect on productivity and firm performance; however, the former has a stronger effect than the latter. More so, OECD (2013) examined supporting investment in knowledge capital, and it is the effect on firm growth and innovation. The result indicates that knowledge investment has a significant impact on firm growth and profitability. Given the above propositions, this research states the following hypotheses:

- H1: Innovative Competence has no significant effect on the profitability of airline operators
- H2: Computerized information has no significant effect on the profitability of airline operators

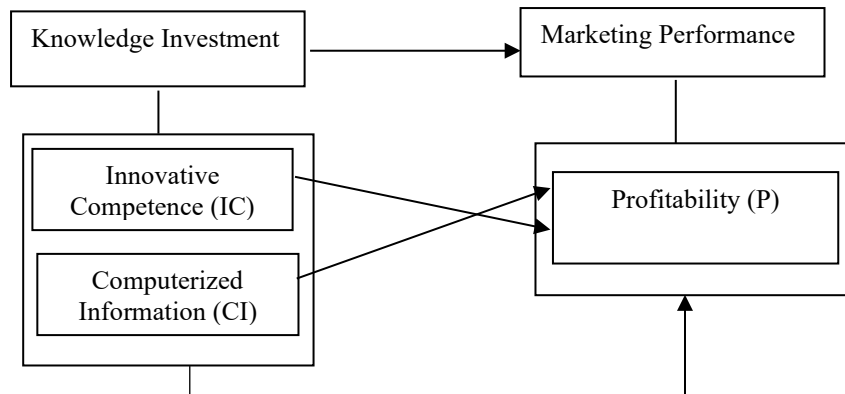
### 2.5 Study Variables and Operational Framework of the Study

The study is on knowledge investment and marketing performance of airline operators in Nigeria. The independent variable, which is knowledge investment, has innovative Competence and computerized information as dimensions. On the other hand, the dependent variable is marketing performance, and it was measured with profitability. Below is the model specification and operational framework:

$$\begin{aligned} MP &= f(KI) \dots \dots \dots \text{Eqn1} \\ KI &= (IC, CI) \dots \dots \dots \text{Eqn2} \\ M &= (P) \dots \dots \dots \text{Eqn3} \\ P &= f(IC, CI) \dots \dots \dots \text{Eqn4} \end{aligned}$$

Where:  
Knowledge Investment = KI  
Marketing Performance = MP  
Innovative Competence = IC  
Computerized Information = CI  
Profitability = P

Figure 1: Conceptual Framework of the Relationship between Knowledge Investment and Marketing Performance



Source: Researchers' Conceptualization from Review of Related Literature, 2020.

### 3. Methodology

This research used a cross-sectional survey design in accessing its research subjects. This design was used due to its capacity to study a group of persons at a point in time and the fact that the researcher does not have absolute control over study subjects. The research population comprised of personnel of airline operators in Nigeria Airspace, specifically those on domestic air services. But the study's accessible populations are personnel of all 5 domestic airlines operating at the Port Harcourt International Airport, Rivers State: Aero Contractors, Air Peace Arik Air, Dana Air, and Med-View Airlines (FAAN, 2018). The units of analysis within these organizations are General Managers, Marketing/Sales Managers, Operations Managers, Customer Care Personnel, Accountants, Quality Control and Safety Personnel.

Consequently, ten copies of questionnaire were administered in each of the airlines totaling 50 copies. To ensure accuracy and consistency of data collection, a pilot survey was carried out first before the administration of copies of questionnaire proper. The instrument was manually retrieved by the researcher to avoid loss. In addition, while primary data were collected on interval and ordinal scales, Likert scale of measurement was used in weighting responses. More so, there were three levels of analyses: the primary, secondary, and tertiary analyses. The primary analysis, which is descriptive in nature, converted the raw data into some measures of central tendencies and variability. The secondary analysis, which is inferential in nature involved test of research hypotheses, using the Spearman's Rank Correlation Coefficient trusting on the Statistical Package for Social Sciences (SPSS) version 21.0. The tertiary analyses involved discussion of findings, conclusions, and managerial implications. Lastly, the validity of the measurement items in this study have not been ascertained in previous studies; therefore, as stated earlier, a pilot study was conducted by professionals with vast experiences in the research area. The reliability of the measurement items was tested using Cronbach Alpha, and Nunnally (1978) 0.7 Alpha value recommendation was our benchmark.

### 4. Data analysis

A total of 50 copies of questionnaires were administered to personnel of airline operators in Port Harcourt. A total of 48 copies out of 50 were retrieved, but only 46 was usable as filled.

Table 1: Questionnaire Distribution and Retrieval

| Questionnaire    | Frequency | Percentage (%) |
|------------------|-----------|----------------|
| Distributed      | 50        | 100            |
| Retrieved        | 48        | 96             |
| Not retrieved    | 2         | 2.9            |
| Retrieved usable | 46        | 92             |

Source: Field Survey Data, 2020, SPSS Output.

Table 2: Results of Test of Reliability

| Variables                | Cronbach' alpha |
|--------------------------|-----------------|
| Innovative Competence    | 0.826           |
| Computerized Information | 0.883           |
| Profitability            | 0.849           |

Source: Field Survey Data, 2020, SPSS Output.

The table above shows the results of the reliability test as can be noticed since the various test results are more than 0.70 (70%), which happens to be the criterion for acceptance of the instrument. Hence, the research instrument is reliable.

#### 4.1 Testing of Hypotheses

H1: Innovative Competence has no significant effect on the profitability of airline operators

Table 3: Correlation Analysis between Innovative Competence and Profitability

|                |                       | Innovative Competence   | Profitability |
|----------------|-----------------------|-------------------------|---------------|
| Spearman's rho | Innovative Competence | Correlation Coefficient | 1.000         |
|                |                       | Sig. (2-tailed)         | .811**        |
|                |                       | N                       | .001          |
|                | Profitability         | Correlation Coefficient | .811**        |
|                |                       | Sig. (2-tailed)         | 1.000         |
|                |                       | N                       | .001          |

\*\*Correlation is significant at the 0.01 level (2-tailed).

Source: Field Survey Data, 2020, SPSS Output

The above table shows a Spearman Rank Correlation Coefficient of 0.811 and probability value of 0.001. Since the PV, which is 0.001 < 0.05, we reject the null hypothesis and accept the alternate hypothesis. This result indicates that there is a positive and significant relationship between Innovative Competence and profitability of airlines in Port Harcourt.

H2: Computerized information has no significant effect on the profitability of airline operators

Table 4: Correlation Analysis between Computerized Information and Profitability

|                |                          | Computerized Information | Profitability |
|----------------|--------------------------|--------------------------|---------------|
| Spearman's rho | Computerized Information | Correlation Coefficient  | 1.000         |
|                |                          | Sig. (2-tailed)          | .829**        |
|                |                          | N                        | .001          |
|                | Profitability            | Correlation Coefficient  | .829**        |
|                |                          | Sig. (2-tailed)          | 1.000         |
|                |                          | N                        | .001          |

\*\*Correlation is significant at the 0.01 level (2-tailed).

Source: Field Survey Data, 2020, SPSS Output.

The above table shows a Spearman Rank Correlation Coefficient of 0.829 and probability value of 0.001. Since the PV, which is 0.001 < 0.05, we reject the null hypothesis and accept the alternate hypothesis. This result indicates that there is a positive and significant relationship between computerized information and profitability of airlines.

### 5. Discussion of Findings

Hypothesis one aimed to examine the relationship between innovative Competence and profitability. The hypothesis was tested using the Spearman Rank Correlation, and the result showed a correlation value of 0.811. That revealed a positive and significant relationship between innovative Competence and profitability. Therefore, the null hypothesis was rejected in favour of the alternate hypothesis. The findings, however, corroborate with the results of Hayfa & Blaqees (2018), when they argued that knowledge investment is a technique that uses the value of knowledge resources in enhancing organization sales and performance. In addition, innovative Competence which was one of the dimensions of knowledge investment was found to have a positive and significant effect on organization performance.

Hypothesis two was also tested, and the result showed a correlation value of 0.829. Our analysis revealed a positive and significant relationship between computerized information and profitability of airlines in Port Harcourt. Therefore the null hypothesis was rejected in favour of the alternate hypothesis. This finding was in line with that of mills & Smith (2018). The authors found that computerized information which is one of the components of knowledge investment; including knowledge process and infrastructure capabilities, have a significant impact on all aspects of organizational performance directly or indirectly.

### 6. Conclusion

It is no more a mirage that the knowledge economy has come to stay, as this study has, among other ones, reconfirm the importance of investing in knowledge. Any organization that overlooks the crucial role of knowledge, especially in a fast-paced and sophisticated aviation industry must be acting on its peril. By investing in knowledge, an airline has the opportunity to understand and respond to unexpected market changes appropriately and effectively adapt to whatever bearing these changes might have on the firm's ability to achieve predetermined objectives and goals. More so, the findings of this research offer a clear understanding of the strategic importance of innovative Competence in improving the profitability and success of airlines. This entails a deliberate effort by management to draw-up activities and

programmes that will enhance workers skills and capability to carry-out assigned tasks. More so, understanding database and software marketing skills enable these organizations to remain competitive even in the face of market dynamics. Hence, digital information competencies help the organization increase sales and profitability. Concerning the identified gap and subsequent findings, it is the researchers' humble view that this research has contributed immensely to the advancement of literature on knowledge investment and marketing performance. Mostly, it has advanced literature, both theoretical and conceptual, by introducing alternative variables in operationalizing the criterion and predictor variables. Based on the above, the research recommends that airline operators who want to improve marketing performance should effectively invest in/and manage innovative Competence and computerized knowledge as this research has confirmed their positive impact on organizations by increasing profitability.

## 7. Limitations

These study samples were limited to domestic airlines, attempt to extend this study to international airline operators might unravel new findings to advance knowledge in this field.

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