



## Information Exchange Praxis and Creativity in Telecommunication Sector in Nigeria.

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### Abstract

Information is widely recognized as the backbone of any organization, with its quality playing a crucial role in managerial decision-making at all levels. The seamless transmission of strategic decisions from top management to operational units is equally vital. This study aims to examine the empirical relationship between information exchange practices and organizational creativity within Nigeria's telecommunications sector. A cross-sectional survey design was employed, with a target population of 144 and a sample size of 103 determined using the Krejcie and Morgan (1970) sample size determination chart. However, 81 responses were deemed valid for analysis. Spearman's Rank Order Correlation Coefficient was utilized to assess the relationship between the research hypotheses. Findings indicate a moderately significant positive correlation between all three dimensions of information exchange, information acquisition, information application, and information quality, and organizational creativity. Based on these results, it is recommended that organizations implement structured information acquisition and application processes, such as group learning and brainstorming sessions, to enhance creativity within the workplace.

**Keywords:** Information exchange praxis, Creativity, Information acquisition, Quality information.

### Introduction

The exchange of information across various workstations within an organization supports key processes such as planning, sourcing, production, delivery, and the return of goods throughout the supply chain (Lee & Hidayat, 2018). Similarly, in the telecommunications

sector, effective information exchange significantly impacts behavior, decision-making and overall business operations. Ensuring that relevant information is available at the right time and place is crucial for maintaining smooth operations (Childerhouse et al., 2003). Moberg et al.,

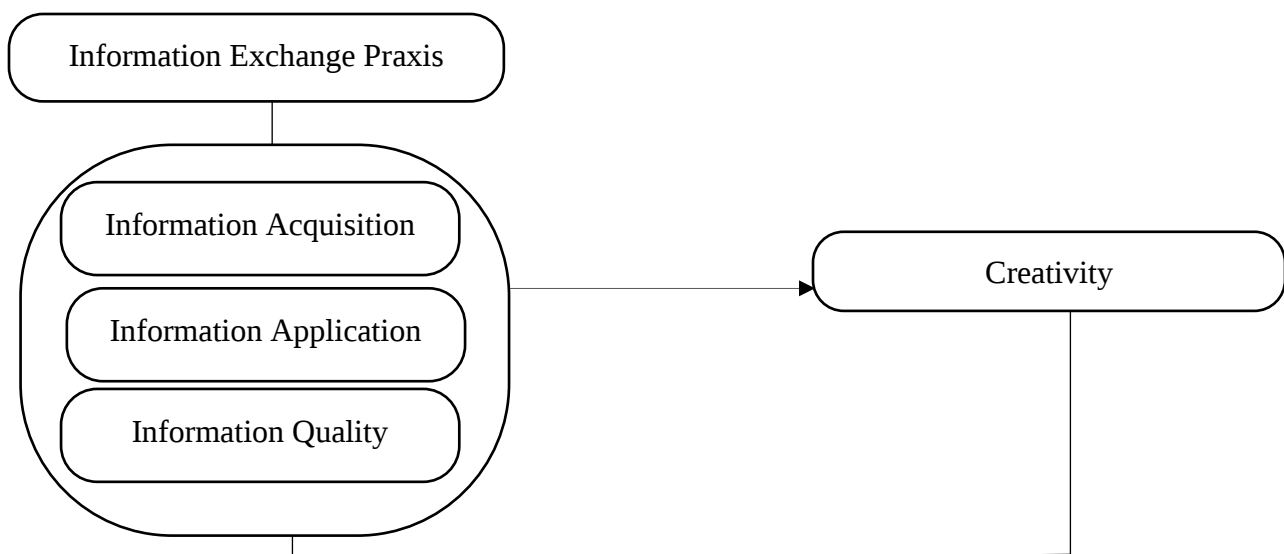
(2002) was emphatic that quality information or availability fosters the information exchange culture amongst actors.

In response to society's evolving needs, organizations are compelled to be creative as a means of survival. Creativity is thus viewed as the essential catalyst that motivates, inspires, and enables organizations to sustain growth and advancement (Nonaka, & Toyama, 2015). Technological creativity enhances both internal and external activities within organizations, allowing creative companies to be more adaptable and to react swiftly to changes. The elements within creative organizations broaden their scope by creating new opportunities (Nonaka, & Takeuchi, 1995). Moreover, creativity is fueled by the availability of various work resources, such as human capital, physical infrastructure, and financial assets, which together facilitate advancement.

The telecommunication sector is widely acknowledged for its numerous innovative contributions to communication among

organizations, groups, and individuals. However, in developing countries like Nigeria, certain challenges hinder its full potential for innovation. For example, while the telecom sector in advance countries have long established 5G network broadband, major cities in Nigeria are yet to reach this milestone. This lag may be due, in part, to limited information exchange practices within Nigeria's telecommunication sector. Conversely, environmental factors—such as political, economic, cultural, and technological aspects—have been perceived to shape the conditions that support organizational creativity. While, Nasimi, et al. (2013) in their efforts have examined firm's creativity through lenses like entrepreneurship and information management lags. Prior researches tend to overlook the role of information exchange culture as a potential factor that could address ongoing challenges limiting firms' creativity, a information gap the current study seek to fill.

**Conceptual Framework:** adapted from the work of *Childerhouse (2016)*



## Objectives of the Study

The general objective of this study is to examine link between information exchange culture and creativity of Nigerian telecommunication sector.

- 1) To evaluate the connection between information acquisition and firm's creativity
- 2) To analyze the connection between information applications and firm's creativity.
- 3) To determine the relationship between quality of information and firm creativity.

## Research Questions

To achieve the above-mentioned objectives, the following questions will be addressed.

- 1) What is the connection between information acquisition and firm's creativity?
- 2) What is the significant connection between information applications and firm's creativity?
- 3) What is the relationship between quality of information and firm's creativity?

## Research Hypotheses

The research was predicted on the following null hypotheses:

- H<sub>01</sub>: Information acquisition has no significant impact on a firm's creativity.  
 H<sub>02</sub>: Information application does not have a significant effect on a firm's creativity.  
 H<sub>03</sub>: The quality of information does not significantly influence a firm's creativity.

## Review of Related Literature

### Information Exchange Praxis

Information exchange praxis refers to the structured and systematic process through which individuals and groups share, interpret, and utilize information to achieve specific goals (Nonaka & Takeuchi, 1995)

Frappaolo (2016) described information exchange as the process through which individuals share and utilize their knowledge. Similarly, Tasmin and Woods (2008) emphasized that information sharing functions as a social system that fosters collaboration and integration, often supported by technological advancements. According to Kim et al. (2012), effective information exchange relies on an optimal combination of technological channels to enhance the sharing process.

Since the creation and exchange of information are intangible activities, they cannot be strictly monitored or enforced; they occur naturally when individuals willingly cooperate. This voluntary exchange can also generate new knowledge, serving as a valuable competitive advantage. However, Davenport (2017) argued that sharing information does not always happen instinctively, as individuals may perceive their knowledge as valuable and may be reluctant to share it. Likewise, Santhosé and Lawrence, (2023) suggested that information exchange is primarily driven by individual motivations. Even in organizations without strong norms promoting information sharing, employees may choose to share information based on their personal costs and benefits. Ultimately, effective information-sharing practices can contribute to an organization's success and profitability

Huotari and Livonen (2010) highlighted that a positive social environment—characterized by trust, shared values, and goodwill—is essential for fostering information sharing within an organization's culture. This underscores the crucial role trust plays in shaping an organization's information culture and exchange practices. Similarly, Nguyen et al, (2022) found that individuals with a tendency to share information were more likely to do so in face-to-face interactions compared to digital communication. Their research also indicated that employees were more inclined to share information when incentivized with rewards.

Snowden (2002) noted that integrating information into daily workflows is both costly and time-consuming. While it may not be possible to directly measure whether employees are actively sharing information, it is feasible to assess their adherence to structured processes. Consequently, directive control over intangible assets like information remains limited. Norris, McQueen, and Cutler (2003) further argued that information gains tangible value when digitized, allowing it to be shared through both direct and indirect interactions. Additionally, they suggested that information is generated through inquiry and dialogue, as responses and discussions among network participants stimulate knowledge exchange.

Despite its significance, several obstacles hinder effective knowledge sharing. Organizational silos, cultural differences, and reluctance to share proprietary information can impede collaboration (Davenport & Prusak, 1998). Additionally, cognitive overload from excessive information can diminish decision-making efficiency (Eppler

& Mengis, 2004). Overcoming these challenges requires fostering open communication, implementing knowledge management strategies, and leveraging technology.

Information exchange is grounded in theories such as the Social Exchange Theory, which posits that individuals share knowledge based on reciprocal benefits (Blau, 1964). Another influential theory is the Knowledge Creation Theory by Nonaka and Takeuchi (1995), which distinguishes between explicit and tacit knowledge and emphasizes their conversion through social interaction. These theories highlight how structured and unstructured knowledge-sharing contribute to organizational and individual learning.

### **Creativity**

Creativity is often examined through psychological and social theories. Amabile's (1996) Componential Model of Creativity emphasizes the role of expertise, creative thinking skills, and motivation in producing novel ideas. Another framework, the Social Network Theory, suggests that exposure to diverse knowledge networks enhances creativity by introducing new perspectives and insights (Perry-Smith & Shalley, 2003).

Empirical research highlights a strong correlation between information exchange and creative output. Studies indicate that diverse knowledge sources and cross-disciplinary collaboration enhance creativity by fostering new ways of thinking (Hargadon & Sutton, 1997). Additionally, environments that encourage open communication and knowledge sharing have been found to enhance creative problem-solving and innovation (Edmondson, 1999).

Several factors can inhibit creativity, including rigid organizational structures, lack of autonomy, and excessive workload. Moreover, information overload can overwhelm individuals, limiting their ability to synthesize new ideas effectively (Eppler & Mengis, 2004). Encouraging experimentation, supporting risk-taking, and promoting interdisciplinary collaboration are crucial for enhancing creativity.

While information exchange praxis facilitates knowledge flow and learning, creativity drives innovation and novel idea generation. The synergy between these two concepts is critical for organizational success and individual growth.

## Methodology

This chapter includes all the techniques and methods adopted by the researcher to fulfill the purpose of this study.

### Research Design

The research adopts a cross-sectional survey design, deemed suitable for this study. This approach allows for the collection of data at a single point in time to analyze the relationships between variables effectively, it is aimed at establishing the link between two observable variables of information exchange

praxis and creativity of the Nigerian Telecommunication Sector.

### Population of the Study

One Hundred and Forty-Four (144) employees, cutting across tenured and contract staff of the four NCC-approved telecom companies operating in Bayelsa State, which form the case study of this investigation, were utilized.

### Sample Size and Sampling Procedure

Where a population is large and cannot be feasibly covered, a sample size is chosen. Sample size of one hundred and three (103) was generated for the study using Krejcie and Morgan (1970) sample size determination chart. In order to have the sample size for each of the telecommunication firms since there is uneven population distribution among the telecommunication firms, the stratified sampling method was applied, which entailed the use of the Bowley Proportionate sampling technique.

The formula is as follows:  $nh = \frac{n(Nh)}{N}$

Where: nh = Sample size of each bank

n = Total sample size

Nh = Population of each bank

Shows the Sample Size for each telecommunication companies.

| S/n          | Firm     | Population | Sample Size |
|--------------|----------|------------|-------------|
| 1.           | Firm I   | 72         | 52          |
| 2            | Firm II  | 26         | 18          |
| 3            | Firm III | 33         | 23          |
| 4            | Firm IV  | 19         | 13          |
| <b>Total</b> |          | <b>144</b> | <b>103</b>  |

## Method of Data Analysis

Data collected primarily using a questionnaire was coded and analyzed descriptively and inferentially, specifically, Spearman's Rank-Order Correlation Coefficient was utilized to assess the strength of the relationship between the variables. properly crafted as research hypotheses.

## Results

Shown below is the Bivariate analysis result to reveal the direction of the relationship between the variables under investigation after displaying the questionnaire administration and return rate.

## Analysis of Questionnaire Administration

### Presentation of Questionnaire Distribution.

| Particulars of the questionnaire | Frequency | Percentage  |
|----------------------------------|-----------|-------------|
| Questionnaire administered.      | 103       | 100         |
| Questionnaire retrieved          | 88        | 85.4        |
| Questionnaire not returned       | 15        | 14.6        |
| Unusable questionnaire           | 7         | 6.8         |
| Number of usable questionnaires  | <b>81</b> | <b>78.6</b> |

*Source: Field Survey, 2024 and SPSS version 23.0*

### Decision Rules:

The hypotheses were tested at a 0.05 significance level and formulated in their null forms. The decision rule states that if the calculated significance value (sig-calculated) is greater than the p-value (0.05), the null

hypothesis will be accepted. Conversely, if the sig-calculated is less than the p-value, the null hypothesis will be rejected.

### Bivariate Analysis

## Test of Hypothesis One

### Correlation outcome between Information Acquisition and Creativity

| Correlations                                                 |                         |                         |                         |            |
|--------------------------------------------------------------|-------------------------|-------------------------|-------------------------|------------|
|                                                              |                         |                         | Information Acquisition | Creativity |
| Spearman's rho                                               | Information Acquisition | Correlation Coefficient | 1.000                   | .551**     |
|                                                              |                         | Sig. (2-tailed)         | .                       | .000       |
|                                                              |                         | N                       | 81                      | 81         |
|                                                              | Creativity              | Correlation Coefficient | .551**                  | 1.000      |
|                                                              |                         | Sig. (2-tailed)         | .000                    | .          |
|                                                              |                         | N                       | 81                      | 81         |
| **, Correlation is significant at the 0.05 level (2-tailed). |                         |                         |                         |            |

**Interpretation:**

The results presented in the table indicate a moderately positive and significant relationship between information acquisition and creativity, as evidenced by a correlation coefficient (rho) of 0.551. Additionally, the p-value [ $p = 0.00 < 0.05$ ] confirms the

significance of this relationship. Consequently, the null hypothesis is rejected, indicating a meaningful connection between the dimension of information acquisition and the creativity of telecommunications companies.

**Test of Hypothesis two****Correlation outcome between information application and Creativity**

| Correlations   |                         |                         |                         |            |
|----------------|-------------------------|-------------------------|-------------------------|------------|
|                |                         |                         | Information application | Creativity |
| Spearman's rho | Information application | Correlation Coefficient | 1.000                   | .570**     |
|                |                         | Sig. (2-tailed)         | .                       | .000       |
|                |                         | N                       | 81                      | 81         |
|                | Creativity              | Correlation Coefficient | .570**                  | 1.000      |
|                |                         | Sig. (2-tailed)         | .000                    | .          |
|                |                         | N                       | 81                      | 81         |

\*\* . Correlation is significant at the 0.05 level (2-tailed).

**Interpretation:**

The table results reveal a positively moderate relationship between information application and creativity, with a correlation coefficient (rho) of 0.570. This relationship is statistically

significant, as indicated by [ $p = 0.00 < 0.05$ ]. Accordingly, the null hypothesis is rejected, confirming a significant association between information application and creativity.

**Test of Hypothesis three****Correlational outcome relationship between Information Quality and Creativity**

| Correlations   |                     |                         |                     |            |
|----------------|---------------------|-------------------------|---------------------|------------|
|                |                     |                         | Information Quality | Creativity |
| Spearman's rho | Information Quality | Correlation Coefficient | 1.000               | .623**     |
|                |                     | Sig. (2-tailed)         | .                   | .000       |
|                |                     | N                       | 81                  | 81         |
|                | Creativity          | Correlation Coefficient | .623**              | 1.000      |
|                |                     | Sig. (2-tailed)         | .000                | .          |
|                |                     | N                       | 81                  | 81         |

\*\* . Correlation is significant at the 0.05 level (2-tailed).

**Interpretation:**

The table results indicate a moderately positive relationship between information quality and creativity, with a correlation coefficient ( $\rho$ ) of 0.623. This relationship is statistically significant, as evidenced by [ $p = 0.00 < 0.05$ ]. Therefore, the null hypothesis is rejected, confirming a significant relationship between information quality and creativity.

**Summary of findings**

- 1) The study revealed that there is a positively significant relationship between information acquisition and creativity in telecommunication sector.
- 2) It was also revealed that there is a positive correlation between information quality and creativity in telecommunication sector
- 3) The analytical result shows that there is a positive correlation between information application and creativity in telecommunication sector.

**Conclusion**

Drawing from the results of the discussion summary and empirical analysis, Information Exchange Praxis is seen to have significant link with the creativity of Telecom companies in Nigeria, this was so, because all three dimensions of Information Exchange Praxis shows moderately positive link with creativity and 95% confidence interval.

**Recommendations**

In light of the findings and conclusion of the study, the following recommendations are proposed:

- 1) The study recommends automation of business processes as it would help for swifter information accesses and exchange easier and give staff the opportunity to invest more energy to think creatively.
- 2) Organizations should foster information gathering and implementation strategies by encouraging group learning and brainstorming sessions among members. This approach enhances organizational creativity.
- 3) Organizations should put in place information quality integrity screening protocol to sieve information received for application to enhance quality decision making in the organization.

**Practical Implication**

This research has been able to underpin that information exchange praxis or patterns affects organizational creative ability vis-a-viz performance. When an organization restricts social interactions, such as by prohibiting informal conversations among members during working hours, it disrupts the flow of knowledge exchange. Many times, it is in these informal exchanges and collaborative brainstorming moments that creativity is sparked, offering the firm valuable insights that could drive its growth and advancement. Managements of companies of the sector under investigation must be up to date in deploying information technology and promoting quality information acquisition and application culture that would foster the creative terrain in the organization.

## References

- 1) Amabile, T. M. (1996). Creativity in Context: Update to the Social Psychology of Creativity. Westview Press.
- 2) Blau, P. M. (1964). Exchange and Power in Social Life. Wiley.
- 3) Burt, R. S. (2004). Structural Holes and Good Ideas. *American Journal of Sociology*, 110(2), 349-399.
- 4) Childerhouse P, Hermiz R, Mason-Jones R, Popp A, Towill DR (2003). flow in automotive supply chains – present industrial practice. *Industrial. Manage. Data. Syst.*, 103(3): 137-149.
- 5) Davenport, T. H., & Prusak, L. (1998). Working Knowledge: How Organizations Manage What They Know. Harvard Business Press.
- 6) Edmondson, A. (1999). Psychological Safety and Learning Behavior in Work Teams. *Administrative Science Quarterly*, 44(2), 350-383.
- 7) Eppler, M. J., & Mengis, J. (2004). The Concept of Information Overload: A Review of Literature from Organization Science, Accounting, Marketing, MIS, and Related Disciplines. *Information Society*, 20(5), 325-344.
- 8) Hargadon, A., & Sutton, R. I. (1997). Technology Brokering and Innovation in a Product Development Firm. *Administrative Science Quarterly*, 42(4), 716-749.
- 9) Huotari, M. L., & Iivonen, M. (Eds.). (2004). *Trust in knowledge management and systems in organizations*. IGI Global.
- 10) Kim, K. K., Umanath, N. S., Kim, J. Y., Ahrens, F., & Kim, B. (2012). Knowledge complementarity and knowledge exchange in supply channel relationships. *International Journal of Information Management*, 32(1), 35-49.
- 11) Krejcie, R. V., & Morgan, D. W. (1970). Sample size determination table. *Educational and psychological Measurement*, 30, 607-610.
- 12) Lee, C., & Hidayat, N. (2018). The influence of information sharing on service innovation performance: An empirical study on hotels in North Borneo, Indonesia. *Eurasian Journal of Business and Management*, 6(2), 23-32.
- 13) Moberg CR, Cutler BD, Gross A, Speh T. W. (2002). Identifying antecedents of exchange within supply chains. *Int. J. Physical. Distribution. Logistics.*, 32(9): 755-770.
- 14) Majchrzak, A., Malhotra, A., Stamps, J., & Lipnack, J. (2004). Can Absence Make a Team Grow Stronger? *Harvard Business Review*, 82(5), 131-137.
- 15) Nasimi, M., Nasimi, S., Kasmaei, M., Kasmaei, H., Basirian, F., & Musapour, H. (2013). Information Management and Competitive Advantage for Organizations. *Kuwait Chapter of Arabian Journal of Business and Management Review*, 2. 56-64. 10.12816/0001188.
- 16) Nonaka, I. & Toyama, R. (2015). *The Information-creating Theory Revisited: Information Creation as a Synthesizing Process*. 10.1057/97811375521054
- 17) Nonaka, I. & Takeuchi, H. (1995). *The information creating company: How Japanese companies create the dynamics of innovation*. Oxford University
- 18) Nguyen, M. H., Gruber, J., Marler, W., Hunsaker, A., Fuchs, J., & Hargittai, E.

- (2022). Staying connected while physically apart: Digital communication when face-to-face interactions are limited. *New Media & Society*, 24(9), 2046-2067.
- 19) PressPerry-Smith, J. E., & Shalley, C. E. (2003). The Social Side of Creativity: A Static and Dynamic Social Network Perspective. *Academy of Management Review*, 28(1), 89-106.
- 20) Santhose, S. S., & Lawrence, L. N. (2023). Understanding the implementations and limitations in knowledge management and knowledge sharing using a systematic literature review. *Current Psychology*, 42(36), 32427-32442.
- 21) Snowden, D. (2002). Complex acts of knowing: paradox and descriptive self-awareness. *Journal of knowledge management*, 6(2), 100-111.