

# Organizational Culture and Supply Chain Integration of Oil and Gas Companies in Rivers State

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**Abstract:** This study investigated the effect of organizational culture on supply chain integration of oil and gas companies in Rivers State. The study adopted quantitative survey research design. The population of the study consists of two hundred and ninety-five (295) oil and gas companies in Rivers State. The Krejcie and Morgan's formula was used to determine a sample size of 169 oil and gas companies, and the simple random sampling technique was used to obtain three (3) executives from each of the 169 oil and gas companies under study, to arrive at 507 management staff as the study's respondents. Questionnaire was used for data collection, and a 5-point likert-scale structured questionnaire was distributed to the respondents, of which out of the 507 copies of structured questionnaire distributed, 415 copies were returned and after data cleaning, 296 copies accounting for 71% were retrieved from the respondents. The collected data was analyzed using both descriptive and inferential statistics through the aid of Statistical Package for Social Scientist (SPSS) version 22.0. The hypotheses were tested by means of the simple regression technique, and the results reveal that developmental culture has a moderate, positive and significant influence on supply chain integration, group culture has a positive and significant influence on supply chain integration, rational culture has a strong, positive and significant influence on supply chain integration, and hierarchical culture has a weak, positive and significant influence on supply chain integration. The study therefore concludes that organizational culture significantly influence supply chain collaboration of oil and gas companies in Rivers State. From the findings of this study, the researchers recommended that oil and gas companies should adequately implement rational, group and developmental cultures in all spheres of their operations to enhance supply chain integration.

**Key words:** Oil and gas companies, Organizational culture, Rivers State, Supply chain integration.

## INTRODUCTION

Supply chain integration (SCI), as a vital scheme for cultivating firm performance (Flynn *et al.*, 2010; Wong, Boon-itt & Wong, 2011). Strategic groupings, as a significant facet of supply chain integration (Zhao *et al.*, 2011), have a tall failure frequency (Park & Ungson, 2001; Whipple & Frankel, 2000). Complete integration with suppliers and customers is infrequent, and the outcomes can be remote from flawless (Braunscheidel, Suresh & Boisnier, 2010). In consequence, to enable the enactment of supply chain integration, there is the need to identify with organizational culture.

Organizational culture, as the moral code or opinions pooled by members of an organization (Zu, Robbins & Fredendall, 2010), touches inter-firm behavior especially when it concerns relationship skills and trust (Schilke & Cook, 2014). Organizational culture performs a significant role in supply chain management (Braunscheidel *et al.*, 2010; Dowty & Wallace, 2010), and in directing people's behavior, and subsequently powers supply chain integration (Braunscheidel *et al.*, 2010; Cadden, Marshall & Cao, 2013). Schein (2010) affirms that instituting a bunch of ideals and inclinations in the organization predominantly takes account of generating a sound distinct communication conduit amid employees and managers. This communication conduit can be employed to cultivate crystal clear communication and to inspire a culture of sharing and collaboration among associates of the organization (Cao, Huo, Li, & Zhao, 2015). The superior acquaintance of organizational culture plays a substantial role in the enhancement in decision making process of operation management and its operative performance (Marshall, Metters & Pagell, 2016). Schein (2004) argues that culture includes underlying assumptions, espoused values or beliefs and artifacts.

Some empirical investigations on organizational culture and supply chain integration have been acknowledged, however, the outcomes of investigations on organizational culture and supply chain integration are not consistent (Braunscheidel *et al.*, 2010; Zu *et al.*, 2010), and also, preceding investigations have overlooked the combined effects of the many dimensions of organizational culture that equally domiciles within companies (Hartnell, Ou & Kinicki, 2011; Zu *et al.*, 2010). This present study therefore, examines the impact of the four dimensions of organizational culture (development culture, group culture, rational culture and hierarchical culture) on supply chain integration of oil and gas companies in Rivers State.

### **Research Question**

How does the dimensions of organizational culture affect supply chain integration in the oil and gas companies in Rivers State?

## **LITERATURE REVIEW AND HYPOTHESES**

### **Organizational Culture**

Organizational culture has long been an important theoretical factor in organization theory (Peterson, 2010). Organizational culture is "a pattern of shared basic assumptions that was learned by a group as it solved its problems of external adaptation and II, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems (Schein, 2004:17). Organizational culture possibly will emanate from diverse sources, primarily from the beliefs of the originators (Martínez-Canas & Ruiz-Palomino, 2014; Schein, 2010). The source of organizational culture likewise embraces the learning involvement of group members, as well as the new beliefs and assumptions of new members and managers. (Uddin, Luva & Hossian, 2013). Originators have a significant impression on how the organization functions (Andish, Yousefipour, Shahsavari pour & Ghorbanipour, 2013). Originators of the organization are the primary source in establishing a new culture for the new organization (Flamholt & Randle, 2012). In a robust organizational culture, employees' exhibit parallel opinions concerning the organization, and they deport themselves constantly with organizational values (Flamholtz & Randle, 2011). Business managers display a strong organizational culture to influence employees' work attitude and performance because culture engages and motivates employees (Simoneaux & Stroud, 2014).

Fusch and Gillespie (2012) designated that developing a positive workplace culture leads to a performance enhancement in the organization. Organizational culture is an important determinant factor

for businesses (O'Reilly *et al.*, 2014). The impact of culture occurs when the founders implement their business strategy and operational assumptions. An association between the various dimensions of organizational culture (developmental culture, group culture, rational culture and hierarchical culture) and supply chain integration exist in empirical studies (Braunscheidel *et al.*, 2010; Naor, Linderman & Schroeder, 2008; Zuet *al.*, 2010)

### **Development Culture**

Development culture talks about the value of enduring goals shared by the members of a company. The existence of a robust development culture inspires employees to focus more on actions that can generate long-standing value (Zahra, Hayton & Salvato, 2004). Thus, supply chain integration, as a vital practice for generating continuing worth for companies is made visible in terms of in-depth nest eggs emanating from supply chain associates.

### **Group Culture**

Group culture discusses the values of group collaboration that are pooled by all employees in a company. Group culture empowers supply chain associates to realize that they have to work together to beat competition (Eng, 2006). The enthusiasm to work together drives companies to boost shared understanding, lessen clashes, reinforce shared trust and pledge to interactions with their customers and suppliers, and subsequently increase supply chain integration (Zhao *et al.*, 2011). Moreover, Naoret *al.* (2008) maintain that collaboration undertakings such as thinking are encouraging to the development of a mutual language. Group culture is positively related to trust (Schilke & Cook (2014), which is indispensable for supply chain integration (Cai, Jun & Yang, 2010; Chen, Preston & Xia, 2013). Collaboration ethics are necessary for supply chain integration for the reasons that supply chain integration necessitates teamwork between manufacturers, suppliers and customers to achieve goals.

### **Rational Culture**

Rational culture denotes mutual beliefs and incentive systems espoused to accomplish the objectives of a business. There is a heavy bias on the practice of incentives for realizing the definite goals of a company that metamorphoses as attaining outstanding performance and achieving competitive advantages (Braunscheidel *et al.*, 2010; Naor *et al.*, 2008; Zuet *al.*, 2010). Incentive arrangement synergize companies to answer back to competition as interconnected components that shape cross-functional collaborations (Ruppel & Harrington, 2001) and attain integration with suppliers and customers (Braunscheidelet *al.*, 2010). Therefore, companies have got to nurture cross-functional collaboration and work in harmoniously with suppliers and customers totally and altogether to beat competition.

### **Hierarchical Culture**

Hierarchical culture describes mutual values of top-down control and coordination in a company. Companies with a physically powerful hierarchical culture have the benefit of clear-cutcourse of actions and schedules, dignified administrative configuration and timely reports of decisions to supervisors for endorsement (Zu *et al.*, 2010). Hierarchical culture proffers little or no support for employees to involve themselves in handling new problems and unforeseen event that supply chain integration absorbs (Wong *et al.*, 2011). They need transformed interactions with suppliers and customers to assimilate their procedures to attain strategic partnerships.

## Supply Chain Integration

Supply chain integration has been characterized by Zhao *et al.* (2008) as “the degree to which an organization strategically collaborates with its supply chain partners and manages intra- and inter-organization processes to achieve effective and efficient flows of products, services, information, money and decisions, with the objective of providing maximum value to its customers” (Zhao *et al.*, 2008:374). Supply chain integration consists of internal and external integration (Braunscheidel *et al.*, 2010; Flynn *et al.*, 2010). Internal integration concerns intra-organizational integration processes, while external integration takes care of the interorganizational progression of integration with customers and suppliers (Zhao *et al.*, 2011). It is the integration inside and precincts that makes it possible for companies to structure strategic alliances, share information and work harmoniously (Zhao *et al.*, 2011).

Integrating a supply chain would not be operational without an organized and calculated alliance, not only across functions contained by a specific company (Zhao *et al.*, 2011), but likewise across companies (Lee, 2000; Mentzer *et al.*, 2000). Efficacious supply chain integration necessitates equally the competence and the readiness to integrate (Zhao *et al.*, 2011). A readiness for integration in terms of trust and relationship commitment energizes companies to preemptively integrate equally internally and externally, which permits them to provoke cooperation more meritoriously (Cai *et al.*, 2010; Chen *et al.*, 2013; Zhao *et al.*, 2011). Interestingly, commendable cooperation in supply chain comes with positive outcomes that borders on diminutive overheads in operation and smooth sails towards attainment of designated goals.

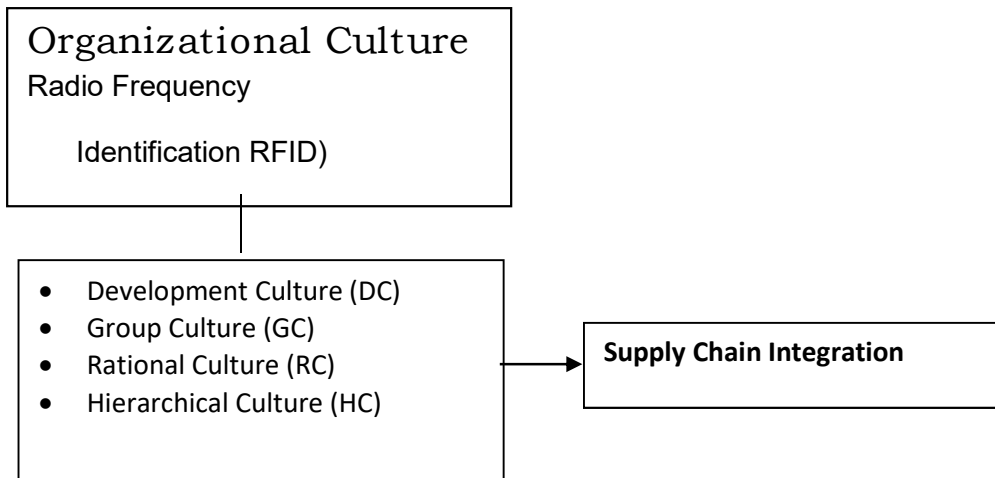
## Empirical Review

ChenXi, Ramzani and Shahzad (2019) examined the relationship between organizational culture and supply chain performance by means of data composed with the aid of structured questionnaire and whose analysis was facilitated with PLS SEM technique. The results demonstrated a positive and significant influence of organization culture on supply chain performance.

Yunus and Tadisina (2016) studied firms’ internal and external drivers of SCI by evaluating the effect of the integration on firm performance, and additionally examine the moderating role of organizational culture in intensifying the associations between firms’ drivers and supply chain integration. Data were gathered by means of a survey of 223 Indonesian-based manufacturing companies, two respondents from each company. Data was analyzed with structural equation modeling, and the findings revealed that there is a positive relationship between supply chain integration and firm performance. It was also designated that internal driver, customer orientation (CO), activated the commencement of supply chain integration. Organizational culture, expressed as external focus, positively influenced the relationship between customer orientation and supply chain integration.

Cao *et al.*, (2015) investigated the impacts of organizational culture on supply chain integration (SCI) using data assembled from 317 manufacturers’ crosswise ten countries. The findings reveal that both development and group culture have positive relationship with all three dimensions of supply chain integration. Conversely, rational culture indicated positive relationship only to internal integration, and hierarchical culture indicated negative relationship with both internal and customer integration. The configuration approach recognizes four profiles of organizational culture: the Hierarchical, Flexible, Flatness and Across-the-Board profiles. The Flatness profile demonstrates the maximum levels of development, group and rational cultures and the lowest level of hierarchical culture. The Flatness profile also attains the highest levels of internal, customer and supplier integration.

Based on the review of literature, the following conceptual framework was developed:



**Figure1.**Conceptual Framework of Organizational Culture and Supply Chain Integration  
**Source:** Conceptualized by the Researchers, 2022.

Based on the conceptual framework of organizational culture and supply chain integration, the following hypotheses were formulated:

- Ho<sub>1</sub>:** There is no significant influence of development culture on supply chain integration of oil and gas companies in Rivers State.
- Ho<sub>2</sub>:** There is no significant influence of group culture on supply chain integration of paint manufacturing companies in Rivers State.
- Ho<sub>3</sub>:** There is no significant influence of rational culture on supply chain integration of oil and gas companies in Rivers State.
- Ho<sub>4</sub>:** There is no significant influence of hierarchical culture on supply chain integration of oil and gas companies in Rivers State.

## RESEARCH METHODOLOGY

This study investigated the effect of organizational culture on supply chain integration of oil and gas companies in Rivers State. The study adopted quantitative survey research design. The population of the study consists of two hundred and ninety-five (295) oil and gas companies in Rivers State. The Krejcie and Morgan's formula was used to determine a sample size of 169 oil and gas companies. The simple random sampling technique was used to obtain three (3) executives from each of the 169 oil and gas companies under study, to arrive at 507 management staff as the study's respondents. Questionnaire was used for data collection. The validity of the measures was already confirmed in previous studies relating

to organizational culture and supply chain integration (ChenXi*et al.*,2019; Cao *et al.*, 2015; Yunus & Tadisina, 2016).However, there is still the necessity to revalidate the applicability of the measures in20 oil and gas companies in Rivers State, hence the pilot study. A 5-point likert-scale structured questionnaire was distributed to the respondents, of which out of the 507 copies of structured questionnaire distributed, 415 copies were returned and after data cleaning, 296 copies accounting for 71% were retrieved from the respondents, The collected data was analyzed using both descriptive and inferential statistics through the aid of Statistical Package for Social Scientist (SPSS) version 22.0. The hypotheses were tested using the multiple regression technique. The multiple regression method was employed to evaluate the combined effect of the organizational culture dimensions on the dependent variable (supply chain integration).

## RESULTS

### Answer to Research Questions

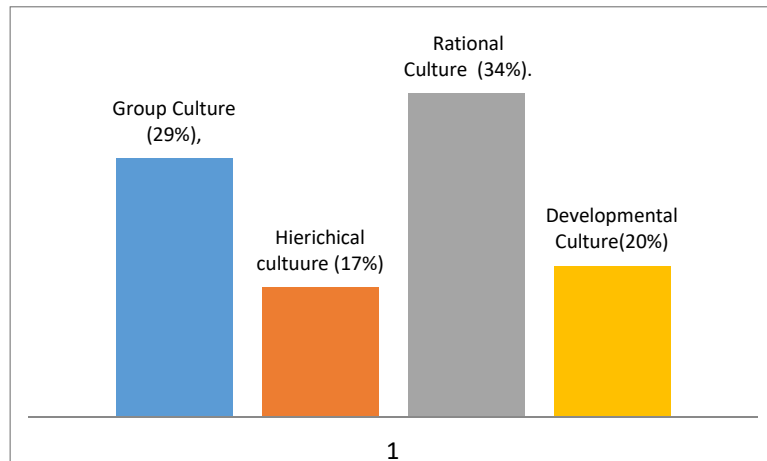
The dimensions of organizational culture that impacts supply chain integration in oil and gas companies

**Table 1: Dimensions of Organizational Culture that impacts supply Chain Integration (n=296)**

<i>Status</i>	<i>Frequency</i>	<i>Percentage</i> <i>(%)</i>
Developmental Culture	59	20
Group Culture	85	29
Rational Culture	102	34
Hierarchical Culture	50	17
Total	296	100

*Source: SPSS 22.0 Window output (based on 2022 field survey data).*

From Table 1, responses on rational culture are the highest, representing approximately 34 percent, closely followed by group culture representing approximately 29 percent and developmental culture representing about 20 percent. Responses on hierarchical culture represent approximately 17 percent. This is further shown in figure 2



**Figure 2;** Organizational culture dimensions that impacts Supply Chain Integration

**Source:** SPSS 22.0 Window output (based on 2022 field survey data).

### Multiple regression analysis

In the current study, supply chain integration construct was taken as the dependent variable with four constructs (developmental culture, group culture, rational culture and hierarchical culture) as the independent variables. The results of the multiple regression analysis are shown in Table 2.

**Table 3: Effects of Organizational Culture Dimensions on Supply Chain Integration(n=296)**

Model	R R Square	Adjusted R Square	Std. Error ofthe Estimate
Developmental Culture.	.455	.207	.119 21459.391
Group Culture.	.619	.383	.375 1.63610
Rational Culture	.731	.535	.5291.89718
Hierarchical Culture	.334	.112	.013 22711.892

**a. Predictors (constant),** Developmental Culture, Group Culture, Rational Culture and Hierarchical Culture.

**Source:** SPSS Window Output, Version 22.0 (based on 2022 field survey data).

In Table 3, model 1 ( $R^2 = 0.207$ ,  $P < 0.01$ ) shows that the predictor variables explained about 20.7% behaviour variations of supply chain integration; model 2 ( $R^2 = 0.619$ ,  $P < 0.01$ ) shows that the predictor variables explained about 61.9% behaviour variations of supply chain integration; model 3 ( $R^2 = 0.731$ ,  $P < 0.01$ ) shows that the predictor variables explained about 73.1% variations of supply chain integration; and model 4 ( $R^2 = 0.112$ ,  $P < 0.01$ ) indicates that the predictor variables explained about 11.2 % of variations in supply chain integration. The correlation matrix denotes that all the independent variables have varying degrees of relations on supply chain integration at  $P < 0.01$ . This implies that, developmental culture, group culture, rational culture and hierarchical culture variables exact significant influence on supply chain integration, since the significant value (or p-value) is .000 which is below the 0.05 level of significance.

## Discussions

By investigating the effects of organizational culture on supply chain integration, this study adds to our understanding of how developmental culture, group culture, rational culture and hierarchical culture affects supply chain integration. The results show that the four dimensions of organizational culture (developmental culture, group culture, rational culture and hierarchical culture) positively and significantly predicted supply chain integration. If oil and gas companies exhibit more organizational culture, they will have higher supply chain integration. As predicted, this result shows that developmental, group, rational and hierarchical cultures significantly and positively affect supply chain integration, which supports H1, H2, H3 and H4. This may be due to the fact that firms that want to produce radical products require functional organizational culture that is often only obtained through collaboration with focused external bodies. This implies that the implementation of development, group, rational and hierarchical cultures by oil and gas companies in their operational procedures will generate an enhancement of supply chain integration. The results were consistent with results on previous studies reviewed earlier in this paper (Chen Xi, *et al.*, 2019; Yunus & Tadisina, 2016; Cao *et al.*, 2015), whose results demonstrated a positive and significant influence of organization culture on supply chain integration.

## CONCLUSION AND RECOMMENDATION

This study investigated the impact of organizational culture on supply chain integration. The function of organizational culture to the success of supply chain integration in business is highly imperative given its elements such as developmental culture, group culture, rational culture and hierarchical culture which are germane to supply chain integration. From the study's findings it was discovered that, three dimensions of organizational culture (developmental culture, group culture and rational culture) had significant influence on supply chain integration, while the dimension of hierarchical culture had a weak, but significant influence on supply chain integration. The study therefore, concludes that, organizational culture significantly influences supply chain integration of oil and gas companies in Rivers State, and recommends that, oil and gas companies should adequately implement rational, group and developmental cultures in all spheres of their operations to enhance supply chain integration.

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