

Development of Organizational Integration Intervening Variable Scale (OIIVS)

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Abstract: The recurring spate of merger and acquisition globally, is phenomenal and also acknowledged 75% failure of the newly formed organizations after integration and calls for increasing attention on the underlying causes of these problems at post merger and acquisition. This study developed and validated the Organizational Integration Intervening Variable Scale (OIIVS), a self report measure designed to examine experiences of workers after integrations of merger and acquisition. Two hundred and eighty participants responded to the initial 15 items and only 13 items were found to meet criteria for clean factor structure, with loadings > .35. The factor structure of OIIVS consists of three underlying variables that accompany merger and acquisition: restructuring, downsizing and integration problems. The three factors separately make the three sub scales of OIIVS. Results supported the three factors structure of the OIIVS, with psychometric properties being valid and reliable, for use in Nigeria and possible revalidation for use in other cultures. The scale in a broad way can help towards the measure of intervening variables that accompany integrations in organizations in instances of mergers and acquisitions.

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I. Introduction

Organizational integration is believed to be part of the experiences of most corporate systems. The conceptualization of integration in the contexts of organizations is synonymous with change. For change to be achieved, requires the organization to lose as fluid to enable reorganization of the system. Corporate integrations that lead to antecedent conditions like merger and acquisition are bound to cause varying degrees of work behaviour.

To scientifically understand the actual cause of behaviour after integration is to invoke the change process in order to find out the underlying specific aspects of the causes of behaviour that accompany integration. This is in line with the causal inference approach and strong element of internal validity.

It is held on this premise that integration which are generally acknowledged as change, are believed to be accompanied by variables that are many a times abstract and ought to be used to give clearer or precise relationship with behaviour. According to Shaughnessy, Zehcmeister and Zechmeister (2000), the abstractness of underlying variables referred to as intervening variables require mediating process in research situations. Shaughnessy, et al (2000) further explained our understanding of the research process on test development, to consider specific empirical relationships approach when we tie down intervening processes to observed relationships between specific antecedents (independent variables) and behaviour (dependent variables). This enables the operating measure to have high validity.

Reforms at different scale have been a recurring part of life especially with corporate systems where such experiences have been dominant. These reforms come with associated problems that are unseen and needed to be probed and unveiled their possible existence as they impinge greatly on behaviour. Doing research in this light require attending to the protocol of the development of special scale that will enable us measure what we intend to measure. It is on this background that this study worked to determine the existence of underlying variables after bank reforms in Nigeria on antecedent conditions of merger and acquisition. In short, the intervening variables mediate between antecedent conditions (merger and acquisition) and behaviour.

An illustration to the preceding statement is a case in point on the first ever major reform in the banking industry between 2004 and 2005. The reform triggered mergers and acquisitions from existing 89 banks reduced to 25. The changes brought about through antecedent conditions of mergers and acquisitions had

concomitant variables of the bank integrations. They include; demotion, differential promotion, differential remuneration, restructuring, violation of psychological contract, downsizing and integration problems. These factors are also considered as intervening or mediating variables and 75-80% of them are considered as leading causes of failure of most reforms because they influence employees' job behaviours and attitudes (Alder Consultant, 2008; Ezurike, 2004; Kristjanson Love, 2000).

There are many intervening variables that accompany integrations of merger and acquisition, however, only restructuring, downsizing and integration problems have been considered in this study. The reasons being that variables like differential promotion and remuneration which as well accompany reforms are rather aspects of restructuring. Others like layoff, retrenchment, job loss and violation of psychological contract are considered as consequences of downsizing. Furthermore, restructuring, downsizing and integration problems have always had special mention by researchers to pose more serious problems during and after antecedent conditions of merger and acquisition (Zatz, 2005).

Since structures are a means through which organizations adapt to their environments, its consideration as patterns by which work and roles are designed, should therefore be of due attention in determining compatibility between integrating organizations. It is on this ground that Emeni and Okafor (2008) consider restructuring as a dynamic effect that is necessary for the newly integrating organization that had taken a new size from the newly formed organization after consummating merger or acquisition. That is, The newly formed organization will be a large version of the separate entities before marriage. Many authors (e.g. Katz and Khan, 1978; Emeni and Okafor, 2008) strongly hold on the reorganization of the amalgamating employees by reconfiguring work on aspects of restructuring that include; re-arrangement of work assignments, function, activities, roles and work flow that relatively involve works of the fusing organization, believed to influence behaviour.

Downsizing as a strategy is another concomitant of corporate integration which is applied when integrated organizations want to maintain lean and flexible work force to avoid duplication of roles/functions. Downsizing amounts to reduction of jobs, layoffs and indeed job loss. The unpleasant consequences of downsizing in the forms of job reduction could have direct bearing on employees of the combining organizations as it is tantamount to violation of the psychological contract. This can affect employees' work attitude and behaviour from products of the employees' perceptions.

Organizational integration is necessary as a type of marriage between organizations that want to broaden their base to enable them stand the competitive world of business. However, there are problems believed to be associated with corporate integration identified from amalgamating cultures (e.g. managerial style), problems of organization – employee integration, employee- employee integration, that may occur thereby creating series of reactions and discomfort amongst employees.

Despite the problems associated with underlying causes of corporate integrations there seem to be no existing instrument used to examine eminent issues caused by change. In order to systematically examine the occurrence of restructuring, downsizing and integration problems as concomitants of corporate integration the development of intervening or mediating variable scale should be preceded. The scale when developed will provide management practitioners, organizational consultants and researchers with the necessary tools towards prevention of integrated organizations to slump to entropy. The need is on the evidence traced to 75% to 80% failure of corporate integrations after mergers and acquisitions.

Regardless of the relativity of the concepts of restructuring, downsizing and integration problems may be, they are preconceived in the contexts of merger and acquisition as types of corporate integration, a concept used in the development of this survey instrument. Aside issues bordering restructuring, downsizing, and integration problems, Emeni and Okafor (2008) suggest that intervening variables also take place in non-merged and acquired organizations insofar as there is organizational change. In short, no matter the nature of integration, the scale will gauge restructuring, downsizing and integration problems arising from organizational change.

The criteria used to develop this well validated reforms variable scale, tapped the experiences and feelings of existing employees in selected towns/cities in Nigeria amongst bank workers when merger and acquisition took place in 2005. Evaluation to ascertain whether restructuring, downsizing and integration problems exist after consummating merger and acquisition was carried out in the first instance.

This study developed the Organizational Integration Intervening Variable Scale made up of three sub-scales of; restructuring, downsizing and integration problems after merger and acquisition had taken place. It also examined the confirmatory factor analysis of items of each of the sub-scales to ascertain their having met clean factor structure. More so, the study examined the validity and reliability of the subscales, all aimed at availing researchers with the operating measure that will help them find out the experiences of workers on their feelings and beliefs when change has occurred from corporate integration. The purpose of the study therefore was to develop a measure that will help identify workers problems in order to help towards better management of the organizations after integration so as to instill survival of the organizations at post integration.

II. Method

2.1 Participants

Two hundred and eighty (280) bank workers were the representative sample that made up for the pilot study towards the development of the Organizational Integration Intervening Variable Scale (OIIVS). The sample size of 280 participants was arrived at using the rule of the thumb that specifies 5-10 participants (Cohen and Swerdlik, 2002); at least 2 to 10 times (Lee and Kim, 2002), the number of items (i.e. questions) in the scale. The 280 participants were retained employees that had experienced either bank merger or acquisition in Nigeria during Charles Soludo's era (2004 – 2010) as Governor of Central Bank, when the first ever significant bank integrations took place.

To balance or average out the characteristic of participants from merged and acquired banks, the 280 participants were drawn across different ranks, viz; , managers, banking officers, office administrators, pay tellers, team leaders, management executives and bank trainers. Out of the overall participants, 140 were from merged banks spreading across United Bank of Africa (UBA); First City Monument Bank (FCMB); Unity Bank; then Fin Bank; Wema Bank; and then Skye Bank). From acquired Banks, 140 participants were drawn across then Diamond Bank; Access Bank; Eco Bank; Fidelity Bank; and then Spring Bank. The 280 overall participants were randomly selected from list of males and females across the banks by the help of research assistants in each of the banks.

The age range of participants was between 25 to 51 years. Ethical considerations of human participants were observed.

2.2 Study Setting

The target population of this study is defined within bank workers that existed when merger and acquisition took place during the Soludo era in Nigeria. They were workers that actually experienced integrations of bank reform. The representative samples were bank workers across different commercial banks within Jos, Lafia, Abuja. Bauchi and Lagos cities. Surveying bank workers to include those of Abuja and Lagos cities than specific considerations of bank workers within the Middle Belt States alone became necessary to also gauge feelings, beliefs and experiences of employees from their headquarters in Abuja and Lagos.

The study population was obtained from the selection of participants proportional to the size of the universe. In order words, it was based on stratification of the universe. It was on this principle that research sites were carried out amongst employees that either underwent acquisition or merger. More so, the category of bank workers as population of study was wide across ranks.

The purposive sampling of non-probability approach was used in the research. This is on the basis that the selected participants are of special characteristics drawing amongst those that have experienced merger or acquisition only. They participants were the retained employees after termination of their colleagues on the event of bank integration.

2.3 Development of Organizational Integration Intervening Variable Scale (OIIVS)

The development of Organizational Integration Intervening Variable Scale (OIIVS) consisted of 15 items designed to measure the overall experiences of bank works after reforms. The OIIVS is comprised of three aspects of intervening variables that are believed to accompany merger and acquisition after integrations of organizational reform. The 15 items were designed against three sub-scales of Organizational Intervening Variable Scale, viz; Restructuring, Downsizing and Integration problems. Restructuring is conceived as (e.g. job redesign, reassignment of activities/work), Downsizing (e.g. layoff, job loss, violation of psychological contract) and Integration problems (e.g.; problems of cultural and employee compatibility, arrogance by one of the merging or acquiring banks).

Items 1, 2, 3, 4, and 10 were developed on downsizing, where items 1 and 2 were drawn from research questions specified by Brochner and Greenberg (1990), 3 and 4 were items specified for survey by Schor (1992). Item 10 for downsizing was drawn from a research question by Raja, Johns and Ntalianis (2004). Items 5,6,7,8 and 9 were developed on restructuring from research questions by Adeyemi (2006) and Muchinsky (2003). Items 11,12,13,14 and 15 were developed on integration problems and drawn from research questions by (Four Groups, 2008; Jemison and Setkin, 1986). The study adopted questionnaire design stages by Hayes (2000).

The question format for the 15 items is structured questions designed against a 5-point Likert response Scale. The responses are: Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D) and Strongly Disagree (SD). The scoring is based on the quality of response with assigned values of 5,4,3,2, and 1 respectively. Only item 7 was reversed scored being a negative statement.

The OIIVS is designed for self-report. The scale is to first examine the existence of the intervening variables as underlying/mediating variables after bank integrations of merger and acquisition. Second, they OIIVS is designed to examine the effects of mediating variables that emanated from merger and acquisition and

their relationship with work attitude and behavior. It is believed that underlying variables coexist across conditions of merger and acquisition after bank integrations. It was developed for use in the banking industry in view of the current and rapid reforms in this service area.

The confirmatory factor analysis (CFA) carried out to examine the 15 items of OIIVS and found only 13 of 15 items to have satisfied criteria for a clean factor structure with loadings $\geq .35$, as recommended by Konovsky and Organ (1996). The approach to run the CFA was necessary to eliminate items that were difficult and problematic as identified from their inability to meet clean factor structure. Hence, items 7 and 14 were screened out thereby confirming the retention of items: 1,2,3,4,5,6,8,9,10,11,12,13, and 15. The 13 items retained have factor loadings ranging from .355 to .571, significant at .01 levels, 2-tailed.

The three sub-scales of restructuring, downsizing and integration problems that make up the IVS were separately examined to find out this confirmatory factor analysis.

2.3.1 Intervening Variable

Downsizing

Downsizing subscale of the Organizational Integration Intervening Variable Scale was developed on four items. The items are designed to examine the reactions of retained employees after downsizing had taken place. Higher scores on this sub-scale indicate greater possibility of reactions by employees from downsizing in the newly fused organization after reforms of corporate integration. The development of the scale produced Alpha reliability coefficient = .52 and a construct validity of .80. The outcome of the pilot study has found the instrument to be reliable and valid as a useful measure on the Nigerian population on experiences of downsizing.

Restructuring

The restructuring subscale of the Organizational Integration Intervening Variable Scale was based on four items. They items are to examine the experiences of employees on restructuring. Each item is rated on a 5-point response format ranging from strongly agree to strongly disagree. Higher qualities of response lead to higher scores and indicate greater expression of feelings and experiences of restructuring.

Reliability is supported by low internal consistency at the time of development, with Alpha reliability coefficient of .27, and a construct validity of 0.98. The psychometric properties are product of pilot study.

Integration Problem

The integration problem sub-scale of OIIVS was developed on 5 items. The five items are to gauge out problems of compatibility amongst integrating employees as well as compatibility of the fusing organizations conceived as blending their cultures. Higher scores in response to items indicate greater experiences of integration problems. Scoring is on a 5-point response format of Likert ranging from strongly agree to strongly disagree. At the time of the development of this subscale, an internal consistency was obtained leading to Alpha reliability coefficient of .56 and construct validity of .90. The psychometric properties were obtained at pilot study.

2.4 Procedure and Development of Intervening variable Scale (IVS)

The procedure in this context is in relation to the pilot study that produced the survey instruments development for this study. First, the study sought for consent of each management of the various banks specified in participants subsection. Second, the developed survey instrument, the Organizational Integration Intervening Variable Scale, with three subscales; Viz; downsizing, restructuring and integration problems problem, were administered to the selected participants from each bank. There were research assistants in each of the banks. Before administration of the developed survey instruments, participants in each bank and their respective research assistants were first briefed. The administered survey instruments took sixty days to be retrieved. At the point of retrieving the survey instruments, the participants were debriefed. The scored items of the questionnaires by all participants were subjected to various analyses (e.g., confirmatory factor analyses).

III. Results

The results section presents investigations on the following:

- a) Examining the coexistence or rather the presence of intervening variables of downsizing, restructuring and integration problems and how they relate on conditions of merger and acquisition.
- b) Confirmatory factor analysis of items of Organizational Integration Intervening Variable Scale.
- c) Results on convergence/divergence of items of the three intervening variables leading to construct validity.

Measurement to establish the possible existence or presence of Intervening variables of restructuring, downsizing, and integration problems across the two conditions of merger and acquisition was examined with correlation from questionnaire data of the pilot study. Results provided a positive relationship with a correlation

coefficient of .230. The descriptive statistics gave an obtained mean of 44.08 of an expected mean value of 65 in acquired banks, with an obtained mean of 41.74 of an expected mean value of 65 in merged banks. Table 1 presents details of the descriptive statistics.

Table 1: Data Analysis to Ascertain the Existence of Intervening Variables

Intervening variable	N	Minimum	Maximum	Sum	Obtained Mean	Expected mean	Std. deviation	Pearson's correlation coefficient
Acquisition Merger	140	20	64	6171	44.08	65	9.207	0.230
	140	24	61	5844	41.74	65	8.369	

**** Correlation is significant at the 0.01 level (2 – tailed)**

The confirmatory factor analysis of 15 items of intervening variable scale with subscales on downsizing, restructuring and integration problems were examined. The factor analysis for the final items (15) is represented on table 2 below:

NO	ITEM	FACTOR
	LOADING	
1.	I feel highly frustrated with the culture of cutting down jobs to right size in this bank with the recent reforms.	.355**
2.	I believe some employees are treated fairly well than others with the reform in this bank.	.421**
3.		
4.	I feel overworked most working days in this bank since the banking Reforms.	.490**
5.	I view a sense of reduced trust with this bank from job loss of some employees during the banking reforms.	.446**
6.	I detest the way work activities are reassigned to employees in this bank with the banking reforms.	.517**
7.	I feel disappointed at the way roles are favorably assigned to some employees in this bank with the new change on banking reforms.	.524**
8.	My stay in this bank has revealed to me that only one single task or work activity is assigned to an employee since the recent banking reform.	.009**
9.	I believe with the recent banking reforms, equal opportunity on promotion and payment (salary) among different employees of this bank is violated	.453**
10.	The size of this bank from the recent banking reforms, has greatly affected the way things are done here.	.365**
11.	I believe this bank did not honor some promises made to employees during the recent banking reforms.	.491**
12.	The way this bank operates, does not take into consideration all values by the merging or acquiring bank.	.571**
13.	I feel dissatisfied with way some employees of this bank are less involved in the organization's activities after the banking reforms (i. e. merger or acquiring).	.485**
14.	The relationship between employees of this bank is now in serious doubt with the conditions created during the bank reforms.	.570**
15.	The choice of a bank's administrative style is normally considered Better than that of other amongst amalgamating (combining) banks in the process of merger or acquisition.	.342**
16.	There are very little signs of cultural compatibility (fitness) between the newly merged/acquired employees of this bank since the banking reforms.	.361**

**** Correlation is significant at the .01 level (2-tailed)**

Note: Clean factor structure need loadings>.35 (Konovsky and Organ, 1996).

Items: 1,2,3,4,5,6,7,8,9,10,11,12,13,15 only, have loadings>.35.

The convergence/divergence correlation between intervening variables of downsizing, restructuring and integration problems problem, and that of work attitude were examined. Table 3 below. Represents the details:

Table 3: Correlation Matrix of Convergence Correlation between Variables of Intervening Variable Scale (Validity of Instruments)

Variable	Downsizing	Restructuring	Integration Problems
Downsizing	1	.240**	.298**
Restructuring	.240**	1	.408**
Integration Problems	.298**	.408**	1

**Correlation is significant at the .01 level (2-tailed).

*Correlation is significant at the .05 level (2-tailed).

The construct validity of IVS from inter-correlation of scores of the four variables (downsizing, restructuring, violation of psychological contract and integration problems), all moved in the same direction.

IV. Discussion

This study is probably the first of its type designed to examine issues of organizational integration after bank reforms, at the wake of mergers and acquisitions. Organizational Integration Intervening Variable Scale (OIIVS) has three sub-scales on downsizing, restructuring and integration problems. The study in the most desirable attempt, examined the most significant characteristics of the instrument to include validity and reliability of OIIVS.

The exploratory process to the developed instrument used the questionnaire approach whence, item and confirmatory factor analysis were carried out to meet criteria for clean factor structure. Before this stage, it was imperative to first examine the existence of the underlying variables (i.e. downsizing, restructuring and integration problems) on conditions of merger and acquisition. Data derived from three subscales of OIIVS: Restructuring variable scale (RVS), Downsizing Variable Scale (DVS) and Integration Problem Variable Scale (IPVS) under conditions of merger and acquisition gave a descriptive statistic with a mean of 44.08 of expected mean value of 65 in acquired banks. It also obtained a mean of 41.74 of an expected mean value of 65 in merged banks. Correlation of scores of intervening variables on conditions of bank mergers and acquisitions revealed a positive relationship with a coefficient of .230.

Specific considerations of correlation to items the three subscales were found to be significant at .01 (2-tailed). This strongly supports the clean factor outcome of items on the scales with factor loadings >.35. The local psychometric properties of the three subscales of (OIIVS) attest to the adaptation of the instruments as valid and reliable document for use in Nigeria.

V. Recommendation

This well thought out research is useful in a wide range of areas. The knowledge derived from this research will help organizational managers and practitioners in dealing with issues of corporate integrations especially at post merger and acquisition. Since economic development of states globally are anchored on effectiveness of organizations, policies by governmental and non governmental organizations can be fashioned out to help integrating organizations to cope with eventual problems that may arise at post integration. These problems whose solutions are needed can only be identified from valid operating measure. The OIIVS being a first scale of its type is extremely necessary in evaluating experiences of employees at post merger and acquisition.

This study also recommends the re-examination of this scale (OIIVS) for revalidation to enable applicability in other cultures. It is also necessary for the incorporation of employees from non banking sectors that have experienced merger or acquisition in the cause of revalidation.

VI. Conclusion

The findings here like most empirical studies, cannot be devoid of limitations. First, the outcome of the results of this study is drawn from a particular organizational set with cultures that are common and suffocates the universal applicability of the outcome of this study across the globe. Further validation of the OIIVS in other cultures is necessary to overcome this limitation.

Nonetheless, OIIVS draws many advantages, ranging from its short formation with 13 – items to needfulness, developed at a time when reforms like merger and acquisition emanate on an extreme rate globally.

Its makes this measure useful to experience identify underlying problems corporate integrations experience after merger and acquisition, and thereby provide informative data to help treat organizations to avoid moribund.

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