

AN ESTABLISHMENT OF RELATIONSHIP BETWEEN LEADERSHIP AND ORGANIZATIONAL COMMITMENT THROUGH META-ANALYSIS

Loknath Sen¹, Arya Kumar², Saroj Kanta Biswal³

¹Research Scholar, IBCS, Siksha 'O' Anusandhan University, Bhubaneswar, Odisha, India.

ORCID: 0000-0003-1237-386X loknathsen@soa.ac.in

²Assistant Professor, KIIT School of Commerce and Economics, Kalinga Institute of Industrial Technology, Deemed to be University, Bhubaneswar, Odisha, India.

ORCID: 0000-0002-8203-361X aryantripathy@yahoo.com

³Associate Prof., Institute of Business & Computer Studies, Siksha 'O' Anusandhan (Deemed to be University), Bhubaneswar, Odisha, India.

ORCID: 0000-0003-3304-8900 sarojkantabiswal@soa.ac.in

ABSTRACT

Purpose: The main purpose of this study is elucidation of the causality that exists between the various Leadership Behaviours and Leadership Styles adopted by the nursing supervisors of the hospitals and to what degree does this influence the hospital nurses' Organizational Commitment. This study focuses on studying the influences, as well as establishing a relationship, of the various leadership approaches adopted by the hospital nursing supervisor of Odisha on the Organizational commitment of the nurses of the hospital.

Methodology: Meta-analysis has been selected as the methodology for this study to establish the causality in the impact sizes of the various leadership approaches on organizational commitment. In order to evaluate this relationship between leadership and organizational commitment, leadership styles have been taken into account along with leadership behaviour; and as the moderators the types of publications as well as the date of the publications in this regard are also taken into consideration.

Findings: As observed from the results of this study, on the basis of random effect model, the various leadership approaches showed a significant positive influence on organizational commitment. Transformational leadership, supporting leadership and democratic leadership styles adopted by the nursing supervisors, in particular showed a significantly higher impact on the organizational commitment of the nurses in comparison with the other styles of leadership. Besides, excluding the leadership styles, the other moderating variables that were selected for this study failed to showcase in having a significant influence in elucidation of the causality between the various approaches of leadership and organizational commitment.

Keywords: Leadership Styles, Leadership Behaviour, Organizational Commitment, Meta-analysis.

INTRODUCTION

In general the commonly accepted opinion is that the degree of organizational commitment of an employee is directly influenced by the characteristics of leadership demonstrated by the important personnel in the organization or the top level management. According to the recent elucidations made on leadership, leadership is distinguished as the chronological approach or process utilized by the people at the top level management to influence and manipulate, in order to get desired outcomes, “other people to facilitate, structure and guide relationships and activities in an organization or group”, as stated by Yukl (2013). As stated by Wu (2009) and various other studies conducted recently, it has become quite evident that leadership, different leadership style and different characteristics or aspects of leadership has become the prime focus in the area of management studies for a lot of researchers, as well as a lot of the researchers are considering leadership as a significant variable which is associated with different aspects of management in order the better understand the degree of influence it has on the functioning of the employees of an organization. It has been observed by many researchers that leaders within an organization tend to embrace various leadership styles from time to time and as and when suitable to lead others who are under them within the organization (Brown, 2003; Cheong, 2008; Chiang & Wang, 2012). In order to achieve superior organizational effectiveness it was observed that some of the leaders adopt the autocratic leadership approach which is a production based approach, which is focused upon people trying to achieve a similar goal; whereas some other leaders adopt democratic leadership style which tends to be a method which is centred towards people and relationship among them. On the other hand, in order to execute a performance which would surpass all the expectations associated with them, some leaders are preferring to adopt change and transformational leadership styles.

LITERATURE REVIEW

In the study of Cohen (2003) on organizational psychology, the conceptualization of organizational commitment has received significant admiration. According to the study of Porter, Steers, Mowday and Boulian (1974), they stated organizational commitment to be one-dimensional and characterised by, “loyalty towards one’s organization, possessing the characteristics of intent to stay and continue to work in that organization, developing an association with the aims, objectives and goals of the organization; and the inclination to provide an additional effort in favour of the organization”. However, according to the initial study conducted by Meyer and Allen (1984), gave a two-dimensional view on organizational commitment, to be specific affective and continuance, they described the first dimension, i.e., Affective Commitment as “sanguine sentiment of association with the organization, loyalty towards the organization and active participation in the work of the organization” and the second dimension, i.e., Continuance Commitment was described by them as “the magnitude of commitment of the employees towards their organization in relation with the rectitude that they comprehend would be linked with leaving the organization or costs of separation, in simpler terms”. Thorough in-depth research further conducted by them in the subsequent years gave rise to the third dimension, i.e., Normative Commitment by Allen and Meyer

(1990). Allen and Meyer (1990) described normative commitment as, “the feelings of the employees of being obligated to remain within the organization”.

The three-dimensional model of commitment contains the following components: Affective commitment, which as elaborated in the study of Allen and Meyer (1990), indicates towards the inclination of the employees to continue to work in their current organization, arising due to the employee is emotionally attached to the organization. According to the conceptualization of Affective Commitment by English, Morrison & Chalon (2010), it is stated as “the psychological state of the employee which is the characterization of the relationship that the employees have with the organization that they are working in”. Then comes Normative Commitment, which as described in the study of Allen and Meyer (1990) that indicates towards the inclination of an employee to continue working in his current organization in which he is currently employed in as they have developed a “feeling of obligation”. According to the study conducted by Meyer and Herscovitch (2001), they described Normative Commitment as “the perception of the employees that a person has a moral obligation to pursue a course of action which will be relevant in achieving the target”. Finally there is Continuance Commitment which as described by Allen and Meyer (1990) is the inclination of an employee to continue working in the organisation which arises from the acknowledgment of the cost associated with leaving the organization by the employee. Meyer and Herscovitch (2001) in their study further elaborated the concept of Continuance Commitment as “the mindset of an employee that the cost of discontinuing a course of action will be higher than continuing”.

It was found from the results of numerous studies conducted over the recent years having empirical evidence to prove the existence of a significant positive impact of various leadership styles and behaviours on organizational commitment of the employees which was also acknowledged in the studies of Adebayo (2010); Akbolat, Isik & Yilmaz (2013); and Huang (2000). This study primarily focuses of investigating the degree of impact that hospital nursing supervisors’ leadership behaviours has on the hospital nurses’ organizational commitment in Odisha. Apart from this the study also take into account the various leadership styles that can be adopted, type of publications regarding this and years in which these publications were made, these are considered as the moderating variables in order to better understand and elucidate the variance in the impact sizes. The following are the hypotheses of this study which was tested using the above mentioned variables:

H1: There exists a positive influence of the leadership behaviour of the nursing supervisors of the hospitals on the organizational commitment of the hospital nurses.

H2: Leadership styles adopted by the hospital nursing supervisors are considered to be moderating variable having positive influence of hospital nursing supervisor’s leadership on the organizational commitment of the hospital nurses.

H3: Type of publication of research studies based on this are considered to be moderating variable having positive influence of hospital nursing supervisor’s leadership on the organizational commitment of the hospital nurses.

H4: Year of publication of research studies based on this are considered to be moderating variable having positive influence of hospital nursing supervisor’s leadership on the organizational commitment of the hospital nurses.

METHODOLOGY

Considering the goal of this study, meta-analysis is the primary research technique used in this study which can be defined as a systematic procedural re-evaluation of the findings of the individually conducted studies via a statistical chronological method of study. Meta-analysis could be defined as the procedure for combining the findings deduced from various individually conducted studies on a particular topic and further application of statistical analysis of the findings of the studies thus obtained. The significance of this procedure is that it offers quantitative data which summarizes the findings of various individually conducted studies on a particular topic to different researchers possessing a similar judgement (Chin, 2007; Lipsey & Wilson, 2001; Robinson, Lloyd & Rowe, 2008).

The aim of meta-analysis is to analyse, elucidate and summarize all the unpublished or published data available on a specific topic which may include articles, books, dissertations, proposals and master & doctoral thesis. However, only the articles from referred journals, dissertations and theses, which were found related and relevant to this study, were taken into consideration. For the search of suitable literature in the context of the present study the following keywords were used; “Leadership”, “Organizational Commitment”, “Leadership behaviour”, “Hospital nurses”, “Leadership at Hospitals” and “Leadership Styles”. In order to keep this study precise and catering solely the purpose of fulfilment of the goals of this study, the criteria used for the identification and selection of the research studies based on or related to the impact of leadership behaviours of hospital nursing supervisors on the organizational commitment of the hospital nurses, including statistical analysis and suitable sample size, were kept concise to the time of publications made in this regard which ranged from January, 2000 to December, 2018. By following the opinions of the experts and formulation of coding book, identification of moderator variables was done and 26 suitable researches out of 45 initially selected studies were taken into account in this study.

The analysis conducted in this study consisted of 2 distinct parts. Firstly, using the frequency values and percentages the descriptive analysis of all the selected researches for this study was executed. Following to which the second step, the Meta-analysis was conducted after the fulfilment of all the stated operations in the first part. The determination of the average impact size value and homogeneity through combination of data which are deemed relevant was the prime objective for utilization of meta-analysis technique which used correlation studies. The interpretation of the impact sizes thus obtained could be done through their comparison with certain criterion values. According to the study conducted by Cohen, Manion and Morrison (2007), the interpretation of the impact size values on the basis of correlation can be done as stated below:

$0 \leq \text{impact size} < 0.10$ small impact;

$0.1 \leq \text{impact size} < 0.30$ modest impact;

$0.30 \leq \text{impact size} < 0.50$ moderate impact;

$0.50 \leq \text{impact size} < 0.80$ strong impact;

Impact size ≥ 0.80 , very strong impact.

In this particular research work the study uses fixed effect model preliminary and the result confirms the heterogeneity output. It means the research is not supporting the ($Q > \chi^2$) function (refer table 3). As the result does not show the homogeneity output so random

effects model is implemented and 5 percent level of significance is considered for all the analysis.

The study used moderating analysis to measure the variance between the mean impact size (moderators) and the directions of differences between the subgroups. The difference between the variables of moderator as statistical significance is measured through Q statistics proposed by Hedge and Olkin (1985). As per their method the Q is divided into two different categories i.e. Q_b as Q between and Q_w as Q within basing upon this the whole analysis is carried on to identify the differences. Q_w signifies the test of homogeneity within and Q_b signifies the test of homogeneity between. But in this particular study only between is considered i.e. Q_b to identify the variances between the moderators.

FINDINGS

The study incorporates the meta-analysis on the descriptive analysis to combine the data set. The data that are considered for the analysis are presented in the below table 1. The table includes the categories of selection of the items along with the frequencies and contribution in percentage.

The below table 1 shows total 26 set of data that are related to nurse's organisational commitment and the leadership style of the nursing supervisor. The data set shows that nearly 69.23 percent defines the relationship establishment between nursing supervisor's leadership style (supporting, ethical, instructional, democratic and transformational) with the nurse's organisational commitment. By referring to the maximum number of study contribution, it shows that 69.23 percent of researches are carried on after 2009.

Table 1: Representation of the descriptive analysis considered in meta-analysis (f) and (%)

Style Of Leadership		
Items	No. of Samples or Frequency (f)	Percentage of contribution (%)
Demonstrating	1	3.85
Cultural	1	3.85
Servant	1	3.85
Situational	1	3.85
Visionary	1	6.69
Interactive Leader and Member	3	8.69
Transformational	3	11.54
Democratic	3	11.54
Instructional	3	11.54
Ethical	4	15.38
Supporting	5	19.23
Total	26	100

Year Of Publication		
Years	No. of Samples or Frequency (f)	Percentage of contribution (%)
2000-2009	8	30.77
2010-2018	18	69.23
Total	26	100
Type Of Publication		
Types	No. of Samples or Frequency (f)	Percentage of contribution (%)
Article Publication	16	61.54
Dissertation and SIP projects	4	15.38
Master Thesis	6	23.08
Total	26	100
Hospital Level		
Levels	No. of Samples or Frequency (f)	Percentage of contribution (%)
Private and Government	6	23.08
Government	3	11.54
Private	17	65.38
Total	26	100

In past few decades it is observed that several researchers have studied the relationship between nursing supervisor's leadership style and nurse's organisational commitment. In the above table 1 its shows almost 61.54 percent of studies are found from articles published in various journals out of which 88.46 percent studies are based on private hospitals and government hospitals. Table 2 below states about the impact of nursing supervisor's leadership quality and nurse's organisational commitment and represented into five different categories.

Table 2: Impact size as per the Studies

Hospital Level		
Impact	No. Of Samples Or Frequency (F)	Percentage Of Contribution (%)
Very Strong	1	3.85
Strong	8	30.77
Moderate	11	42.31
Modest	3	11.54
Small	3	11.54
Total	26	100

To understand the effect of leadership style and organisational commitment of the nurses most of the studies i.e. 73.08% are coming into the category of moderate and strong. However only 1 study is observed in case of a very strong impact and 3 is observed in case of both modest and small size impact. To analyse the effect in respect to the various leadership style and organisational commitment a correlation is made and represented in table 3 using fixed effects model.

Table 3: Leadership Style and Organisational Commitment: A correlation (The Fixed Effect Model)

Style of Leadership	Frequency	Impact Size	Confidence level 95% Interval		Qb	χ^2	p
			Lower	Upper			
Interactive Leader and Member	3	0.763	0.589	0.763	8.637	2.369	0.039
Instructional	3	0.822	0.692	0.796	49.397	8.692	0.000
Ethical	4	0.936	0.733	0.866	29.322	10.339	0.001
Democratic	3	1.069	0.928	1.102	32.892	8.692	0.000
Transformational	3	1.229	1.112	1.266	11.036	6.223	0.004
Supporting	5	1.326	1.322	1.437	82.369	12.382	0.000
General	21	1.0241	0.986	1.121	496.368	52.691	0.000

The above table 3 highlights about the correlation between the organisational nurse's commitment and leadership style of the nursing supervisors by using Meta- analysis model. To understand the degree of relationship and the proportion of such relation between the two major elements the test of correlation (mean r) is made. By comparing with the mean of the overall impact size with each impact size, it is found that the average impact size is very strong. This result supports the H1 considered in the study i.e. the nurse's organisational commitment and leadership style of the nursing supervisors holds a strong relationship.

In general it can be said that the behaviour of a nursing supervisor in respect to leadership style i.e. democratic, supportive, transformational motivates and increase the organisational commitment of the nurses. By referring to the heterogeneity the distribution of the impact size were observed to be heterogeneous in respect to the fixed effects. Due to this output it is required to consider the random effect model to get more accuracy of the result.

Table 4: Leadership Style and Organisational Commitment: A correlation (The Random Effect Model)

Style of Leadership	Frequency	Impact Size	Confidence level 95% Interval		Q _b	χ^2	p
			Lower	Upper			
Interactive Leader and Member	3	0.634	0.468	0.994	13.224	11.071	0.036
Instructional	3	1.112	0.872	1.552			
Ethical	4	0.986	0.558	1.331			
Democratic	3	0.933	0.732	1.137			
Transformational	3	1.426	0.928	1.922			
Supporting	5	1.334	0.964	1.783			
General	21	1.0658	0.882	1.326			

As there exists heterogeneity in the fixed effect model so random effect model is run and presented in above table 4. The result output shows that the between vales states 13.224 that is higher than the table values i.e. 11.071 it confirms the presence of heterogeneous characteristics. So here it can be confirmed that the style that leads to organisational commitment are democratic, supportive and transformation while others does not put a major impact.

Table 5: Representation of the Meta analysis for the year of publication as moderator through Random Effect Model

Year of Publication	Frequency	Impact Size	Confidence level 95% Interval		Test of Heterogeneity		
			Lower	Upper	Q _b	χ^2	p
2000-2009	8	1.138	0.638	1.302	0.162	4.026	0.732
2010-2018	18	0.862	0.722	1.201			

After following table 5 output that is the result of the Meta analysis year of Publication as moderator through random effects model it is found that the heterogeneity value between the Publication years shows 0.162 less than Chi square value i.e. 4.026. It can be confirmed that the moderator did not cause a significant impact heterogeneity output it means the variables are not distant from each other.

Table 6: Representation of the type of publication through Random Effect Model: A Meta-analysis

Year of Publication	Frequency	Impact Size	Confidence level 95% Interval		Test of Heterogeneity		
			Lower	Upper	Qb	χ^2	p
Article Publication	4	0.981	0.441	1.297	2.322	6.024	0.261
Dissertation and SIP projects	6	0.962	0.683	1.092			
Master Thesis	16	1.135	0.937	1.361			

Table 6 indicates the meta-analysis on the types of publication as a moderator by using a random effect model that shows heterogeneity value between types of publications (2.322) and chi square value 6.024 which is lower than table value. From this it can be concluded that type of publication as the moderator does not impact on the heterogeneity output, so it can be confirmed that all the variables are close to each other.

There is a chance of biasness in the study of types of Publications as it is expected that all the research topics are published, which is not true in all the cases as a result the total impact size shows negative and increasing mean value.

Due to this the study uses a statistical analysis to confirm whether the type of publication acts as a bias in meta-analysis study. Table 7 below consider various statistical calculations to understand whether Meta-analysis is affected due to types of Publication. The present study uses classic false safe N analysis to confirm how far types of publication act as a bias in the present study.

Table-7: The output of accepting the false-safe of the result

The Meta Analysis Power	
Value	Outcome
p	0.00
z	43.61
α	0.05
α for z	1.94
No. of studies	26
Studies un attended (Leads to change in p-value more than α)	4782

As per the above findings the result of p value shows a significant result at α less than 0.05, it means there is no biasness impact of the types of publication in the Meta analysis study. For better study and to make a generalize statement around 4782 separate studies should be analysed.

CONCLUSION

In order to determine the impact size values for the impact of leadership on organizational culture, meta-analysis of twenty-six researches were executed. The moderating variables that were selected for this study were publication type, publication year and various leadership styles. As found from the findings of this study, it is quite evident that leadership of the nursing supervisors has a very significant positive influence over the organizational commitment of the hospital nurses which provided adequate support to validate the Hypothesis1. A positive linkage between leadership behaviour and organizational commitment was also observed in the research studies which were included in this study as well as the studies conducted in the past in association with different contexts. According to the study conducted by Yiing and Ahmad (2009) which elucidated the positive relationship between leadership and organizational commitment through empirical analysis. According to the results of the study conducted by Rusliza & Fawzy (2016), it was evident that in an organization where leaders showed supportive, participative and directive leadership behaviours the employees tend to have a higher level of organizational commitment as well as significantly higher levels of involvement towards the organization as compared to the organizations whose leaders showed other types of leadership behaviour. According to another study conducted by Lok and Crawford (2004), it was found from the results of this study that the degree of organizational commitment of the employees was positively influenced by the type of leadership styles adopted by the leaders within the organization. In the study by Stum (1999) it was implicated that there existed a significant correlation between leadership and organizational commitment and also evinced that leadership behaviours of the leaders had a positive significant relationship with the organizational commitment of the employees within an organization. According to the meta-analysis conducted by Cogaltay and Karadag (2016) based upon 77 researches it was elucidated that in case of healthcare service sector leadership behaviour had an immense positive influence over the conceptualization of organizational commitment by the nurses.

As evident from the results of this study, apart from the leadership styles, the remaining moderating variables, i.e., publication year and publication type did not prove to be significant in determination of the relation between leadership behaviour and organizational commitment at hospital level. From the results of the findings of this study it was observed that there was not much statistical significance of the impact sizes between the year of publication and type of publication. Nevertheless, Leadership styles were proved to be a valid moderating variable in establishing the positive significant relationship between the leadership of the nursing supervisors and the organizational commitment of the hospital nurses. It was observed that nursing supervisors adopting transformational, supporting and democratic leadership styles proved to have a greater influence on organizational commitment of the hospital nurses as compared to the other leadership styles adopted by the other nursing supervisors. Many studies suggested and elucidated, with empirical evidence as well, that supportive leadership style or behaviour has a more significant impact on the degree of organizational commitment that is being showcased by the employees of the organisation (Butcher, 1994; Shadur, Kienzle & Rodwell, 1999). Apart from this, as per the study conducted by Gulluce, Kaygin, Bakadur Kafadar and Atay (2016), it exhibited a

positive moderate relationship between the scale of transformational leadership and the scale of employees' organizational commitment. In simpler terms, transformational leadership behaviour among the transformational leaders within an organization tends to achieve higher degree to organizational commitment from the employees. In the study conducted by Lee (2008), it was revealed that transformational leadership approach had a significant correlation with organizational commitment. Hayward, Goss and Tolmay (2004) also explained in their research that there exists a positive moderate correlation between affective commitment and transformational leadership. Noraazian & Khalip (2016) in their study elucidated that the nursing supervisors utilizing the transformational leadership approach induced higher degrees of organizational commitment among the hospital nurses. In the study conducted by Kouni, Koutsoukos and Panta (2018), they proclaimed that nursing supervisors adopting transformational leadership style induced a significant level of commitment of the hospital nurses towards the goals of the hospital. However some studies also advocate that apart from transformational and supportive leadership styles, democratic leadership style also demonstrates a positive significant influence on the organizational commitment.

While we recapitulate the description of ideal leadership as “an individual's capability to motivate, influence and enable others to contribute towards the effectiveness and success of organization that they are a part of” (House, Wright & Aditya, 1997), it's significance in achievement of the aims, objectives and goals of the organization will become easier to comprehend. Organizational commitment is closely associated with achievement of organizational aims, objectives and goals along with the capability of positively influencing organizational outcomes like profitability, productivity and quality; it is far from being just limited to employees' satisfaction. To encapsulate it all, it can be stated that leadership demonstrates significant influence on the organizational commitment of the employees which therefore compels the employees to optimally utilise their skills with the prospective of the development of the organization and achievement of its goals. It is highly recommended that it is of utmost importance that the organizations encourage their leaders to adopt any of the leadership styles from transformational, supportive or democratic leadership style as it would facilitate a better chance of overall development and proliferation of the organization. Adding to this it is also highly recommended to organise professional skill development programmes to facilitate better understanding, enhancement of skills and essentially increasing organizational commitment of the employees.

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