

KNOWLEDGE MANAGEMENT PROCESS AN APPLIED SCIENCE TO HUMAN RESOURCE: CRITICAL STUDY AT NALCO

Dr. Snigdhamayee Choudhury*
Dr. Sujit Kumar Acharya**

ABSTRACT

Knowledge management is concerned with identifying and leveraging the summative on of individual knowledge to help the organization to compete in dynamic environment. It includes the ability to efficiently and effectively create, capture, locate, and share an organization's knowledge and expertise, as well as the ability to bring that knowledge to bear on problems and opportunities. In the present study, the researchers have conducted an empirical study basing on the perceptions of both executives and non-executives on the Knowledge Management practices adopted by NALCO from HR prospects. The perceptions of employees have been categorized into three major levels i.e. high acceptance, medium acceptance and low acceptance. The opinions of the executives and nonexecutives are further analyzed by applying factor analysis, cross tabular analysis. The analysis is based on the views of employees by grouping them on the basis of educational background at NALCO.

Keywords: Knowledge Management, HR Prospects, NALCO, Executive, Non Executive.

Introduction

The Business Organizations have been influenced by liberalization, privatization and globalization (LPG). The concept of LPG influences most of the Organizations, mainly in the context of internationalization, as a result of which the Organizations are facing challenges both from the global players and also from domestic as well as native Organizations. They are to be more progressive, informative, proactive, innovative and competitive in each and every respect. These human resources or "knowledge workers" are considered as assets in the field of Human Resources Development (HRD). Besides these "knowledge workers", qualitative performances enrich the Organizational performance. In the area of information and communication system there is a revolution in the manufacturing process. More modern technologies are used with less involvement of human beings. However, the Organizations need quality manpower to develop such process and also to run to get qualitative output. Organizations require a systematic working process to manage their employees. Such process of managing employees can convert a 'general worker' to a 'knowledge worker'.

In the whole world the Organizations are developing their own work culture considering the climatic conditions of their respective regions. Organizational culture influences the human values and behaviour of the employees. Organisational culture is the combination of values, beliefs, ethics and principles which identify the functioning of the individuals within an Organization. Knowledge' is more informative, action oriented, pertinent and contextual. 'Knowledge' develops the ethical, decision - making approach and converts an individual to a talented one. The knowledge worker differentiates between good and bad as per situation and circumstances. 'Knowledge' includes the different skills and abilities which can be developed within an individual considering his experience, exposure and experimental abilities.

* Assistant Professor, Bhaban Center for Communication and Management, Bhubaneswar, Odisha, India.
** Assistant Professor, Business Administration, DDCE Utkal University, Bhubaneswar, Odisha, India.

Review of Literature

Andrews (2003)¹ throws the light on the knowledge work. In his view the knowledge does not have a routine- like dimensions, and is characterized by the unpredictability and long cycles of feedbacks. Therefore knowledge workers are hired for their ability to think independently, do not require to receive orders about what and when to do their duties. The nature of their work involves high -level of autonomy. Knowledge workers are usually required to cooperate with their co-workers from the same department and even with workers from different Organizations.

Hertlein, Smolnik, and, Kortzfleisch, H. V. (2011)² opined that Knowledge Management is an important strategic support service to get competitive output. The Organization should analyze the outcome and success by implementation of Knowledge Management both internally and externally. In this regard the authors have derived a framework which includes

- Knowledge Management service;
- Support towards productivity;
- Repair productivity.

Such framework includes both quantitative and qualitative measurement of tangible Knowledge Management and intangible Knowledge Management respectively.

Joseph M. Firestone (2001)³ in an article entitled on "Key Issues in Knowledge Management" has expressed his views on some of the main issues about how to pursue KM. and eventually realizes the values in the long run. It produces a simple introduction for the beginners in this area to understand the Knowledge Management and at the same time sets a few disputed concerns for the experienced practitioners on the basics of KM. Nevertheless, the author touches upon the approaches of KM, introduces what is "knowledge" and KM, discusses about Hierarchical versus Organic KM, KM and data - management, KM and Information Management and finally KM and culture. The author in his concluding remarks states that KM is an exciting and vibrant field of practice and is full of challenges and surprises. There are many cross- disciplinary applications as well as there is a broad scope for innovative dissemination of knowledge on technical know-how. So far it has been a field for struggling to find its foundations in the sea of communication, demand and conflicting interests. All the Knowledge Management areas are not consistent with the need to find a productive discipline based on theory and practice. The connecting thread is the discussion on these key issues in the inadequacy of theories of KM and conceptualization. Yet the author has expressed his fear to lose picture due to confused approaches getting such a fascinating and promising area.

Tripathi,S.K & Acharya,S.K (2008)⁴ have explained three important factors for implementing KM practices in any Organisation in their paper titled "Knowledge Management and Organisational Culture: An Analysis from HR Perspective". These are:

- Intellectual assets over financial and physical assets.
- Wealth of knowledge of the work force.
- Sharing of knowledge to reduce the monopoly and self - achievement instead of working team and team achievement.

The paper discussed about the sharing of knowledge is only possible with Knowledge Identification, Knowledge Acquisition, Knowledge Classifications and Knowledge Uses. While applying these steps in an Organization certain important subsystems are to be considered like, creating and discovering of knowledge, sharing & learning and organising & managing.

Whicker, L. M and Andrews (2004)⁵ in their research paper entitled, "HRM in the Knowledge Economy: Realizing the Potential," they have attempted to explore the HRM perspective of knowledge capability in the knowledge- based economy. In the knowledge economy, knowledge-based capabilities are the key factors for competitive advantage. At the firm level, this places the enterprise's people, their knowledge and innovative capacity at the heart of the strategic potential as the Organizations now-a-days excel in attracting, creating, managing and sustaining knowledge capabilities. Human Resource Management (HRM) in the recent years has demonstrated its position as a strategic partner to Executive Management. Specifically, HRM must respond to the key challenges presented by knowledge economy. They have further stated four HRM priorities: becoming expert in identifying and defining strategic knowledge capabilities, developing and managing knowledge workers by leveraging the knowing-learning-doing nexus, building knowledge value as an organizational as well as an individual asset, and minimizing enterprise knowledge risks.

Whicker, L. M and Andrews (2004)⁶ in their research paper entitled, "HRM in the Knowledge Economy: Realizing the Potential," they have attempted to explore the HRM perspective of knowledge capability in the knowledge- based economy. In the knowledge economy, knowledge-based capabilities are the key factors for competitive advantage. At the firm level, this places the enterprise's people, their knowledge and innovative capacity at the heart of the strategic potential as the Organizations now-a-days excel in attracting, creating, managing and sustaining knowledge capabilities. Human Resource Management (HRM) in the recent years has demonstrated its position as a strategic partner to Executive Management. Specifically, HRM must respond to the key challenges presented by knowledge economy. They have further stated four HRM priorities: becoming expert in identifying and defining strategic knowledge capabilities, developing and managing knowledge workers by leveraging the knowing-learning-doing nexus, building knowledge value as an organizational as well as an individual asset, and minimizing enterprise knowledge risks.

Knowledge worker benefits the organization by augmenting the value of intellectual capital, which develops both the business and adding to the profit. The workforce employed by present day organizations is diversified and wide-ranging. In the aluminum industry, National Aluminum Company (NALCO) serves the national interest and enjoys trust and confidence of the stakeholders on account of its product excellence, productivity, profitability, good governance and industrial relations. The inherent confidence on customer service is another hallmark of the company. Energy and environment are subjects of prime importance to the company. Right from the design stage, the company has adopted anti-pollution and energy efficient technologies. There is constant monitoring to ensure that neither pollution is caused nor any disturbance to the environment or ecological balance. Plans are made to expand basic capacities of the plant and to create downstream capabilities according to the demand of future.

After analysis of the different research work conducted in the field of Knowledge Management an in-depth research work has been conducted at NALCO considering the views of the employees. The major objectives of the research work are discussed as follows.

Objective of the Study

The objectives of the study are:

- To find out the perception of Executives and Non-executives towards KM practices in relation to HRM activity applied by NALCO.
- To find out the level of KM practices applied by NALCO considering the views of employees with varied qualification prospects.

Scope of the Study

The KM facilitates the development and growth through fast and timely sharing of knowledge. The study highlights the level of KM practices through different qualification groups at NALCO such as Under Graduate Technical (UGT), Under Graduate Non-Technical (UGNT), Post Graduate Technical (PGT), Post Graduate Non-Technical (PGNT) etc. The researchers have identified the employees' category in two parts, Executives and Non-executives. The sample collected from the employees working in the Bhubaneswar Corporate Office, Training Centre, Damanjodi Refinery and Anugul Smelter Plant.

Hypothesis

The hypothesis of the research work is:

H₁: There is no association between qualification and level of KM practices and thereby accepts the alternative hypothesis.

H₂: There is association between qualification and level of KM practices.

Research Methodology and Data Analysis

Both primary and secondary sources are being adopted to collect data from NALCO. The secondary sources like websites, journals and other research work have been refereed. The primary data have been collected from both the Executives and Non executives by administering Self Administrated Questionnaires (SAQ). The SAQ has two part where one portion is identified as the independent variables, i.e. demographic profiles (Category and Department). The other portion of the SAQ relates to multiple questions asked to the respondents

In the research Knowledge Management (KM) Practices at NALCO from HR Prospective has been identified as the broad parameter to evaluate the perception of the executives and non-executives. The below table shows the distribution of sample collected for the purpose of research work from NALCO considering the category, i.e., executives and non-executives. The sample consists of 55.9 percentage executives and 44.1percentage non-executives.

Table 1: Distribution of Executives and Non Executives

Category	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Executive	198	55.9	55.9	55.9
Non-Executive	156	44.1	44.1	100.0
Total	354	100.0	100.0	

In the SAQ there are twenty five sub parameters have been included under Knowledge Management (KM) Practices at NALCO. In the analysis the average score towards Knowledge Management Practice has been calculated by taking account of the responses of NALCO employees in five-point Likert scale considering these twenty five parameters. On application of quartile method, the respondents have been classified into three Levels as Low, Medium and High basing on average scores as <3.6, 3.6-4.0 and >4.0 respectively. The distribution of the sample from categories (irrespective of executive and non executives) point of view has been presented in the following Table.

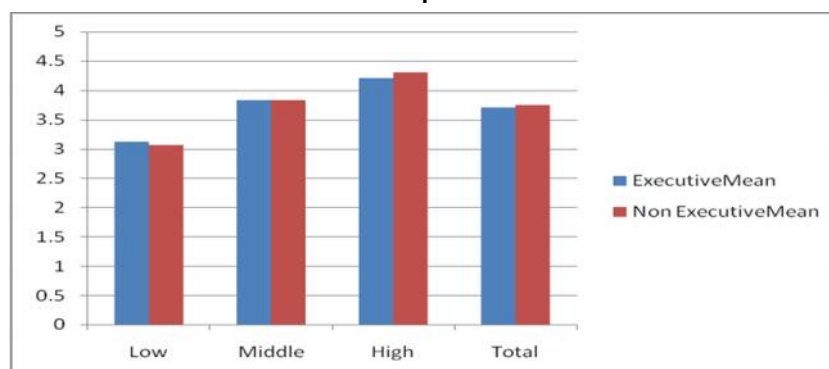
Table 2: Sample Composition in Terms of Knowledge Management Practice Levels

Level	Frequency(No of respondents)	Percentage
Low	122	34.5 %
Middle	110	31.1%
High	122	34.5%
Total	354	100.0%

The above table shows that out of the total sample 34.5 % of employees are having low perception on KM Practices where as 31.1% and 34.5% of employees have medium and high impact of response on KM Practices at NALCO. It is seen that the response of employees are mostly equal distributed so it is pertinent to distinct the views of employees from their categories point of view. The SAQ is distinguished the category of employees in to executives and non executives. The following table shows the average response of executives and non executives of NALCO towards KM Practices from HR Perspectives.

Table 3: Average Responses Towards Knowledge Management Practices by Executive and Non-Executive NALCO Employees of Different Levels

	Level of KM	N	Mean	Std. Deviation
Executive	Low	70	3.12	0.43
	Middle	61	3.83	0.09
	High	67	4.21	0.19
	Total	198	3.71	0.55
Non-Executive	Low	52	3.06	0.48
	Middle	49	3.83	0.10
	High	55	4.30	0.24
	Total	156	3.74	0.61
Total	Low	122	3.09	0.45
	Middle	110	3.83	0.09
	High	122	4.25	0.22
	Total	354	3.72	0.57

Graph 1

The above Table/ graph represents the average opinion of NALCO employees towards knowledge management practices. In consideration of the mean values, Executives having low opinion (3.12) are of neutral opinion whereas medium (3.83) and high (4.21) executives have expressed satisfaction over it. With the same consideration of the mean value Non-Executives having low opinion (3.06), having neutral opinion (3.83) and having high opinion (4.25) expressed their perception level.

Table 4: Level of Responses towards KM Practices of the Employees Considering Qualifications as Factor

Qualification		Executives				Non-Executives			
		Level of KM Practices			Total	Level of KM Practices			Total
		Low	Medium	High		Low	Medium	High	
UG Tech	Number	21	12	17	50	23	13	21	57
	Percentage	10.6%	6.1%	8.6%	25.3%	14.7%	8.3%	13.5%	36.5%
UG Non-Tech	Number	8	15	9	32	13	14	7	34
	Percentage	4.0%	7.6%	4.5%	16.2%	8.3%	9.0%	4.5%	21.8%
PG Tech	Number	38	28	32	98	15	17	15	47
	Percentage	19.2%	14.1%	16.2%	49.5%	9.6%	10.9%	9.6%	30.1%
PG Non-Tech	Number	3	6	9	18	1	5	12	18
	Percentage	1.5%	3.0%	4.5%	9.1%	0.6%	3.2%	7.7%	11.5%
Total	Number	70	61	67	198	52	49	55	156
	Percentage	35.4%	30.8%	33.8%	100.0%	33.3%	31.4%	35.3%	100.0%
Chi-Square		9.067 ^{NS} (DF=6)				15.374* (DF=6)			

N.B:- * - Significant at 5% level for DF = 6, NS – Not Significant at 5% level for DF = 6.

Graph 2: Level of Responses towards KM Practices of the Employees Considering Qualification as Factor

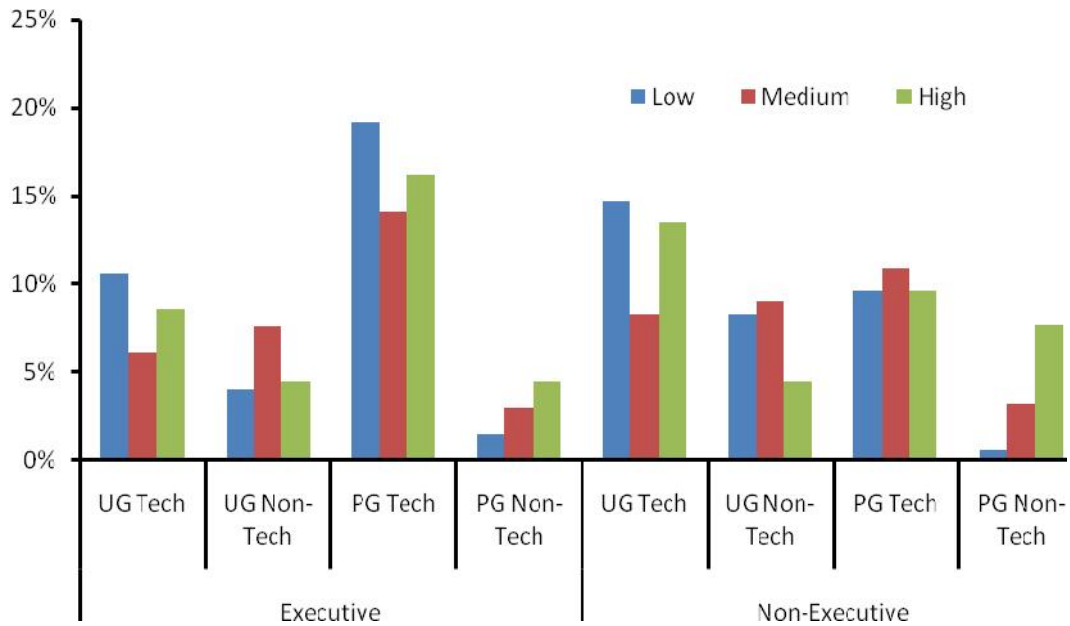


Table 4 above represents the cross-tabulation between numbers of respondents from different qualification groups with their level of KM practices. In case of executives, the calculated Chi-square value (9.067) has been found to be non-significant at 5% level ($P > 0.05$) for degree of freedom 8. This accepts the hypothesis H_1 . Accordingly, maximum response is obtained in case of PG technical group having low KM Knowledge (19.2%) and minimum response is obtained in case of PG Non- technical having low KM practices (1.5%). Further, in case of non-executives, the calculated Chi-square value (15.374) has been found to be significant at 5% level ($P < 0.05$) for degree of freedom 8. This rejects the hypothesis H_2 .

Conclusion and Suggestion

Considering the above analysis and the presented cross tabulation table between number of respondents from different qualification with their level of KM practices the following observations are made:

- The sample explains 8.6 percentage of executive employees from UG Technical shows high level of KM practices, 10.6 percentage responses low level and 6.1 percentage of employee's views are neutral. From the same qualification of non executive 8.3 percentage employees response shows neutral, 13.5 percentage employees high level and maximum 14.7 percentage views low level response in relation to KM practices.
- The sample explains 4.5 percentage of executive employees from UG Non Technical shows high level of KM practices, where as 4.5 percentage responses is from low level and 7.6 percentage middle level. From the same UG Non Technical of non executive 9.0 percentage employees are of neutral level response where as 8.3 percentage employees responses is from low level and 4.5 is from high level.
- The sample explains that maximum 14.1 percentages of executive employees from PG Technical shows middle level of KM practices, 16.2 percentage responses high level and low level and 19.2 percentage of employee's views are of middle level. From the same educational background of non executive 10.9 percentage employees response shows neutral, where as 9.6 percentage employees responses is from low level and high level
- The sample explains 4.5 percentages of executive employees from PG non Technical shows high level of KM practices, 3.5 percentage responses low level and 3.0 percentage of employee's views are neutral. From the same department of non executive 3.8 percentage employees response shows low response where as 4.5 percentage employees responses is from high level and middle level.
- The sample explains 35.4 percentages of executive employees from other then above department shows low level of KM practices, 33.8 percentage responses low level and maximum 30.8 percentages of employee's views are neutral. From other then above department of non executive 35.3 percentage employees response shows high level, 33.3 percentage employees shows low level and 31.4 percentage views low level response in relation to KM practices

Knowledge Management (KM) is newly emerging, interdisciplinary business model. It is rotated in many disciplines, including business, economics, psychology, and information management. It is the ultimate competitive advantage for today's firm. Particularly at NALCO Knowledge management involves people, technology, processes in overlapping part. NALCO adopts the learning mechanism, proper system, awareness of new technologies and change management provides information required to perform the job.

It is suggested that the NALCO should conduct variety of training programs for the employees to develop experience in KM practice, especially to improve the efficiency of KM concepts among the non executives. It is recommended for NALCO to provide the necessary facilities and amenities to their employees to update their knowledge regularly and also there should be the regular interaction between the employees in order to share the updated knowledge. While recruiting the employees, it is advised to include the basic knowledge of KM practices as one of the selection criteria and for new employees it is needed to give a detailed orientation about the KM practices. In modern days, information technology is considered as a very important tool to KM system and it is advised to implement in different function also. It is advised to provide knowledge repository for storing and distributing the information to the right person at right time. All these suggestion can again improve the KM and HRM practices.

References

1. Andrews, K. (2003). Review of selected knowledge e focussed literature working and learning in vocational education and training in the knowledge era. Professional development for the future project.
2. Hertlein, M., Smolnik, S., & Kortzfleisch, H. V. (2011). Towards a framework for measuring knowledge management service productivity.
3. Firestone, J. M. (2001). Keys issues in Knowledge Management. Knowledge and innovation. *Journal of the KMCI*, 1(3).

4. Tripathy, S. K., & Acharya, S. K. (2008). Capturing and Structuring for a High Performance Enterprise. *Value of KM*, 74-78.
5. Whicker, L. M., & Andrews, K. M. (2004). HRM in the knowledge economy: Realising the potential. *Asia Pacific Journal of Human Resources*, 42 (2), 156-165. Dalkir, K. (2005). *Knowledge Management in Theory and Practice*. elsevair publication.
6. Debra, M. Amidon. (1997). *Innovation Strategy for the Knowledge Economy: The Ken Awakening*, Butterworth-Heinemann.
7. Dessler, G., Griffiths, L., Lloyd-Walker, B. & Williams, A. 1999, *Human Resource Management*, Prentice -Hall, New Jersey. Hair, J. F., Jr., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis* (5th ed.). New Jersey: Prentice-Hall.
8. Hair. J.F., Babin, B., Money, A.H. & Samuel, P. (2003) *Essentials of Business Research Methods*. New Jersey: John Wiley & Sons
9. Hall, E. T. 1966. *The hidden dimension*. Garden City, NY: Doubleday.
10. Havard business school press.
11. Hellriegel and Slocum: *Organisational Behaviour*, Thomson Learning, High Holbom House, 50/51, London, 2005.
12. Mark, W., McElroy. (2002). *The New Knowledge Management*, HB publication.
13. Nath K., & Pandey. (2016). *Paradigms of Knowledge Management: With Systems Modelling Case Studies*, springer.
14. Pfeffer , J., Robert I., & Sutton. (1999). *The Knowing-Doing Gap: How Smart Companies Turn Knowledge into Action*, Havard BUSINESS school press.

