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Organizational Behavior and Human Resource Management in Clinical Laboratories: A Comprehensive Review

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Abstract
Clinical laboratories are central to disease diagnosis, management, and public health. Optimizing their productivity and efficiency requires a robust research framework. This review explores the application of system model (SM) and employee value chain (EVC) approaches from organizational behaviour (OB) and human resource management (HRM) in igniting productivity and efficiency in the clinical laboratory ecosystem. Secondary data and oral interviews were collated to validate the efficiency and productivity of organizational behaviour and human resources management in the clinical laboratories. The results of studies revealed that OB and HRM are suitable models in enhancing efficiency and productivity in clinical laboratories using secondary data and oral interviews. Furthermore, SM and EVC approaches extracted from OB and HRM were found to be preferred subsets. The OB and HRM approaches should be factored into the total quality management system in the clinical laboratories to enhance efficiency and productivity.
Keywords: Clinical laboratory, organizational behaviour, human resources management, system model, employee value chain.
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1. Introduction

Organizational behaviour (OB) examines how individuals, groups, and organizations interact and influence one another for the purpose of improving employee performance within an organization (Rafacz, 2019). However, it is largely used within the field of business management to understand and manage groups of people more effectively. The reason businesses adopt OB is that it can help organizations enhance employee performance while also fostering a positive work environment. The field examines the impact of various factors on behaviour within an organization (Rafacz, 2019; Daniels and Bailey, 2014; Daniels and Daniels, 2007).

Understanding organizational behavior can help companies and businesses create and cultivate a positive culture and work environment that will ultimately improve the organization as a whole. Benefits of organizational behavior have been shown to include: improved employee satisfaction, increased customer satisfaction, increased innovation, increased productivity and performance, Increased trust between employees and the company/management, better communication within the organization, bringing out leadership qualities of employees, employees are more likely to behave ethically, reduction in employee burnout, reduction in worker attrition and turnover (Rafacz, 2019; Daniels and Bailey, 2014; Daniels and Daniels, 2007).

The construct, human resource management (HRM), focuses on managing people in organization and encompasses broader areas as staffing, retention, compensation, performance management and change management. Human resource management prioritizes staff and organization goals and further seeks staff motivation and engagements (Daniels and Bailey, 2014).

Effective staff motivation and engagements is crucial organizational success, this should be true for healthcare institution. The healthcare ecosystem is made of various departments and services, of which clinical laboratories form the core in disease diagnosis, management, and surveillance. Clinical laboratories are healthcare facilities providing a wide range of laboratory procedures that aid clinicians in diagnosing, treating, and managing patients (Plebani, 1999). These laboratories are manned by scientists trained to perform and analyze tests on samples of biological specimens collected from patients. The construct, clinical laboratories, is used interchangeably with medical laboratories, and the usage varies from continent to continent and country to country.

The major practitioners and operators of clinical laboratories are the clinical laboratory scientists or medical laboratory scientists. In some climes, the nomenclature, biomedical scientists or medical technologists are employed. In addition, clinical laboratories may employ pathologists and other allied staff (Scanlan *et al.,* 2013).

Despite their critical roles, managerial inefficiencies can compromise the effectiveness of clinical laboratories, hence the need for an OB and HRM framework.

This scientific research addresses the following questions:

- What is the role of organizational behavior in clinical laboratories?
- What is the role of human resources management in clinical laboratories?
- Synergically, what is the role of organizational behavior and human resources management in clinical laboratories?
- Does organizational behavior management positively affect clinical laboratory practitioners in the clinical laboratories?
- Does human resources management positively affect clinical laboratory practitioners?

This research will address the above research questions using oral interviews and secondary data pulled from journals and other ancillary platforms. The findings of this study could be of use in efficiently and productively managing the clinical laboratories.

2. Research Framework

This study employed two distinct research models commonly used in the constructs of organizational behavior and human resource management. These models are a collegial model for organizational behaviour and an employee value chain for human resource management. The synergy of these models as it impacts management of clinical laboratories and the clinical laboratory practitioners will be interrogated using oral interviews and secondary research data. However, it is pertinent to briefly describe these constructs as they will form the base of this systematic literature review.

System Model

There are five models of organizational behavior that could fit into several concepts but have various applications and outcomes. The models are autocratic, custodial, supportive, collegial, and system. However, this study employed the system model.

The system model is the most contemporary model of the five models discussed in this article. In the system model, the organisation looks at the overall structure and team environment, and considers that individuals have different goals, talents, and potential.

The system model intends to try and balance the goals of the individual with the goals of the organisation. Individuals want good remuneration, job security, but also want to work in a positive work environment where the organisation adds value to the community and/or its customers. The system of the model should be an overall partnership of managers and employees with a common goal, and where everybody feels that they have a stake in the organisation.

The Employee Value Chain

The Employee Value Chain is an HR framework that examines how various talent management practices connect to boost workforce and organizational performance. This model consists of four core pillars:

1. Employee Attraction: This refers to the employer branding, recruiting, and hiring processes used to bring new talent into the organization.
2. Employee Development: This pillar focuses on continually developing employees' skills after they have joined the company.
3. Employee Retention: Companies retain top talent by fostering an engaging, supportive work culture.
4. Performance Enablement: Ultimately, stellar attraction, development, and retention strategies enable employees and teams to excel.

These pillars have the propensity to enhance efficiency and productivity in the workplace, which positively impacts the company and the staff. When effectively managed, these four pillars, the employee value chain,

create a talent engine that powers superior individual and organizational performance over the long term. Below is the schematic presentation of the construct.

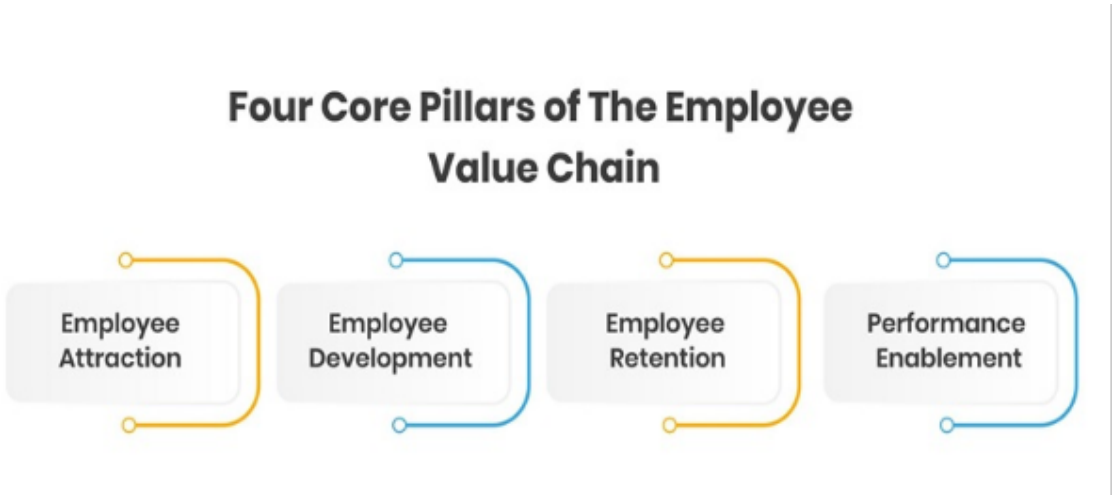

Figure 1: Four Core Pillar of Employee Value Chain
Adapted from Talent Management Institute (2025)

3. Methodology

Study area

The oral interview component of the study was conducted between March 2024 to March 2025 in the Eight Local Government Areas of Bayelsa State, Nigeria. However, the secondary data were harvested from verifiable online journals and other ancillary platforms. Bayelsa State was carved out of the old Rivers State in 1996, with its headquarters in Yenagoa. The state is located at latitudes 4º 51´N and 5º 22´N and longitudes 6º 12´ E and 6º 33´ E (Bayelsa State Government, 2024).

Search Strategy and Data Sources

The systematic literature review method was utilized in this study, involving the use of oral interviews and secondary data, in which all relevant papers relating to an area of study domain are located, explored, and interpreted (Webster & Watson, 2002). The systematic literature search was completed by searching papers that address the relationship between OB and HRM in clinical laboratories and their practitioners. The online platforms used included Science Direct (Procedia social and behaviour sciences), Francis and Taylor, Research Gate, Scopus, Google Scholar, Google, and other references on OB and HRM.

Table 1: Names of Journal Platforms and OB

S/N	Names of Journals	Number of Articles
1	Google Scholar	65,000.00
2	Scopus	100
3	Taylor and Francis	82
4	ResearchGate	400

Table 2: Names of Journal Platforms and HRM

S/N	Names of Journals	Number of Articles
1	Google Scholar	903,000.00
2	Scopus	1051
3	Tylor and Francis	110
4	ResearchGate	634

Table 3: Type of General Word Sources

S/N	Keywords	Translations	Number of Articles
1	Search words	Organizational Behaviour and Clinical Laboratories	>200
2	Search words	Human Resources Management and Clinical Laboratories	>200

Table 4: Types of Specific Word Sources

S/N	Keywords	Translations
1	Search words	Role of organizational behavior management in clinical laboratories
2	Search words	Role of organizational behavior management in clinical laboratories
3	Search words	Role of human resources management in clinical laboratories
4	Search words	The synergic role of organizational behaviour and human resource management in clinical laboratories
5	Search words	Organizational behaviour management effect on clinical laboratory practitioners in the clinical laboratories
6	Search words	Human resources management effect on clinical laboratory practitioners in the clinical laboratories

3.2. Selection Criteria

The following are the criteria used for the selection of articles and information used in the review;

1. Research in the field of OB and HRM and the impact on clinical laboratories.
2. Research in the field of OB and HRM and the impact on clinical laboratory practitioners.
3. Studies published in English during 2004 - 2024.
4. Articles whose sample consists of clinical laboratories, clinical laboratory scientists, technologists, and technicians.

Articles that failed to find a relationship between the mentioned variables in Table 4

were excluded, whereas those suitable were included and buttressed in the discussion section.

Sample Collection and Collation

The pool of data obtained from the search engines on OB and HRM on above above-stated platforms, as stated in Tables I & 2 is in thousands. The search was then stereotyped into the specifics as shown in Tables 3 & 4. The articles were less than 200 on the various platforms used. Ten percent (10%) of the most suitable articles were used to interrogate the research questions.

However, after review and analysis, repetition and unclear data were removed to ultimately obtain 20 samples from different places that met the initial inclusion criteria. The samples included are those extracted from clinical laboratories and a few from similar hospital-based departments. Table 5 is a summary of the selection and number of articles used for the review.

Table 5: General Information

Type of Data	**Secondary Data**
Area of Study	Bayelsa State, Nigeria
Participants	Clinical Laboratory Professional
Sample size	Total study before exclusion = 25 Total study after exclusion = 20
Study published years	2005-2023
Collections	Search engines and journal platforms.

4. Results

Table 6 is a tabulation of the accepted secondary data used for the review.

Table 6: Result Data Table of Included Articles.

Author (year)	Content of sample	Results
Dargahi (2021)	OB	Positive relationship with clinical laboratories and clinical laboratory practitioners
Jørgensen (2017)	OB	Positive relationship with clinical laboratories and clinical laboratory practitioners
Bamberg *et al*., (2008)	OB	Positive relationship with clinical laboratories and clinical laboratory practitioners
Mosadeghrad *et al*., (2008)	OB	Mild positive relationship with clinical laboratories and clinical laboratory practitioners
Rohani *et al*., (2012)	OB	Positive relationship with clinical laboratories and clinical laboratory practitioners
Mensah & Kosi (2016)	0B	Positive relationship with clinical laboratories and clinical laboratory practitioners
Wilkinson & Dilts (1999)	HRM	Positive relationship with clinical laboratories and clinical laboratory practitioners
Marinucci *et al*., (2013)	HRM	Positive relationship with clinical laboratories and clinical laboratory practitioners
Petti *et al*., (2016)	HRM	Positive relationship with clinical laboratories and clinical laboratory practitioners
lrawahi *et al*., (2020).	HRM	Positive relationship with clinical laboratories and clinical laboratory practitioners
Astuti (2021).	HRM	Positive relationship with clinical laboratories and clinical laboratory practitioners
Nkala *et al*., (2021).	HRM	Positive relationship with clinical laboratories and clinical laboratory practitioners
Paul & Singh (2023).	HRM	Positive relationship with clinical laboratories and clinical laboratory practitioners
Poh *et al*., (2022).	HRM	Positive relationship with clinical laboratories and clinical laboratory practitioners
Hamouche (2023).	HRM	Positive relationship with clinical laboratories and clinical laboratory practitioners
Sija (2022).	HRM	Positive relationship with clinical laboratories and clinical laboratory practitioners.
Ștefan *et al*., (2020).	HRM	Positive relationship with clinical laboratories and clinical laboratory practitioners
Surji & Sourchi (2020).	HRM	Positive relationship with clinical laboratories and clinical laboratory practitioners
Razu *et al*., (2021).	HRM	Positive relationship with clinical laboratories and clinical laboratory practitioners
Gittell *et al*., (2013)	HRM	Positive relationship with clinical laboratories and clinical laboratory practitioners

Legend: OB- Organizational behaviour; HRM-Human Resource Management

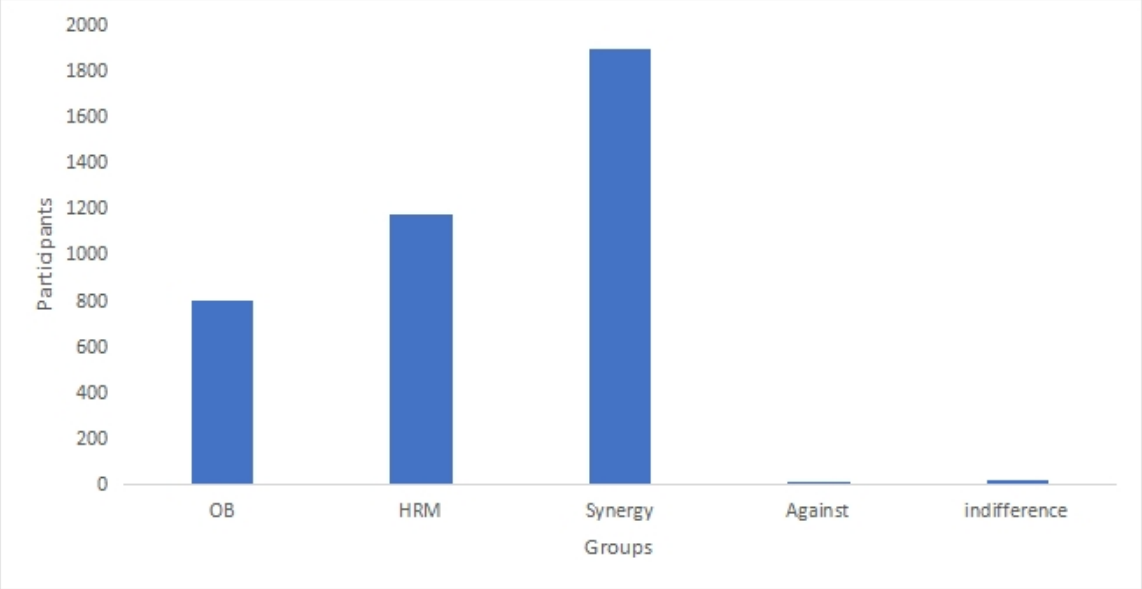

Figure 2: Respondents to the Efficiency of OB and HRM in Clinical Laboratories

Figure 2 shows an affirmation of 1900 for synergy, followed by HRM with 1180, OB 800, indifferent 18, and against 2 of the total 2000 clinical laboratory practitioners' samples.

5. Discussion

The crucial role of organizational behavior (OB) and human resources management (HRM) in the industrial ecosystem is not disputable based on the quantum of research findings and scholarship (Rafacz, 2019; Cameron *et al.,* 2001; Cameron and Pierce, 1994). These concepts could be extended to the clinical sectors; however, there seems to be a paucity of literature in clinical laboratories, the core of this review. The clinical laboratories are pivotal to disease diagnosis, management, and public health. Hence, a review becomes pertinent and apt for effective enhancements of services rendered by the clinical laboratories.

As applicable in other industrial ecosystems, the synergy of OB and HRM could catalyse efficiency and productivity in the clinical laboratories. Organizational behaviour is a term used to explain the concept of the behaviour of individuals who constitute the human elements of an organization. This is related to human resources, which is a concept that is used to describe the management of employees in any organization. From the description of the two terms, it is easy to see how organizational behaviour (OB) and human resource management (HRM) are related. Organizational behaviour looks at individual behaviour, and then moves to group behaviour, progressively to the organization behaviour, which we can also call the organization culture (Rafacz, 2019; Cameron *et al.,* 2001). It requires skills to understand how the organization and its members affect each other. Its areas include frameworks for diagnosing and resolving problems in organizational settings.

Therefore, it could be inferred that the field of organizational behaviour and human resource management deals with the behaviour of individuals and groups within organizations. They investigate the enhancement of the effectiveness of an organization's human capital in order to gain a competitive advantage and achieve organizational goals. These models, if infused into the clinical laboratories, could enhance efficiency, productivity, and competitiveness.

This review was therefore explored to use these models to investigate their suitability in the clinical laboratory ecosystem using secondary data and an oral interview (Table 5 & Figure 2). The secondary data used all pointed, except one, to the usefulness of HRM and OB in catalysing the efficiency, productivity, and competitiveness of

the clinical laboratories and their practitioners. This was further buttressed by the oral interview conducted as presented in Figure 2.

The main results of the secondary data and the oral interview (Table 5 & Figure 1) of the constructs of the study have revealed the integral roles in the efficiency of the clinical laboratory ecosystem.

Organizational behaviour and human resource management have a direct and indirect impact on employee performance and the productivity of the clinical laboratory ecosystem based on the results. This was supported by 99.9% of the 20 publications reviewed, coupled with the oral interviews administered. The high acceptance of this model could be due to human face tendencies and the high productivity, resulting in a win-win approach.

Furthermore, the proposed system model (SM) and employee value chain (EVC) research framework have the propensity to transform the clinical laboratory ecosystem more efficiently. These models have also been applied in other spheres, resulting in an efficiency outcome (Ajayi and Laseinde, 2011; Drobyazko, S., 2019; Devaux & Andre. (2018).

Organisational behaviour and human resource direction (HRM) play crucial roles in the success of any organisation. In today's free enterprise, concerns surround companies that recognise the significance of these two disciplines and their wallop on employees' overall execution and productivity. The grandness of organisational behaviour and HRM, their key concepts, the synergy between them, their applications in the business reality, challenges faced, and futurity trends will in no measure improve upon the efficiencies and productivities of applying companies. These could be exemplified by the success stories of the applying companies and industries.

Conclusion

This review has established the positive impact of organizational behaviour (OB)and human resource management (HRM) on the efficiency and productivity of the clinical laboratories and the attendant positive effects on the practitioners and the management. Furthermore, the application of the system model (SM) and employee value chain (EVC) concepts of OB and HRM will in no small measure catalyse the efficiency of the entire clinical laboratory ecosystem.

Recommendations

The need for the applications of these concepts in clinical laboratories and, in extension, the health care system is recommended. Furthermore, there is still a need for more research on the synergy of OB and HRM on the technical aspect of the clinical laboratory ecosystem.

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Conflicts of Interest

The author declares no conflict of interest

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