# An Evaluation of Human Resource Engagement Practices: An African Context

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#### **Abstract**

Human resources are strategic assets essential for implementing and executing business objectives. Intricate business operations of large multinationals are intended to add value by transforming inputs into productive outputs. These inputs are inclusive of human resource (labour), supplies, factory overhead, materials, energy, and machinery. Outputs comprise products and services. The effectiveness of business outputs is highly dependent on the optimal and efficient performance of corporate inputs. This research focuses on human resources as a corporate input. The efficient utilisation of human resources relative to corporate sustainability and competitiveness is considered. The dynamic nature of the corporate sector has resulted in business units exploring productive approaches to enhance sustainability and competitiveness. This research aims to identify, define and explore key human resource levers together with recommending solutions towards enhancing human resource efficiency. The role of the identified human resource levers influencing enterprise operations and objectives are investigated. Nigeria as a subset in the Africa context is explored to illustrate the efficient utilisation of selected human resources levers. Best practice questions are developed, explored and empirically tested, with a sample from the manufacturing sector in the Nigeria context. The results, as documented, is a significant tool for enterprise practitioners specific to corporate assessment, testing, and implementation of key human resource strategies.

## **Keywords**

Business operations, Human resource efficiency, Human resource levers.

## 1. Contextual Background

Business entities are exploring sustainable practices towards developing tools for assessing organisational performance. This ensures business units remain stable and competitive with the demanding states of the dynamic corporate world. Business processes are essential operations executed in implementing any corporate set targets or objectives. This corporate terminology is described as a sequence of related operations executed towards the delivery of goods and services accomplishing a defined business objective (Fosso & Mishra, 2017 and Lehnert, et.al, 2017). The execution of business processes has a significant impact on business performance, effectiveness together with competitiveness. Several business processes variables contribute significantly to the execution of business processes (Medoh & Telukdarie, 2016). A comprehensive list of business process variables impacting on business processes is detailed in (Medoh & Telukdarie, 2017). This research focuses on investigating the role of human resource business process variable relative to impacting on corporate effectivity, competitiveness, and sustainability. Human resources are described as a collection of the workforce involved in executing corporate functions (Vicki, 2016). Collings & Wood described human resources as corporate critical assets impacting on business productivity. Human resource efficiency refers to the optimal utilisation of human resources based on global best practice

management benchmarks. Human resource management describes a formal framework developed for the management of enterprise labour most often referred as human capital (Paauwe & Boon, 2009; Johnason, 2009). Enterprise practitioners have employed several benchmark management practices relative to human resource management since the 1980's (Gabcanova, 2012 and Tootell, et.al. 2009).

This research explores essential human resource levers having great impacts on business process execution and corporate productivity specifically human resource engagement. A framework for enhancing human resource efficiency resulting in corporate sustainability and competitiveness is developed. Human resource engagement refers to a business management paradigm describing the cognitive degree of emotional dedication and rational enthusiasm a human resource feels towards a job and colleagues (Eldor & Harpaz, 2016). Human resource engagement is often paraphrased to describe a human resource state of mind and what human resources are willing to offer the business unit over a large expanse of time. This is inclusive of values, long time goals and career objectives (Lalatendu & Sajeet, 2017). This business management paradigm is most often confused with human resource satisfaction. Human resource satisfaction simply refers to the comfortable or content state of a human resource towards a defined job (Raziq, & Maulabakhsh, 2015 and Schmidt, S.W., 2007). Both business management paradigm is statistically significant to corporate productivity but is different in definitions, measurement, and applications. Human resource engagement has a statistically significant influence on human resource satisfaction (Anton, et.al. 2017). Numerous literature promotes on the importance of effectively linking human resource engagement and corporate productivity (Nienaber, 2017 and Artyom & Nicola, 2017). The positive outcomes of an effective linkage cannot be overemphasized. The more inefficient utilisation of human resource levers results to a greater feasibility of disruption to corporate operations (Eckerson, 2009). Several tools have been defined for enhancing human resources (Srimannarayana, 2010).

This research develops, explores and test the best practice questions via questionnaires in the Nigeria context to implement the stated research objectives. The first step towards executing this research is identifying and defining essential human resource levers. This research aligns with the stated guidelines established by (Hursman, 2010 and Cronin, 2007) in identifying human resource levers and performance indicators. The relationships existing between selected human resource levers and corporate sustenance is explored based on quantitative techniques. Literature presents the necessity to demonstrate existing relationships between human resource levers together with corporate objective, goals, and strategies (Griffin, 2004). A strategy paradigm consisting key human resource levers, performance indicators and recommendations is developed. Secondly, the research explores literature which effectively defines best practice benchmarks for designing questionnaires and develops questions to test the research stated objectives. The research wraps up by analysing collected questionnaires, present discussions, make conclusions and propose recommendations based on the research implications.

This research explores literature which effectively defines questionnaire design and human resource engagement benchmarks. The review aims to provide best practice protocols and in-depth understanding of publications focusing on stated research objectives. Based on information collected from literature, questions via questionnaires to test the current state of human resource engagement practices within the Nigeria manufacturing corporate space is developed. The questions aim at presenting a consolidated framework of benchmark data relative to enhancing human resource engagement. The data are valuable and essential for enterprise practitioners involved in optimizing and enhancing human resource efficiency. Questionnaire design results to a framework for researchers to present a holistic view and detail understanding of research limitations in a defined context (Simons, 2009). This allows for in-depth together with multi-facet investigations of complex research limitations (Easton, 2010). Questionnaires are an effective tool for research evaluation together with problem-solving (Cooper & Schindler, 2008). This research explores best practice human resource engagement benchmarks in developing questions via questionnaires.

#### 2. Methodology

The core research methodology adopted by the researchers is the utilisation of questionnaires for testing best practice human resource engagement benchmarks in the Nigeria manufacturing business space. Questionnaires are an effective tool for gathering research data (Siniscalco & Auriat, 2005). Questionnaires are inexpensive research tool consisting succession of questions together with prompts utilized for collecting data from respondents (Telukdarie, 2016). A conceptualised methodology for this research is presented in Figure 1. This approach allows for the collection, integration, and interpretation of multiple sources of data (Easton, 2010; Simons, 2009; Cooper & Schindler, 2008). Developed research questionnaires are distributed among top management human resources across all corporate designations. Distinct sets of questions are stated based on individual human resource engagement

benchmarks detailed. The questions together with responses are designed in a standardized manner aligning with best practice benchmarks detailed in (Telukdarie, 2016). This ensures easier, effective and simpler compilation together with efficient collection and evaluation of data. Information on the current state of the defined research objective is explored and recommendations are proposed towards enhancing human resource efficiency.

Selected manufacturing business units in the Nigeria context is investigated. The research considered corporate size and business entities with a minimum of 100 human resource personnel are explored. Based on statistical information gathered from the Nigeria manufacturing database reviewed in literature (Proshare, 2014; Ojo & Ololade, 2013; Sola, et.al. 2013; Onuoha, 2012; Anyanwu, 2000). A total of 400 questionnaires are designed and distributed which accounts for a larger percentage of registered manufacturing corporates in the core business hub of Nigeria.

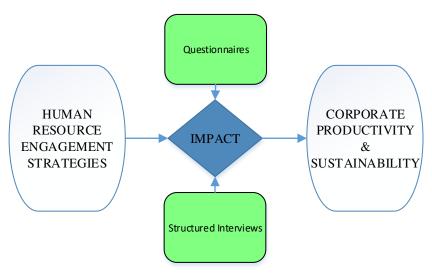


Figure 1. Research methodology

The researchers distributed 400 questionnaires via a web based platform, with 235 returned and utilised for data analysis via quantitative techniques. A few of the questionnaires are incompletely filled, while some questionnaires not returned at the time of compiling data. The researchers proceeded with the collected questionnaires available after gentle reminders via emails and telephone follow-ups to respondents on defined research timeline. The total questionnaires utilised are more than 52% of total questionnaires distributed which is an effective and more than minimum response sufficient for analysis from an online survey tool (Brynard, et.al. 2014; Greenlaw & Brown-Welty, 2009; Leysen & boydston, 2009). The research data collected are analysed based on quantitative techniques. Myers describes quantitative research as a descriptive research which considers formal measures of intentions, beliefs and actions for statistical analyses. These are inclusive of questionnaires together with systematic observations (Babbie, 2010). Quantitative analysis allows for detail quantification in the analysis together with collection of research data (Stangor, 2011).

Quantitative methods support the adoption of a closed survey approach in the collection of research data presented in the form of tables, charts, percentages and numbers (Ngulube, 2009). This research aggregates developed questionnaire as a Likert scale with closed-ended set of ratings depending on required response. The questions though close-ended are mutually exclusive and exhaustive. The research adopts the close survey approach as a result of the research timeline. Closed-ended set of questions is quick to respond, improves response consistency, less expensive and easily analysed statistically (Reja, et.al. 2003). Target respondents are required to select from a set of scale rating options such as "1 = Strongly Disagree"; "2 = Disagree"; "5 = Strongly Agree". The data collected from the questionnaire is supported with structured interview sessions with few selected target corporates.

The research survey and interview, conducted in December 2017 includes a questionnaire grouped into five sections. Each section is accompanied by series of best practice human resource engagement questions. The research questions are structured based on the definition, importance and strategies of human resource engagement benchmarks. Human resource engagement protocols are relatively new in business units (Eldor & Harpaz, 2016 and

Anton, et.al., 2017). Section A of the questionnaire explores on the definition of human resource engagement definition. This section surveys to ascertain the level of perception to the definition of human resource engagement. The importance of executing a comprehensive research relative to the role of human resource engagement in enhancing corporate productivity cannot be overstated (Nienaber, 2017 and Artyom & Nicola. 2017). Section B investigates for the availability of corporate measures in business units relative to innovation, development and advancement structures. Best practice benchmarks on the capture, guidance, implementation and retention of human resource engagement tools is limited (Lalatendu & Sajeet, 2017 and Eldor & Harpaz, 2016). Sections C, D & E explores for the development of human resource engagement strategies. The research explores these sections intending to add a significant contribution to the existing body of knowledge relative to human resource engagement practices in the Nigeria manufacturing context. The questionnaire distribution is web-based to facilitate swift collection of research data. Online approach for questionnaire design and distribution is a faster medium for data collection (Powell & Connaway, 2004 and Fowler, 2002). An overview of the questionnaire construct is presented in Table 1.

Table 1. Questionnaire construct (Lalatendu & Sajeet, 2017 and Eldor & Harpaz, 2016)

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SECTION	CATEGORIES	QUESTIONS
1	Human resource engagement defined.	<ul><li>(a) Human resources understand the definition of human resource engagement.</li><li>(b) Distinguishing human resource engagement from human resource satisfaction.</li></ul>
2	Availability of corporate measures for innovation, development, and advancement.	<ul> <li>(a) Are there corporate measures for innovation, development, and advancement?</li> <li>(b) Importance of linking human resource engagement and corporate productivity understood.</li> </ul>
3	Human resource engagement strategies developed.	<ul><li>(a) Will you be interested if human resource engagement strategy is developed in the business unit? This is inclusive of tools to drive and measure this business paradigm.</li><li>(b) The appropriate tools to drive and measure human resource engagement strategy is understood.</li></ul>
4	Human resource engagement responsibility defined	(a) Who is responsible for effectively implementing human resource engagement activity?
5	Timeline for executing human resource engagement practices.	(a) What timeline is best to execute human resource engagement practices?

The questionnaires design is web-based via google online platform and e-mails with direct links accompanied with a cover letter is distributed to target respondents. The researchers assured the respondents of strict confidentiality and explained the research results is purely for academic purposes. The questions detailed in Table 1 generally contain questions to obtain demographic data on current state of human resource engagement practices within selected Nigeria manufacturing corporate space. Each section defines benchmarks questions and protocols towards investigating and enhancing the role of human resource engagement in facilitating corporate productivity. Despite the clamour for an automated corporate paradigm (artificial intelligence, machine learning, robots), certain roles still exist that computers cannot execute. This overemphasizes the importance of human resources. Hence, seeking measures to enhance human resource efficiency is a necessity for business units.

## 3. Empirical Validation of the Research

The proposed research methodology presents an effective paradigm for exploring the relationships between best practice human resource engagement benchmarks and corporate sustainability. The evidences presented in this research is specific and structured relative to each defined human resource engagement benchmark. This research considered and addresses four validity concerns when implementing an empirical research method.

• Does the questionnaire construct serve to validate information available on the real world system under investigation?

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- Is the observed or estimated human resource engagement benchmarks and relationships aligned to international best practice?
- Is the sample space selected for investigation and analysis representative of the information collected from the Nigeria manufacturing database?
- How does the research outputs on managerial implications compare to the body of knowledge.

The concerns detailed serves as a guide throughout the execution of this research and are effectively addressed. The findings collected from the validation process facilitates insight into the relative strength of the questionnaire responses and research objectives.

## 4. Result/Analysis

This research adopts a quantitative approach utilising the Statistical Package for Social Science (SPSS) version 20 tool for analysing data. SPSS is a quantitative window-based tool efficient for performing large data entry gathered from questionnaires. The input data are analysed, and results presented as tables or graphs in form of bar charts, pie charts, scatter plots. Etc. The research ensures the reliability and validity of the data. Reliability measures for the degree of consistency in the collected data and results while validity testing investigates if the data collected reflects and measures the stated objective of the research. The next subtheme discusses the validity of the research. For reliability testing, the SPSS tool considers probabilistic estimates of numerical data essential towards understanding research results (Cooper & Schindler, 2011). Mean and standard deviation are calculated to ascertain the average perceptions and variations in data testing for the homogeneity or reliability of collected data. Results analysed per questionnaire section is presented in the subthemes below.

#### Section 1: Human resource engagement defined.

(a) Human resources understand the definition of human resource engagement.

The level of perception to the definition of human resource engagement is explored amongst respondents. The responses analysed are presented in Figure 2. From a total of 235 feedback gathered, "80 respondents (34%) do not understand human resource engagement definition", "31 respondents (13%) understand human resource engagement definition", "66 respondents (28%) partially understood human resource engagement definition and "16 respondents (7%) remained neutral".

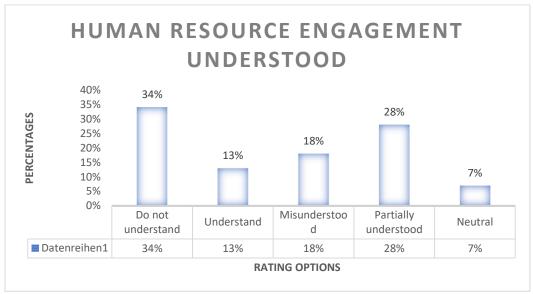


Figure 2. Human resource engagement understood

(b) Distinguishing human resource engagement from human resource satisfaction.

The second part of section 1 seeks to determine respondent's perception at distinguishing between human resource engagement and human resource satisfaction. The responses analysed are presented in Figure 3. From a total of 235 feedbacks gathered, "110 respondents (47%) indicates both business management paradigm is same", "59 respondents (25%) affirms both business management paradigm is different", "38respondents (16%) established

human resource engagement is a subset of human resource satisfaction" and "28respondents (12%) remained neutral".

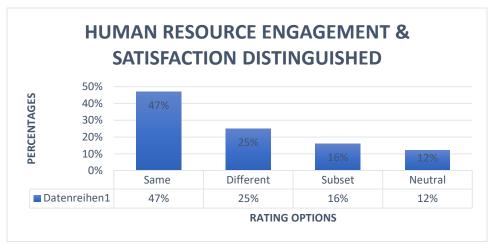


Figure 3. Human resource engagement & satisfaction distinguished

The results presented in Figure 2 & 3 indicate the concept of human resource engagement is still poorly understood across business entities. The research recommends more awareness sensitizations programmes relative to human resource engagement education to be implemented in corporate entities. This will enhance awareness and educate human resources on the objectives and importance of human resource engagement protocols. There are challenges in implementing business management paradigms where knowledge about the concepts is limited or not available.

## Section 2: Availability of corporate measures for innovation, development, and advancement.

(a) Are there corporate measures for innovation, development, and advancement? The responses analysed from 235 feedbacks collected are presented in Figure 4. Feedbacks gathered indicates "134 respondents (57%) Available", "52respondents (22%) not available" and "49respondents (21%) not clear".

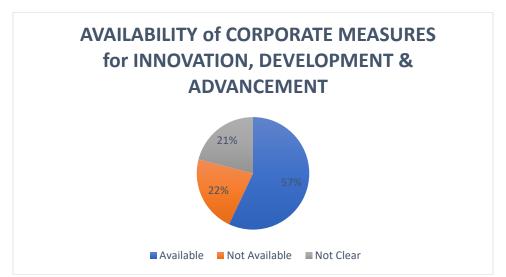


Figure 4. Availability of corporate measures for innovation, development & advancement

(b) Importance of linking human resource engagement and corporate productivity understood. The responses analysed from 235 feedbacks are presented in Figure 5. Feedbacks gathered indicates "26respondents (11%) do not understand", "181respondents (77%) understand", and "28 respondents (12%) not clear".



Figure 5. Importance of linking human resource engagement & corporate productivity understood

The results presented in Figure 4 indicates despite the availability of corporate measures for innovation, development, and advancement, few respondents remain unclear about its effectiveness. This might be as a result of limited effective best practice management measures in place. These include tools together with an optimal structure to support and drive corporate innovation, development and enablement measures. Figure 5 illustrates human resources quite understand the importance of effectively linking corporate measures for innovation, development, and enablement with business productivity. The benefits of human resource engagement as a corporate measure for development cannot be overemphasized as detailed in (Charles, 2006). The literature details the effectiveness of this business management tool and presented a synopsis of measures which can be aligned relative enabling this corporate management paradigm.

## Section 3: Human resource engagement strategies developed.

(a) Will you be interested if human resource engagement strategy is developed in the business unit? This is inclusive of tools to drive and measure this business paradigm.

The responses analysed from 235 feedbacks collected are presented in Figure 6. Feedbacks gathered indicates "59respondents (25%) interested, available & effective", "80respondents (34%) interested, available & not-effective", "91respondents (39%) interested & not available and "5 respondents (2%) remained neutral".



Figure 6. Interest in human resource engagement strategy

(b) The appropriate tools to drive and measure human resource engagement strategy is understood. The responses analysed from 235 feedbacks are presented in Figure 7. Result indicates "136respondents (58%) are Clear" and "99respondents (42%) not clear".



Figure 7. Understanding tools to drive & measure human resource engagement strategy

The research infers from results presented in Figure 6 & 7, lots of corporate entities still requires awareness education on effective tools to drive and measure the human resource engagement philosophies. Numerous literature presents a synopsis of these tools and measurement strategies. Some of the tools are inclusive of stay-interviews, pulse surveys, and job crafting.

#### Section 4: Human resource engagement responsibility defined.

Successful human resource engagement implementation and practices require human resources who play a key role in making the human resource engagement practices an integral constituent of regular business activities. The human resources designations defined in (Medoh & Telukdarie, 2016) are adopted in exploring this section. These designations include "Executives", "Managers", "Supervisors", "operations" and "manual". This research, however, groups the last three designations as employees (supervisors, operations, manual).

(a) Who is responsible for effectively implementing human resource engagement activity? The feedbacks analysed from 235 respondents are presented in Figure 8 and indicates "45respondents (19%) Executive", "122respondents (52%) Managers" and 68respondents (29%) Employees.





Figure 8. Human resource engagement responsibility

The results presented in Figure 8 indicates the responsibility of implementing human resource engagement philosophies is a collective effort. The survey illustrates respondents directs most of the responsibilities to managers. The larger group of any business unit are the employees and these group of human resources performs the actual field operations. This research can, therefore, infer that despite human resource engagement responsibilities being a collective effort, most of the onus lies on the employees for the effectiveness of its implementation in any corporate unit.

## Section 5: Timeline for executing human resource engagement practices.

The research surveys to determine the perception of respondents on best timelines to execute human resource engagement tools if human resource engagement culture is implemented in the business unit. Five timelines are considered in this research which includes Bi-monthly, monthly, quarterly, Bi-annual and annually.

(a) What timeline is best to execute human resource engagement practices?

The responses analysed from 235 feedbacks are presented in Figure 8 indicating "40respondents (17%) Bimonthly", "119respondents (51%) Monthly", "31respondents (13%) Quarterly", "21respondents (9%) Bi-annual" and "24respondents (10%) annually.

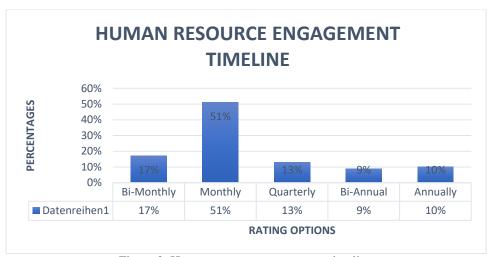


Figure 9. Human resource engagement timeline

The results presented in Figure 9 indicate lots of respondents aligns with the monthly option for human resource engagement timeline. The research agrees with this for large corporates, but the bi-monthly option is suggested for small business units.

## 5. Discussion

This research test for the current state of human resource engagement practices within a Nigeria manufacturing corporate space. Questionnaires and structured interview as the main methodological approach is adopted for data collection and analysis executed via the SPSS tool. Based on the results detailed, the researchers validate the stated objectives of this research. The researchers establishes that a relationship exists between human resource engagement strategies, human resource efficiency, and corporate productivity. The findings illustrate despite the effectiveness of human resource engagement strategies relative to human resource efficiency and corporate productivity, gaps still exist. Many corporate establishments still require awareness sensitizations education on the objectives and importance of human resource engagement protocols. The results indicates limitations in understanding human resource engagement tools and measurements. The research recommends greater awareness drives on human resource engagement tools and measurement to explore gaps, strengths, and priorities essential for improvements. Some of the improvement drivers, as detailed in literature, including but not limited to "starting at the top", "transparency", "appreciation", "visibility", "engagement protocols", "authenticity", flexibility" and "hiring of traits & behaviors". Implementing human resource engagement protocols results in human resource efficiency, enhancing corporate productivity and sustainability. A platform for bringing together all human resource stakeholders on the overall corporate objective of the business units is developed.

#### 6. Conclusion

The research presents a decision-making paradigm promoting the necessity for the development of a human resource engagement scenario in business units. The results are expected to assist stakeholders to explore distinct standpoints relative to human resource efficiency specifically human resource engagement. Overall result summary established scarcity in developing human resource engagement strategies and the necessity to act urgently in this regard. The results indicates most business entities lack a proper understanding of the concept of human resource engagement. The research established few business units with human resource engagement strategies in place still lack proper knowledge and tools on effectively measuring this business management paradigm. Human resource engagement tools inclusive of stay-interviews, pulse surveys and job crafting is recommended for business units developing human resource engagement strategies. This document serves as an additional tool to Medoh & Telukdarie, (2016) in exploring impacts of essential business process variables on corporate functions. This supports the larger objective of developing a sustainable business process model for large multinationals based on industry 4.0 business protocols. Future studies may be directed to exploring how human resource engagement tools and measurement effects on business productivity.

## References

- Anton Vorina; Miro Simonic and Maria Vlasova An Analysis of the Relationship Between Job Satisfaction and Employee Engagement. Published Online: 2017-07-18 | DOI: https://doi.org/10.1515/ethemes-2017-0014, 2017.
- Anyanwu, C.M., Productivity in the Nigerian manufacturing industry. *Research department, central bank of Nigeria*, pp.124-129, 2000.
- Arsanjani, Ali; Holley, Kerrie; Pommier, Jean; Jensen Torp Claus; Antoun, Samuel; Petriuc, Julian, Business process optimization, Part 1: planning for sustained agility and business outcomes, 2012.
- Artyom Shirin and Nicola Kleyn, An Evaluation of the Effects of Corporate Reputation on Employee Engagement: The Case of a Major Bank in South Africa, *International Studies of Management & Organization*, Vol. 47, Iss. 3, 2017.
- Babbie, E., *The practice of social research*, 12<sup>th</sup> Edition. Southbank, Victoria, Wadsworth/Thompson, 2010.
- Brynard, D. Hanekom, S., and Brynard, P., Introduction to research, 3rd ed, Pretoria: Van Schaik Publishers, 2014.
- Charles Woodruffe, The crucial importance of employee engagement, *Human Resource Management International Digest*, Vol. 14 Issue: 1, pp.3-5, https://doi.org/10.1108/09670730610643891, 2006.
- Collings, D. G., and Wood, G., *Human resource management: A critical approach*, In D. G. Collings and G. Wood (Eds.), Human resource management: A critical approach, London: Routledge, pp. 1-16, 2009.
- Cooper, D, and Schindler, P., Business Research Methods, 11th ed, New York, USA: McGraw-Hill, 2011.
- Cooper, D.R. and Schindler, P.S., Business Research Methods, Boston, Mc Graw Hill, 2008.
- Cronin, G., Measuring strategic progress, Choosing and using KPIs, *Accountancy Ireland*, vol.39, no.4, pp.30 -31, 2007
- Easton, G., Critical realism in case study research, Industrial Marketing Management, vol. 39, pp.118-128, 2010.
- Eldor, L. and Harpaz, I., A process model of employee engagement: The learning climate and its relationship with extra-role performance behaviors, *Journal of Organizational Behavior*, vol. 37, no. 2, pp.213-235, 2016.
- Eckerson, W.W., Performance Management Strategies, Business Intelligence Journal, vol. 14, no.1, pp.24-27, 2009.
- Fosso Wamba, S. and Mishra, D., Big data integration with business processes: a literature review, *Business Process Management Journal*, vol.23, no. 3, 2017.
- Fowler, F.J., Survey research methods, Thousand Oaks, CA: Sage, 2002.
- Gabcanova, I., Human resources key performance indicators. Journal of competitiveness, vol. 4, no. 1, 2012.
- Greenlaw, C. and Brown-Welty, S., A comparison of web-based and paper-based survey methods: testing assumptions of survey mode and response cost, *Evaluation Review*, vol. 33, no. 5, pp.464-480, 2009.
- Griffin, J., Developing strategic KPIs for your BPM system, DM Review, vol.14, no.10, 70, 2004.
- Hursman, A. Measure what matters. [online]. *Information management*, 2010, Retrieved from: <a href="http://web.ebscohost.com/ehost/pdfviewer/pdfviewer/vid=48&hid=11&sid=a294ed98">http://web.ebscohost.com/ehost/pdfviewer/pdfviewer/vid=48&hid=11&sid=a294ed98</a>, Accessed October 2017.
- Johnason, P., *HRM in changing organizational contexts*, In D. G. Collings and G. Wood (Eds.), Human resource management: A critical approach, London, Routledge, pp. 19-37, 2009.
- Kubina, M., Koman, G. and Kubinova, I., The possibility of improving efficiency within business intelligence systems in companies. *Procedia Economics and Finance*, Issue 26, pp.300-305, 2015.

- Lalatendu Kesari Jena, Sajeet Pradhan, "Research and recommendations for employee engagement: Revisiting the employee-organization linkage", Development and Learning in Organizations: *An International Journal*, https://doi.org/10.1108/DLO-02-2017-0012, Vol. 31 Issue: 5, pp.17-19, 2017.
- Lehnert, M., Lehnert, M., Linhart, A., Linhart, A., Roeglinger, M., and Roeglinger, M., Exploring the intersection of business process improvement and BPM capability development: A research agenda, *Business Process Management Journal*, vol. 23, no.2, pp.275-292, 2017.
- Leysen, J.M. and Boydston, J.M.K, Job satisfaction among academic cataloguer librarians, College and Research Libraries, vol.70, no.3, pp.273-297, 2009.
- Medoh, C., and Telukdarie, A., Business process quantification: A holistic approach, *America Society for Engineering Management* (ASEM), IAC, (2017).
- Medoh, C., and Telukdarie, A., Enhancing Enterprise Resource Planning and Manufacturing Execution System Efficiency with Simulation-based decision support, *America Society for Engineering Management* (ASEM), IAC, 2016.
- Mouzas, S., Efficiency versus Effectiveness. London, UK: University of Bath, Retrieved from S. Mouzas@ bath. ac. The UK, 2006.
- Myers, M.D., Qualitative research in information systems, Management Information System Quarterly, 1997, vol. 21, no.2, pp. 241-242, 1997.
- Ngulube, P., Research methods in information science, Pretoria: University of South Africa, 2009.
- Ojo, A.S. and Ololade, O.F., An assessment of the Nigerian manufacturing sector in the era of globalization, *American Journal of Social and Management Sciences*, vol. 5, no. 1, pp.27-32, 2013.
- Onuoha, B.C., The environments of the manufacturing sector in Nigeria: Strategies towards vision 20: 2020. *International Business and Management*, vol.5, no. 1, pp.67-74, 2012.
- Paauwe, J., & Boon, C., *Strategic HRM: A critical review*, In D. G. Collings, G. Wood (Eds.) and M.A. Reid, Human resource management: A critical approach, London: Routledge, pp. 38-54, 2009.
- Plotnikov, V. and Leontyev, E., The efficiency of Small Business Management in the Communications Industry: Simulation of the Competitive Environment, *Procedia Economics and Finance*, vol. 27, pp.177-185, 2015.
- Powell, R.R., Connaway, L.S., Basic research methods for librarians; London: Libraries Unlimited, 2004.
- Proshare, Nigerian Manufacturing sector, 2014, [Online] https:// www. proshareng.com /admin /upload /.../ Manufacturing sector20102012.pdf. Accessed on December 2017.
- Raziq, A. and Maulabakhsh, R., Impact of working environment on job satisfaction, *Procedia Economics and Finance*, 23, pp.717-725, (2015).
- Reja, U., Manfreda, K.L., Hlebec, V., Vehovar, V., Open-ended vs. close-ended questions in web questionnaires. Developments in applied statistics, 2003, vol.19, no.1, pp.159-77, 2003.
- Schmidt, S.W., The relationship between satisfaction with workplace training and overall job satisfaction, *Human Resource Development Quarterly*, vol. 18, no. 4, pp.481-498, 2007.
- Simons, H., Case study research in practice, Los Angeles, Sage, 2009.
- Siniscalco, M.T., and Auriat, N., Questionnaire design, *Quantitative research methods in educational planning*, pp.1-92, 2005.
- Sola, O., Obamuyi, T.M., Adekunjo, F.O. and Ogunleye, E.O., Manufacturing performance in Nigeria: Implication for sustainable development, *Asian Economic and Financial Review*, vol. 3, no.9, pp.1195, 2013.
- Srimannarayana, M., Status of HR measurement in India, *VISION The journal of business perspective*, vol. 14, no. 4, pp.295-307, 2010.
- Stangor, C., Research Methods for the Behavioural Sciences 4th Edition, Belmont: Wadsworth, Cengage Learning, 2011.
- Telukdarie, A., Rapid deployment Toolset for Manufacturing Systems Enablement, *International Association for Management of Technology* IAMOT 2016 Conference Proceedings, 2016.
- Tootell, B., Blackler, M., Toulson, P. and Dewe, P., Metrics: HRM's Holy Grail? A New Zealand case study. *Human Resources Management Journal*, [online] <a href="http://dx.doi.org/10.1111/j.1748-8583.2009.00108.x">http://dx.doi.org/10.1111/j.1748-8583.2009.00108.x</a>, vol. 19, no. 4, pp.375-392, 2009.
- Vicki A. Benge, What Factors Can Affect the Manufacturing Process? Hearst Newspapers, LLC, 2016.

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# **Biographies**

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**Chuks Medoh** holds a master degree in Engineering management from the University of Johannesburg, South Africa. Chuks Medoh is currently a Ph.D. candidate in the postgraduate school of Engineering management at the University of Johannesburg and a Professional Business Analyst. Current research work focuses on the development of a sustainable business process decision-making model.