

# Challenges in the Receiving and Inspection of Supplies & Equipment in an International Organization in West Africa

Maricel Co<sup>1</sup>, Ralyn Bermudez<sup>2</sup>

<sup>1</sup> Institute of Graduate Studies and Research, Manuel S. Enverga University, Lucena City, Philippines

<sup>2</sup> School of Business & Accountancy, Manuel S. Enverga University, Lucena City, Philippines

Correspondence: Maricel Co, Institute of Graduate Studies and Research, Manuel S. Enverga University, Lucena City, Philippines Tel: +63-918-443-5369. E-mail: E18-3503@student.mseuf.edu.ph

Received: June 17, 2023      Accepted: July 1, 2023      Online Published: October 31, 2023

doi:10.5430/bmr.v13n1p18

URL: <https://doi.org/10.5430/bmr.v13n1p18>

## Abstract

The warehouse operation has enabled physical inspection activities, including receiving and inspection of materials and equipment. It has been found that there are certain challenges faced by inspectors during the receiving and inspection of materials. The warehouse custodian has performed the physical inspection, but not all cross-checking activities are accurate. Therefore, receiving and inspection are crucial to the delivery process, and distinct approaches must be implemented to deal with internal and external clients, including international and local suppliers. To effectively deal with these challenges, a process for entry document processing must be established. This process should include harmonizing the purchase order's terms and supporting it with the delivery note, packing list, invoice, bill of lading, and airway/waybill provided by the supplier. This will ensure that the material's quantity, quality, and specifications are accurately documented. A total of 14 responses were collected among managers and supervisors of receiving and inspection unit through interviews and survey questionnaires in the seven geographical locations of Mali, West Africa. The independent variables, namely (PI) physical inspection, (HOV) handover, and (DOC) documentation, significantly impact the dependent variable.

**Keywords:** Documentation, Handover, Physical Inspection, Warehouse

## 1. Introduction

Receiving and inspection processes includes material receipt, unloading, and unpacking. Examines the reliability of packages and their contents. Verifies the quality, quantity, and other characteristics of materials to ensure they are in accordance with the purchase order. The receiving and inspection procedure describes the process of receiving materials, components, and parts, collecting all documentation required for the physical inspection, and handover them to warehouse custodian. The quality and quantity of materials and equipment are critical throughout the warehouse inventory operation, whether it is checking the quality at the supplier, monitoring quality along the production line, or inspecting the final quality of finished items before they are delivered to the customer (Murray, 2018). Inspecting the items that arrive at the warehouse from our suppliers is a crucial aspect of our quality and quantity monitoring process. We must ensure that everything we receive meets our standards before distributing it to our customers. Before the item enters the warehouse bin location, ensure that the materials and equipment are with the correct quality, quantity, and specifications. A critical issue encountered during the operation of receiving and inspection by cross-checking the product delivered between inbound and outbound deliveries (Zhang, et al., 2019). The purchase order, delivery note packing slip, invoice, bill of lading, and airway/waybill are specified requirements in receiving and inspection processes. The overall goal was to determine the most efficient layout of process lines for receiving and inspection of the organization's equipment and create a useful warehouse inventory (Rodriguez, et. al., 2005). In addition, the inspection of goods when they arrive at the perimeter or ground from your suppliers, though, is one area that is crucial in the monitoring of quality, the overall quality of the final items is making sure that the components and raw materials are of the right quality or specifications before the item even enters the warehouse bin location. It is a meticulous task, but we take it very seriously to maintain the high level of satisfaction our clients have come to expect from us.

### 1.1 Problem Statement

Supervisors noticed that inspectors are facing some difficulties during physical counts of materials, and it's causing delays in their work. Even though they have been trained and have had meetings to prevent these challenges, unforeseen problems still arise and can harm the inspector's efficiency. To effectively address the issue, it is important to first identify the root cause. This could involve a physical inspection of equipment or materials, reviewing documentation, or examining the handover process. Once the underlying cause has been determined, a thorough analysis can be conducted to find the best solution. It is crucial to take the time to properly diagnose the issue to ensure a successful outcome. According to previous studies, the receiving and inspection activities have played an important role in the delivery of materials and equipment in order to determine the nature and essence of material acceptance (Sitompul, 2022). Relatively, few of study focus on the receiving and inspection issues, therefore, this study aims to fill those gaps and investigate modern techniques of how inspectors can reduce the challenges in the receiving stage of physical inspection when the delivery arrives in the warehouse facility. Analyzing the impact of documentation to handover of materials and equipment to the warehouse custodian impacting the receiving and inspection practices. Following a thorough review of relevant literature analysis, this study aims to determine how receiving and inspection activities reduce the challenges. It also aims to address the following research questions.

- (1) To determine the background characteristics of the respondents in terms of age, sex, educational background, nationality, length of experience, and rank.
- (2) Whether, PI, HOV, and DOC affect the receiving and inspection practices?
- (3) Does PI, HOV, and DOC moderated by profile of respondents affect the receiving and inspection practices?

### 1.2 Significance of the Study

The main objective of this study is to make a valuable contribution to organizations, employees, and theoretical knowledge. It aims to provide clear guidance and evaluate different inventory management strategies for the warehouse inventory count procedure, as well as offering advice to staff involved in the receiving and inspection process. By doing so, the study has the potential to help organizations enhance their overall performance and identify areas where their employees may require additional training and support in relation to inventory activities. These insights could prove invaluable for improving warehouse operations and ensuring that the organization is able to meet its objectives effectively. However, the following will be relevant to the study:

#### 1.2.1 Contribution to the Body of Knowledge

The proposed method was created and tested in the real world to add to the body of knowledge by examining and developing an efficient solution to the challenges experienced by the inspector that are required for the receiving and inspection practices in Mali, West Africa.

#### 1.2.2 Contribution to the Warehouse Operation Industry

The study's expected output will assist receiving and inspection employees in determining what they should do to make their strategies more competitive across the entire organization; warehouses, inventory systems, and distributed self-organizing systems are other technological developments influencing increased transparency of the material and equipment flows in warehouses, necessitating real-time determination of the warehouse inventory cycle.

#### 1.2.3 Contribution to the Academic

Academic researchers will benefit from the receiving and inspection study. Modern research on receiving and inspection of materials and equipment models is presented. Researchers from various fields, including technology, business, supply chain, and logistics students, have addressed these issues with a strong emphasis on receiving and inspection technical research.

### 1.3 Theoretical Framework and Hypotheses Development

#### 1.3.1 Physical Inspection

The physical inspection provides greater assurance than other methods, such as material verification (Asadizanjani, et al., 2021). Prior to delivery, all products are examined according to their condition, The goal of this receiving and inspection was to identify critical issues and provide feedback to the manufacturer in order to improve the component's life cycle (Villegroze et al., 2019). The inspector must inspect all items received in accordance with the packing lists, delivery notes, bill of lading, and purchase orders specifying the delivery and invoice (Buades, 2015). The inspector checks each container and takes random handfuls to inspect the materials (Kagawa, 2000). Every month, companies and organizations spend millions of dollars on materials and equipment. The importance of physical inspection can be

visualized depending on the correct specification, damages, right quantity and quality, depth, matrix material, and size. If the defect is not too deep in the deliveries, the delay between partial reflections at the surface and the defect itself can be used to identify its specification correctly (Frank Ospald et al., 2013). There are many instances where the materials acquired do not meet the specifications, and this causes expensive downtime and corrective action costs to obtain the appropriate materials. The bought material needs to receive the proper attention from the material inspectors. Calculating costs, order structures, and receiving worker methods were all investigated (Manunen, 2000). This paper intends to fill the gap by examining the challenges in physical inspection of the materials.

H1: PI has a positive influence on receiving and inspection practice.

### 1.3.2 Hand-Over

After the physical inspection is done, material handover can take place in a variety of locations and with a variety of equipment. The inspector brings the items to the warehouse and opens bins to handover them to the warehouse custodian (Baudin, 2005). Material handover is an important step in the receiving and final inspection of materials and equipment and should ideally be viewed as a process that begins at the start. According to studies, when handover is defined as the date on which the keys are handed over to the warehouse or end-user of the items (Too, et al., 2023). however, there is still a lack of studies focusing on the handover of materials and equipment.

H2: HOV has a positive influence on receiving and inspection practice.

### 1.3.3 Documentation

In the receiving and inspection processes, documentation is very important for meeting material delivery expectations and developing a reputation for dependable quality service (Ginell et al., 2019). The documentation is the key to the precision and dependability of routine inspection documentation. In general, all structural condition of documentation was discovered to be collected with significant variability (Phares et al., 2004). The implications of the inspection process include a thorough inspection involving documentation requirements of an inspection, considering the types of materials (Field, 2014). In order to improve the documentation of received materials and increase provider compliance with the resuscitation guideline, documentation of inspected materials in the receiving and inspection record should be complete and accurate (Konjević, 2019). The enhanced procedure justifies the action of the incoming inspection process through a more consistent quality level of the materials, a shorter overall process time, better materials information sharing, and a practical technique for supplier surveillance, documentation, and evaluation (Iliescu et al., 2015).

H3: DOC based on nationality has a negative influence on receiving and inspection practice.

## 2. Research Method

The research methodology includes data collection, analysis strategies, and methods that will influence the conclusion via broad assumptions. The investigation in this study was conducted using a quantitative approach.

### 2.1 Variable Measurement and Questionnaire Design

This study used a quantitative data research approach (Co & Baldovino, 2023). The respondents were selected among the receiving and inspection managers and supervisors in seven geographical locations in Mali, West Africa. Following data collection from respondents, the researcher sought permission from the adviser and higher management of the participating organization. The researcher developed 60 questionnaires and asked some questions verbally to the 14 respondents about the common problems in the receiving and inspection activity to determine how the questionnaires would be implemented. A 5-point Likert scale was used to provide the respondent's answers (Co & Baldovino, 2023). We collected data via a face-to-face survey questionnaire and an interview. The collected data were tabulated, interpreted, and analyzed using the appropriate tool. 1. PI is an independent variable 2. HOV is an independent variable 3. DOC is an independent variable 4. The demographic profile of respondents, a moderating variable, and 5. R&I practice is a dependent variable.

### 2.2 Receiving and Inspection Characteristics

The respondents who participated in the survey questionnaires and interviews had more than two years of experience in receiving and inspection of materials and equipment. These experts were selected among the reception and inspection workers.

### 2.3 Sample and Data Collection

The survey questionnaire for this research was conducted among 14 receiving and inspection supervisors and managers with over two years of field experience. The research study was conducted in seven locations where warehouse

operations were carried out. The focus was on the receiving and inspection personnel, and 60 questionnaires were distributed among 14 supervisors and managers. The questionnaires were designed in a way that made them easy to answer, resulting in specific responses based on the participants' daily work experiences. Although some participants had similar responses to certain questions, most of the answers were based on individual perceptions. The study was carried out between October 2018 and March 2019.

2.3.2 Measures and Covariates

To conduct the study, the researcher thoroughly analyzed various sources such as records, research materials, books, and articles. Data was gathered from respondents through survey questionnaires that were approved by their advisers. Verbal questions were also asked to prepare for the study and determine the questionnaire implementation. The collected data were meticulously analyzed using SPSS software.

2.3.3 Research Design

Figure 1 demonstrates the framework employed in the research, depicting the independent variable as the challenges organizations face concerning material inspection, handover, and documentation. The moderating variable is the demographic profile of respondents, and the dependent variable is the receiving and inspection practices that are implemented by organizations.

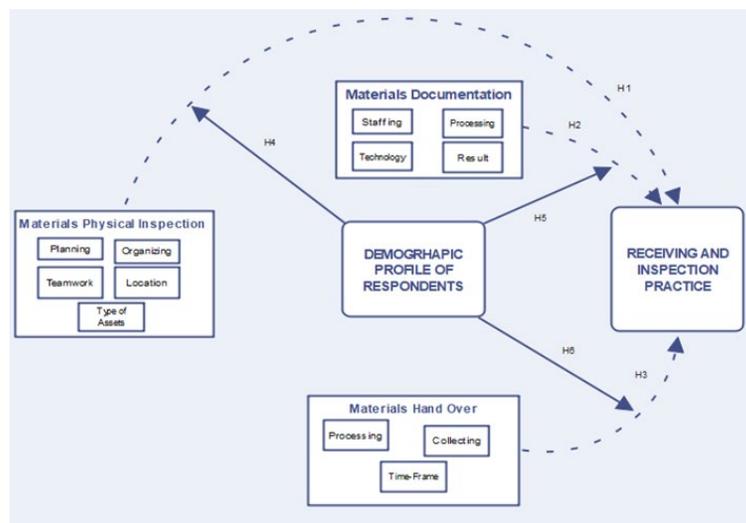


Figure 1. Conceptual Framework

3. Result and Findings

3.1 Demographic Profile of Respondents

Table 1. Frequency and Percentage Distribution of Respondent’s Background Characteristics

Background Characteristics	Details	Frequency (n = 14)	Percentage
Age	20 – 29 years old	3	21.4%
	30 – 39 years old	4	28.6%
	40 – 49 years old	3	21.4%
	50 years old and above	4	28.6%
Gender	Male	12	85.7%
	Female	2	14.3%

Educational Background	Bachelor's Degree	7	50%
	With Master's Units	4	28.6%
	Master's Unit	2	14.3%
	With Doctorate Units	1	7.1%
Nationality	Sudanese	2	14.3%
	Guatemalan	2	14.3%
	Malian	5	35.7%
	Lebanese	1	7.1%
	Congolese	1	7.1%
	Eritrean	1	7.1%
	Ghanian	1	7.1%
	Moroccan	1	7.1%
Length of Experience	2 – 3 years	4	28.6%
	4 – 5 years	4	28.6%
	6 – 7 years	3	21.4%
	8 – 9 years	1	7.1%
	10 years and above	2	14.3%
Rank	Professional 1 – 3	1	7.1%
	Professional 4 – 5	2	14.3%
	Field Service 4 – 5	2	14.3%
	Field Service 6 – 7	1	7.1%
	Volunteer	3	21.4%
	Local Staff	5	35.7%

According to the findings of the study, the frequency and percentage distribution of the respondent's background characteristics came from various countries. Sudan and Guatemala are represented by two respondents, Mali has five, and Lebanon, Congo, Ethiopia, Ghana, and Morocco each have one. These findings revealed that the investigated organization had multicultural staffing. As shown in the table, the respondents are primarily men, accounting for 85.7% of the sample used in the study. the majority of the respondents (50%) have less than five years of work experience and are all college graduates. The findings of the literature study show that there is no direct relationship between rank and years of receiving and inspection experience.

### 3.2 Data Analysis

This study involved a comprehensive data analysis process that was divided into two stages. In the first stage, we conducted a descriptive analysis to get a better understanding of the distribution of the data. This analysis provided a clear picture of the data distribution, making it easier to interpret the results. In the second stage, we utilized ANOVA to test our hypotheses. This allowed us to make inferences about the relationships between variables and determine if there were any significant differences between groups. Overall, our data analysis process was thorough and allowed us to draw meaningful conclusions from our data.

### 3.3 Primary Analyses

When conducting a study using ANOVA in SPSS, it's crucial to have a metric-dependent variable that is measured using an interval or ratio scale. Additionally, it's essential to have one or more independent variables that are categorical in nature, commonly referred to as factors in SPSS ANOVA. It's important to note that a treatment is a specific combination of factor levels or categories, and this information can help accurately analyze your data in SPSS. It's vital to input your data correctly and double-check your results to ensure that they are reliable and accurate, as this will help you draw valid conclusions from your study.

### 3.4 Participant Flow

The participants included international staff members, volunteers, and local staff members, both male and female, between the ages of 30 and 55. The results of the survey will be used to assess the current state of affairs in the unit and to identify areas that need improvement. The feedback from the participants will be taken into consideration by the management team to make necessary changes and ensure the smooth functioning of the unit.

### 3.5 Manipulation Fidelity

To analyze the relationship between two variables, one effective method suggested by Venkatesh, Brown, and Bala (2013) is comparing the average of the dependent variable among two or more groups within the independent variable. This approach provides researchers with valuable insights into the impact of various factors on the outcome of the study.

### 3.6 Baseline of Study

Table 2. Level of practice in physical inspection, handover, and documentation

Construct	Items	Weighted Mean	Std. Deviation	Verbal Interpretation
Physical Inspection	Verification	4.5000	0.51887	Always
	Organizing	4.7857	0.42582	Always
	Teamwork	4.6429	0.49725	Always
	Location	4.2857	0.72627	Always
	Type of assets	4.7143	0.46881	Always
Hand Over	Staffing	4.2143	0.97496	Always
	Processing	4.3571	0.74495	Always
	Technology	4.9286	0.26726	Always
	Result	4.5714	0.75593	Always
Documentation	Collecting	4.7857	0.57893	Always
	Processing	4.8571	0.53452	Always
	Time Frame	4.5724	0.64621	Always

The table shows that all items have the highest weighted mean in physical inspection, handover, and documentation. These are all important factors to consider when evaluating the quality of the receiving and inspection of materials, and it is great to see that these constructs excel in all of these areas. Overall, this is a positive sign for the quality of the work.

Based on Table 2, when it comes to receiving instructions for a certain part, quality assurance or the department supervisor/manager will prepare a written instruction if one is unavailable. The document will be signed, initiated, and dated prior to use. The document controller makes the documents related to quality systems available and keeps them up to date. However, if written instructions or memos are intended for a single event or short-term use, quality assurance or the department supervisor/manager will sign or initial them. Once the receiving inspection is completed, these instructions/memos will be attached to the supplier's packing slip/shipping documentation.

During operational conditions, a common example of a handover would be shifting changes on a continuous process of receiving activity. This ensures a smooth transition between the different teams working on the receipt of items. The parties involved in the handover process may include warehouse custodians, production operations, end users, and supervisors. It is important to ensure that the handover process is efficient and effective to prevent any disruptions in the operation of warehouse inventory.

This study found that you can import inspection-specific criteria from third-party sources, which can help ensure quality control. Additionally, you can receive a lot of useful data from ERP or SAP, such as commodity, contract, project, section, item master record, PO line with quality clauses, receiver, receiver stock, and vendor. This information can be essential for tracking inventory and ensuring everything is up to standard.

### 3.6.1 Statistics and Data Analysis

The results of the one-way ANOVA showed a significant relationship between physical inspection, handover, and documentation. These findings suggest that all three factors are important in ensuring that a process runs smoothly and efficiently. It is crucial that each aspect is given the necessary attention and resources to guarantee success in any project or task. Overall, this study highlights the importance of comprehensive evaluation and attention to detail in achieving optimal results.

### 3.6.2 Measurement Model Analysis

Table 4. Current practices for physical inspection, handover, and documentation

<b>Indicators</b>	<b>General Weighted Mean</b>	<b>Verbal Interpretation</b>
<b>Physical Inspection</b>		
Inspection	4.1309	Almost Always
Organizing	4.4571	Always
Teamwork	4.1000	Almost Always
Location	4.0714	Almost Always
Type of Assets	4.0571	Almost Always
<b>Handover</b>		
Staffing	3.7857	Almost Always
Processing	3.9999	Almost Always
Technology	4.4143	Always
Result	4.3000	Always
<b>Documentation</b>		
Collecting	4.3000	Always
Processing	4.7142	Always
Time Frame	4.4286	Always

Based on the result, physical inspections are carried out regularly to ensure that all equipment and machinery are in good working condition. Handovers are done systematically, with adequate communication among team members to ensure that all necessary information is passed on accurately. Documentation is also thorough, with all relevant details recorded appropriately for future reference. These practices have proven to be effective in maintaining a safe and efficient work environment and committed to upholding them diligently.

Table 5. Significant difference result when respondents are grouped by Age, sex, education, length of experience, rank, and nationality

		AGE		Sex		Education		Length of experience		Rank		Nationality	
		Sum of Squares	p-value	Sum of Squares	p-value	Sum of Squares	p-value	Sum of Squares	p-value	Sum of Squares	p-value	Sum of Squares	p-value
<b>R&amp;I Practices</b>	Between Groups	2.595	0.213	2.012	0.056	2.000	0.350	2.512	0.394	2.129	0.675	2.629	0.827
	Within Groups	4.833		5.417		5.429		4.917		5.300		4.800	
<b>Hand-Over</b>	Between Groups	1.274	0.768	0.107	0.752	0.929	0.845	7.429	0.791	3.690	0.651	6.357	0.555
	Within Groups	11.083		12.250		1.429		1.940		8.667		6.000	
<b>Documentation</b>	Between Groups	0.94	0.467	0.107	0.592	1.500	0.220	1.607	0.335	2.316	0.210	3.857	0.017
	Within Groups	4.357		4.250		2.857		4.357		4.357		0.500	

The ANOVA analysis conducted reveals that there is no significant difference in perceptions across all age groups regarding current practices in the Receiving and Inspection Unit. It showed that male and female respondents had similar perceptions of the receiving and inspection unit's practices. It has been determined that participants with different educational backgrounds have similar perceptions of current practices. Work experience does not influence their perception of the current practices within the Receiving and Inspection Unit. There is no significant difference in perceptions among respondents, regardless of their rank. Thus, it can be concluded that age, sex, rank, and length of experience does not play a significant role in shaping how individuals perceive current practices in this unit.

However, based on the ANOVA test results, it was found that there is no significant difference on how individuals perceive the current practices in the receiving and inspection across different nationalities, specifically in relation to physical inspection, handover, and documentation. However, when respondents were grouped by nationality, it was discovered that there is a significant difference in perception with regard to documentation practices. This finding indicates that nationality had different perceptions of documentation, implying that not all nationalities have similar perceptions of documentation.

#### 4. Conclusion

After analyzing current practices on physical inspection, material handover, and documentation, the results showed a significant relationship between physical inspection, handover, and documentation, indicating that these factors are crucial for the success of any project or task. It is important to pay close attention to each aspect and allocate necessary resources to ensure optimal results. This study underscores the significance of detailed evaluation and attention to detail in achieving desired outcomes.

##### 4.1 Physical Inspection

Effective communication is crucial in the receiving and inspection unit. Additionally, decision-making skills regarding physical inspection require improvement, as the Chief R&I's ability to stick to decisions once made displayed a low level of competence. It is essential to address these areas to improve the overall efficiency and accuracy of the inspection process.

##### 4.2 Hand-over

It is important for R&I employees to coordinate with both end-users and warehouse personnel to facilitate a smooth handover of supplies and equipment. This will also ensure that these items are properly stored. Effective communication is key to ensuring all parties involved are on the same page and can help improve overall efficiency.

##### 4.3 Documentation

It has been observed that R&I employees from different nationalities have varying perceptions when it comes to documentation. It is important for all parties involved to communicate effectively and understand each other's perspectives to ensure a smooth handover of supplies and equipment and proper storage. This can ultimately improve overall efficiency.

## 5. Discussion

The study created a quality management system centered on the receiving and inspection network to foster collaboration among the participating organizations. The proposed receiving and inspection model may be observed as a solution to resource and skill constraints and a means of gaining a competitive advantage in the marketplace. With better services for their typical clients, receiving and inspection professionals can maintain proficiency in physical inspection, hand-over, and documentation tasks. They can also identify the shortcomings and strengths inside the workplace specifically in the documentation issues that will help them to decide what kind of practice to keep and develop. The study adds extra knowledge from the literature about the organization's overall procedure for receiving and inspection of materials and equipment. They are encouraged to abide by the receiving and inspection procedures to maintain the unit's cohesive relationships and teamwork, leading to excellent treatment and satisfaction with the accommodations and services. The researchers will help the administrators know about the current activities of their staff and managers. So, they will have a foundation on specific tactics that they can use to enhance their competencies. Future researchers are urged to investigate additional factors associated with the problems and difficulties with receiving and inspecting supplies and equipment, and they may replicate the study and undertake it on a bigger scale.

### 5.1 Paper Contribution to Related Field of Study

With this study, we can improve our tactics and planning for receiving and inspecting materials and equipment, which will ultimately lead to better control over employees' activity. This will enable us to achieve our objectives and drive force behind reducing the problems and difficulties associated with receiving and inspection of materials within our organization.

### Acknowledgments

The authors would like to express sincere gratitude to the participating international organization in Receiving and Inspection Unit in Mali, West Africa.

### References

- Asadizanjani, N., Rahman, M. T., & Tehranipoor, M. (2021). Counterfeit Detection and Avoidance with Physical Inspection. In *Physical Assurance*. Springer, Cham. [https://doi.org/10.1007/978-3-030-62609-9\\_2](https://doi.org/10.1007/978-3-030-62609-9_2)
- Asgary, R., Cole, H., Adongo, P., Nwameme, A., Maya, E., Adu-Amankwah, A., ... & Adanu, R. (2019). Acceptability and implementation challenges of smartphone-based training of community health nurses for visual inspection with acetic acid in Ghana: mHealth and cervical cancer screening. *BMJ open*, 9(7), e030528. <https://doi.org/10.1136/bmjopen-2019-030528>
- Baudin, M. (2005). *Lean logistics: the nuts and bolts of delivering materials and goods*. CRC press. <https://doi.org/10.4324/9781482278316>
- Baumann, L. A., Baker, J., & Elshaug, A. G. (2018). The impact of electronic health record systems on clinical documentation times: A systematic review. *Health policy*, 122(8), 827-836. <https://doi.org/10.1016/j.healthpol.2018.05.014>
- Buades, P., Minusma, D. M. S. (2015, July). SOP of R&I operations approved Bamako, Mali, (2017 July) review, SOP/DMS/DDMS/PMS/R&I UNIT/00XX
- Das, K., & Sengupta, S. (2010). Modelling supply chain network: a quality-oriented approach. *International Journal of Quality & Reliability Management*, 27(5), 506-526. <https://doi.org/10.1108/02656711011043508>
- Field, K. (2014). *The inspection process*. In *Learning to Teach* (pp. 158-175). Routledge.
- Frank, O., Wissem, Z., Rene, B., Carsten, M., Joachim, J., Benoit, R., Jean-Paul, G., ... & Marijke, V. (2013). Aeronautics composite material inspection with a terahertz time-domain spectroscopy system. *Optical Engineering*, 53(3), 031208. <https://doi.org/10.1117/1.OE.53.3.031208>
- Ginell, K. M., Horn, C., Von Dreele, R. B., & Toby, B. H. (2019). Materials for learning use of GSAS-II. *Powder Diffraction*, 34(2), 184-188. <https://doi.org/10.1017/S0885715619000241>
- Heredia-Langner, A., Montgomery, D. C., & Carlyle, W. M. (2002). Solving a multistage partial inspection problem using genetic algorithms. *International journal of production research*, 40(8), 1923-1940. <https://doi.org/10.1080/00207540210123337>
- <https://peacekeeping.un.org/en/mission/minusma> Date accessed: January 2019

- Iliescu, D., Diaconu, I., Mateias, I., & Gheorghe, M. (2015). Raw Material Incoming Inspection Process Improvement- a Case Study. In *Applied Mechanics and Materials* (Vol. 760, pp. 659-664). Trans Tech Publications Ltd. <https://doi.org/10.4028/www.scientific.net/AMM.760.659>
- Konjević, S. (2019). *Scientific information in the digital age and its influence on interlibrary loan and document delivery*.
- Manunen, O. (2000). An activity-based costing model for logistics operations of manufacturers and wholesalers. *International Journal of Logistics*, 3(1), 53-65. <https://doi.org/10.1080/13675560050006673>
- M. S. Co and F. P. Baldovino (2023). Fixed Assets Inventory Management of an International Organization: Issues and Challenges Amidst Covid-19 Pandemic Proceedings of the 10th International Conference on Business, Accounting, Finance, and Economics (BAFE 2022) Atlantis Press [https://doi.org/10.2991/978-2-494069-99-2\\_18](https://doi.org/10.2991/978-2-494069-99-2_18)
- Phares, B. M., Washer, G. A., Rolander, D. D., Graybeal, B. A., & Moore, M. (2004). Routine highway bridge inspection condition documentation accuracy and reliability. *Journal of Bridge Engineering*, 9(4), 403-413. [https://doi.org/10.1061/\(ASCE\)1084-0702\(2004\)9:4\(403\)](https://doi.org/10.1061/(ASCE)1084-0702(2004)9:4(403))
- Rodriguez, C., Serrano, E., Sondrup, M., & Willig, K. (2005). Equipment process layout & inventory management. *2005 IEEE Design Symposium, Systems and Information Engineering* (pp. 90-93), Charlottesville, VA, USA. <https://doi.org/10.1109/SIEDS.2005.193243>
- Sitompul, A. (2022). E-Procurement System In The Mechanism Of Procurement Of Goods And Services Electronically. *International Asia of Law and Money Laundering (IAML)*, 1(1), 57-63. <https://doi.org/10.59712/iaml.v1i1.11>
- Too, J., Ejohwomu, O. A., Bukoye, T. O., Hui, F. K. P., & Oshodi, O. S. (2023). Standardising the route to project handover to improve the delivery of major building projects. *International Journal of Business Performance Management*, 24(2), 175-199. <https://doi.org/10.1504/IJBPM.2023.129847>
- Venkatesh, V., Brown, S., & Bala, H. (2013). Bridging the qualitative-quantitative divide: Guidelines for conducting mixed methods research in information systems. *MIS Quarterly*, 37, 21-54. <https://doi.org/10.25300/MISQ/2013/37.1.02>
- Villecroze, F., Bersier, J. L., Brilleman, T., Dumoulin, O., Gung, C. Y., Jolat, G., ... & Wan, L. (2019). Receiving inspection and tests of the ITER poloidal field# 4 cryostat feed-through. *Fusion Engineering and Design*, 146, 1620-1623. <https://doi.org/10.1016/j.fusengdes.2019.03.002>
- Zhang, Y. -H., Gong, Y. -J., Chen, W. -N., Gu, T. -L., Yuan, H. -Q., & Zhang, J. A Dual-Colony Ant Algorithm for the Receiving and Shipping Door Assignments in Cross-Docks. *IEEE Transactions on Intelligent Transportation Systems*, 20(7), 2523-2539. <https://doi.org/10.1109/TITS.2018.2867577>

## Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).