Employee Engagement and Satisfaction, Culture and Workload as Four Influencing Factors that Affects the Productivity and Work Performance Efficiency of Warehouse Workers in Taytay, Rizal

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Abstract

Warehouses are fast-paced environments where workers must collaborate to safely and quickly complete tasks. They will also need to pay close attention and work hard to keep things running smoothly. This research focuses on the variables that influence warehouse workers' performance efficiency and productivity, as well as how these variables can lead to inconsistent performance and unproductive workers. It also aims to provide knowledge on warehouses about the factors that influence the warehouse workers productivity and efficiency. The organization will gain how to make more informed decisions, complete tasks more effectively, and improve management. Additionally, the researchers want to make warehouse stakeholders aware of the significance of these factors to an organization. This study will show the company that fixing issues in this area boosts output and enhances worker performance. This research will focus on the warehouse workers in Taytay, Rizal. The proponents aim to determine the factors that affect the performance efficiency and productivity of the workers. The data will be gathered on 100 warehouse workers that are currently employed in Taytay, Rizal, Philippines. The researcher used the following process to gather information regarding the specific factors affecting the performance efficiency and productivity of warehouse workers in Rizal. The researcher utilizes different platforms to gather data, and evaluation/survey questionnaires as ways to obtain the information by having the warehouse worker answer or fill out the evaluation questionnaire. The researchers involved descriptive statistics to contain the data in a way that offers a complete understanding of the data. Excel and Minitab were used in the data collection and analysis. In order to identify the various elements influencing the performance and productivity of warehouse workers, the central tendency measurements were also used to determine the level of correlation and the relative contributions of each predictor to the relationship, the researchers also conducted a multiple regression analysis on a result (the dependent variable). The researchers used the Pairwise Pearson's Correlation Technique to assess the strength and direction of the correlation between two linearly related continuous variables. It is used to examine whether performance efficiency and productivity have a connection to the different factors.

Keywords

Warehouse Workers, Productivity, Performance efficiency, Multiple regression, Pearson's Correlation

1. Introduction

As stated by Johnson, B. (n.d.). A warehouse is a substantial structure where produced items or raw materials are stored until they are exported to other areas or delivered to retail locations for purchase. The ability to control the differences between the arriving and outgoing flows of products is made possible by a warehouse, which also includes storage racks, handling tools, staff, and management resources. As stated by Airspeed International Corporation (n.d.). The most cost-effective option to easily handle the items for distribution is through warehousing in the Philippines. These warehouses provide a lot of inventory space and a good management system at a reasonable cost. The

Philippines' warehousing industry, in particular, experienced tremendous expansion as a result of the significant increase in commercial activity within and outside the country. The Philippines are in a very advantageous position. The archipelago is the most practical place for supply channels to land because it is located on the border of the Pacific Ocean. In the Philippines, warehousing essentially links several export and import markets of various nations worldwide.

According to Paoletta, D. (2019). Warehouses are fast-paced environments where workers must collaborate to safely and quickly complete tasks, so you must be a good team player. You will also need to pay close attention and work hard to keep things running smoothly. According to Kourmentza, E (2022). A Warehouse Workers is a professional who works in any business to store and manage orders or inventory. They are in charge of receiving and processing inbound items, as well as selecting and managing orders from warehouse stock. They are also responsible for preparing and receiving orders as well as moving, stocking, scanning, and recording product inventory. They can work for a company either internally or externally to ensure the delivery of products to customers or businesses. As said by Barbour, H. (2020) These are some examples of warehouse laborers, Forklift Operator, Machine Operator, Sorter, Packer, Loader, Truck Driver and many more. All of those have an individual contribution to make the company run. Based on Instawork Editorial (2021). The majority of warehouse jobs only require a high school diploma or GED. Some warehouse jobs may necessitate lifting a specific amount of weight. Other jobs may require the use of tools or machinery. Regardless of job title, each team member contributes to warehouse productivity and safety.

According to Lizzie (2021). Performance is the process of accomplishing a task. It's your ability to meet the expectations of your employer or company. It focuses on activity and is typically measured using Key Performance Indicators (KPIs) goals, the number of business objectives achieved and more. Performance only means that you've done something to a given standard and doesn't necessarily mean you've produced anything. Productivity, on the other hand, concentrates more on output, or what is produced for the hours, efforts and costs you've put into it.

Additionally to Lizzie (2021). Employee performance is a mix of tangible and intangible factors. It's often described as someone's ability to do their work to a particular standard. But performance encompasses much more. Here're just some of the intangible factors that make up an employee's performance. Productivity has traditionally been a me asure of output across time, a term which was originally used in the field of agriculture. In the world of business, we use the term to refer to the amount of work done, the quality of that work and what it's worth in terms of achieving business aims. It's related to money invested or hours worked. Thus, productivity is nearly always quantitative. Companies are looking for the highest output possible for the lowest possible amount of input.

As stated in Tips to Improve Warehouse Labor Management Efficiency. (2019). Warehouse labor management efficiency metrics reveal how well your employees perform in relation to their roles. In other words, do your employees successfully justify their expenses? According to Logistics Management, labor costs account for 50-70% of the average warehouse budget. As a result, supply chain leaders must understand the issues associated with decreased labor efficiency. The manner in which labor is managed has an impact on warehouse labor management efficiency. Reduced warehouse labor productivity and efficiency are linked to a failure to recognize existing problems.

1.1 Background of the Study

Warehouse worker is a job that has many responsibilities but before we take on their duties and responsibilities, we should know what a warehouse worker is. According to (Betterteam, 2021) warehouse workers work in warehouses where they receive, unpack, arrange and store goods, and gather, pack, prepare and load goods for dispatching. Warehouse workers check stock for damage and wear, report faults and discrepancies to relevant parties, and mark and label stock. For their duties and responsibilities that according to (Kourmentza, 2022) warehouse workers are responsible for varied daily tasks such as restocking shelves, accepting incoming orders, processing and packing orders, counting inventory and ensuring orders are shipped in a timely manner.

According to (Sunol, 2021) Warehouse worker training should be an opportunity to inspire your employees to be more committed to the company, which is possible if you offer them more than just a pat on the back. This is done to avoid a high turnover rate in a warehouse. It should come as no surprise that warehouse work can be monotonous, and when a task becomes monotonous, boredom can set in. When employees begin to experience redundancy in their work area, it will be more difficult to persuade them to stay, making warehouse worker training even more important.

1.2 Statement of the Problem

This study aims to determine the factors that affect the performance efficiency and productivity of warehouse workers in Taytay, Rizal. Specially, this study will seek to respond to the following question

- What is the level of performance of the warehouse workers in terms of productivity and performance efficiency
- What are the factors that may affect the performance efficiency and productivity of warehouse workers in Taytay, Rizal
- Is there a significant relationship between performance efficiency and productivity of warehouse workers in Taytay, Rizal
- Is there a significant relationship between the performance efficiency, productivity, and the different factors

1.3 Objective of the study

This study focuses on the variables that influence warehouse workers' performance efficiency and productivity, as well as how these variables can lead to inconsistent performance and unproductive workers. It also aims to provide knowledge on warehouses about the factors that influence the warehouse workers productivity and efficiency. The organization will gain how to make more informed decisions, complete tasks more effectively, and improve management. Additionally, the researchers want to make warehouse stakeholders aware of the significance of these factors to an organization. This study will show the company that fixing issues in this area boosts output and enhances worker performance.

1.4 Significance of the study

The significance of this study is to evaluate the factors influencing warehouse workers' performance efficiency and productivity in Taytay, Rizal, Philippines. The study will be useful for the following reasons:

- The company. The study is beneficial to the company since productive and efficient employees will boost profitability. A company can produce more from its resources if it increases productivity and the performance efficiency of the workers.
- The Warehouse workers. The study benefits the employees since they receive a feeling of purpose if they feel productive and have the chance to make a real difference for the company as a whole. They may be motivated to put up their utmost effort by this goal.
- **Future Researchers**. The studies offered could be used as benchmark information to check the reliability of other similar studies. This study will also act as a cross-reference for them, providing background information or acting as a starting point for new research.

1.5 Scope and Limitation of the study

This research will focus on the warehouse workers in Taytay, Rizal. The proponents aim to determine the factors that affect the performance efficiency and productivity of the workers. The data will be gathered on 100 warehouse workers that are currently employed in Taytay, Rizal, Philippines.

2. Literature Review

This chapter discusses effective research and study based on past knowledge. This chapter presents and discusses previous studies, literature, and concepts that were found relevant to the present study.

2.1 Factors

This research paper intends to investigate how the aspects of work environment, leadership, and culture affect employees' productivity. The concept of productivity is essential in the business sector since it helps make organizations successful. Productivity is defined as the collaborative work done by management and employees with the goal of improving individual performance. It also involves a comparison of input and output across all industries. To further clarify, the output might be the caliber of the goods or services provided by organizations in relation to the standards, while the input could be things like materials, labor costs, machine use, and many other things. This implies that an employee's productivity is determined by their performance. (Rehman et al., 2018).

An organization is a structure that is used to instill specific relationships and authority on people. People work within the structure to achieve the desired outcomes. It is the framework upon which a company is built. structure has a formal characteristic. It is a system designed to group tasks and jobs, delegate authority, assign responsibility and

accountability, and increase the number of people involved in the managerial hierarchy. It makes management tasks easier and more efficient by identifying different tasks, grouping similar activities together, and assigning tasks to individuals to achieve a common goal. (Francis, 2014)

• Employee Engagement

As stated in Engage for Success (2022). Employee engagement is a workplace approach resulting in the right conditions for all members of an organization to give of their best each day, committed to their organization's goals and values, motivated to contribute to organizational success, with an enhanced sense of their own well-being.

• Role-Based Culture

According to Juneja, P. (n.d.). It is a given duties and responsibilities based on their interests, education, and areas of expertise in order to get the most out of them. Employees in such a culture decide what they can do and are eager to take on the challenge. Every person has some sort of responsibility and is required to own the work that has been delegated to him. In a work environment like this, authority carries responsibility.

• Employees Satisfaction

According to Collins, T. (2020). Employee impressions of whether their needs are being satisfied at work are referred to as "employee satisfaction." The major factors determining whether an employee feels satisfied are frequent assessments of general happiness. An employee is more likely to be satisfied with their job as a whole if they are happy each hour of the day. If an employee has had a bad experience with a previous company, they may feel joyful even if they are only cheerful for a portion of the day.

Quantity of Workload

According to Inegbedion et al. (2020). The complexity of tasks and the burden of employees are effects of organizational structures. Employee work requirements vary even within the same organization since employees of the same rank may be given different tasks depending on their status.

2.2 Summary of Literature Review

Summary of Factors that Affects the Productivity and Work Performance Efficiency of Warehouse Workers are presented in Table 1.

Table 1. Summary of Factors that Affects the Productivity and Work Performance Efficiency of Warehouse Workers

Dimension	Definitions	Author
Productivity	In economics, output per unit of input (labor, capital, or any other resource) is measured.	Kenton, W. (2022)
Performance Efficiency	The ability of your workload to adapt to changes in user demands in an efficient manner.	Stocker et al. (2022)
Warehouse	A facility designed to allow for the efficient storage and handling of goods and materials.	O'Byrne, R. (2017)
Warehouse Worker	A professional who stores and processes orders or products as part of any business. They are in charge of receiving and processing incoming stock, as well as picking and managing orders from the warehouse stock.	Kourmentza, E. (2022)
Employee Engagement	The depth of employees' mental and emotional	

	attachment to their work, their teams, and their organization.	Ryba, K. (2021)
Role-Based Culture	A culture in which each employee is assigned roles and responsibilities based on his specialization, educational qualifications, and interests in order to get the most out of him. Employees in such a culture decide what they can do best and gladly accept the challenge	Juneja, P. (n.d.)
Employees Satisfaction	A broad term used in the human resources industry to describe how satisfied or content employees are with aspects such as their jobs, employee experiences, and the organizations for which they work.	What is Employee Satisfaction? (n.d.)
Quantity of Workload	A metric for measuring perceived workload. Workload, like usability, is a complex concept that essentially means the amount of mental and physical effort required to use the interface.	Sauro, J., PhD. (n.d.)

2.3 Theoretical framework

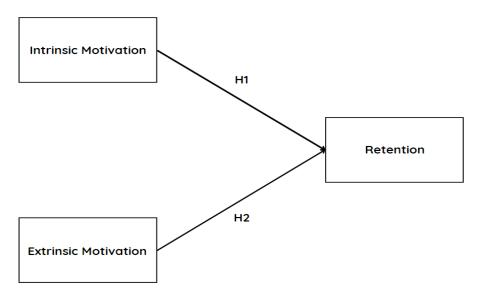


Figure 1. Theoretical framework

The theoretical framework was retrieved from an article, (Anwar et al., 2018). Everyone is drawn to some form of motivation, whether intrinsic, extrinsic or a combination of the two. This can be seen in both a person's personal and professional life (Figure 1). As a result, organizations are attempting to determine whether or not programs that cater to extrinsic motivation are required for their employees to remain productive and effective. These programs are costly, and it is critical to determine whether or not there is a genuine need for extrinsic motivation in the workplace. (Turner, 2017).

2.4 Conceptual Framework

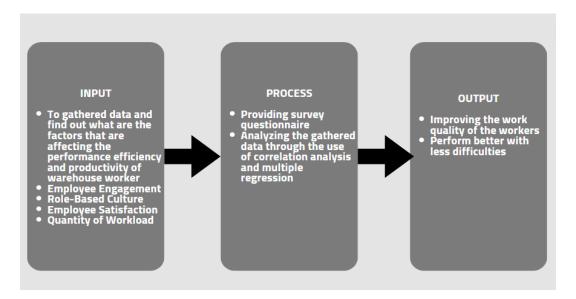


Figure 2. Conceptual Framework

Figure 2 illustrates the framework of the study which focuses on the factors affecting the performance and productivity of warehouse workers. With the objective of determining the factors that affect the performance and productivity this framework helps the researchers support the study.

The researcher used the following process to gather information regarding the specific factors affecting the performance efficiency and productivity of warehouse workers in Rizal. The researcher uses a variety of platforms to collect data, and evaluation/survey questionnaires are one method for getting the information by having the warehouse worker respond to or fill out the questionnaire.

3. Methods

This chapter describes the methods and procedures used by the researcher to conduct the study to determine how the factors affect warehouse worker performance and productivity in Taytay, Rizal.

3.1 Research Design

The descriptive methods are used for this study. The purpose of this study is to get precise information about people and situations. The researcher can get two types of data. These are the primary and secondary data. The primary data can be obtained through a survey or evaluation questionnaire by having the respondent answer a series of questions, and the secondary data can be obtained through related literature, journal articles, published reports, and the internet. The researcher uses the quantitative approach with a survey or evaluation questionnaire and publishes documents. Quantitative research is a systematic investigation of phenomena by gathering quantifiable data and performing statistical, mathematical, or computational techniques. Quantitative research collects information from existing and potential customers using sampling methods and sending out online surveys, online polls, and questionnaires, for example (Fleetwood, 2022).

3.2 Research Locale

This study was conducted at the warehouse located at Taytay, Rizal Archipelago, wherein, it has a total population of 386,451, and a total population of labor force of 225,301. This location was selected for the researcher as well as for the warehouse stakeholders to know the efficiency of the said study among employees and for them to feel comfortable, satisfied and secure. (Ellen, S. 2020). Slovin's Formula Sampling Techniques. A smaller sample is taken using a random sampling technique when it is not feasible to research the total population. Slovin's formula enables a researcher to select the population accurately. The sample size needed to guarantee a fair level of accuracy of the results can be determined using Slovin's formula. The researchers used the Slovin's Formula to calculate the sample

size that is needed in the study. Where the confidence interval is 90% with the margin error of 10%. The researchers used the simple random sampling technique to gather data from 100 warehouse workers in Taytay, Rizal.

4. Data Collection

This chapter describes the data collection method or instrument that the researcher used to conduct the study or collect the necessary information or data.

4.1 Statistical Instrument

The researcher utilizes different platforms to gather data, and evaluation/survey questionnaires as ways to obtain the information by having the warehouse worker answer or fill out the evaluation questionnaire. In order to evaluate the data and determine the various factors affecting the performance efficiency and productivity of warehouse workers, the researchers utilized Minitab and Microsoft Excel. Additionally, the researchers performed a multiple regression analysis on a conclusion (the dependent variable). To evaluate the magnitude and direction of the correlation between two linearly related continuous variables, the researchers used the Pairwise Pearson's Correlation technique. It is used to investigate the relationship between productivity and performance efficiency.

4.2 Survey Design

The researchers used quantitative methods to collect data and quantify the employee satisfaction, employee engagement, role-based culture of warehouse workers and the researchers utilized the questionnaire of Ajinomoto Philippines Corporation Lucena Branch (Angeles et al., 2015).

5. Results and Discussion

This chapter consists of the tabulated numerical and graphical results and to analyze them for the purpose of presenting the data in a clearer and easier-to-understand form, understanding the problems that are presented, and finding a solution.

5.1 Numerical Results

5.1.1 Demographic profile of the respondents

For our 100 respondents there were 75% male and 25% female respondents. The men made up an uneven majority of responders, and this mismatch between men and women can be attributed to Taytay Rizal warehouse employees' preference for physical qualities. The age distribution of 100 respondents 64% of respondents are between the ages of 19 and 30; 26% are between the ages of 31 and 40; 8% are between the ages of 41 and 50; and 2% are between the ages of 51 and 60. Most of the respondents were between the ages of 19 and 30. According to the data, Taytay Rizal warehouse workers range in age from young adults to middle-aged people to adults who are capable of handling the tasks assigned to them (Table 2).

Table 2. Average	Measurement of	Performance Efficience	v and Productivity:

Variables	Weighted Mean	Verbal Interpretation
From the measurement scale of 1-4, do you meet your assigned task in the production?	3.38	Very Satisfied
From the measurement scale of 1-4, How hard did you have to work to accomplish your level of performance efficiently?	3.38	Very Satisfied
Composite Mean	3.38	Very Satisfied

The data from Table 3 above shows that on a scale of 1 to 4, where 1 is the lowest score and 4 is the best, the mean scores from the respondents is 3.38 which means that they are very satisfied with their performance efficiency and productivity.

Measuring employee performance aids in calibrating goals. Instead of the management or the firm, employees should define their own goals based on performance feedback, self-reflection, and business needs. The mean of this was from

the data gathered where 50% of the respondents are very satisfied, then 43% are satisfied, while 2% are dissatisfied, and 5% are very dissatisfied, indicating that majority of the respondents are very satisfied with their productivity, and as for the performance efficiency of the respondents 49% of them are very satisfied, then 42% are satisfied, while 5% are dissatisfied, and 4% are very dissatisfied, where the majority are very satisfied (Table 3).

Table 3. Average Measurement of Employee Satisfaction:

	Weighted	Verbal	
Variable	Mean	Interpretation	Rank
The way I am noticed when I do a job	3	Satisfied	1
The recognition I get for the work I do	2.93	Satisfied	2
My pay and the amount of work I do	2.89	Satisfied	4
The way my boss handles employees	2.92	Satisfied	3
The way my boss take care of complaints brought to him/her employees	2.8	Satisfied	5
Composite Mean	2.91	Satisfied	1

The data from Table 4 above shows that on a scale of 1 to 4, where 1 is the lowest score and 4 is the best. The mean score on the way they are noticed when doing a job is 3, the recognition they get for the work they do is 2.93, Their pay and the amount of work they do is 2.89, The way their boss handles employees, and the way their boss takes care of complaints brought by his/her employees is 2.8, which means that all of them are satisfied. From the composite mean of 2.91, it means that all of the warehouse workers are satisfied with their jobs and work environment.

The result in Table 4 is satisfied in terms of inspiration of work. The degree to which employees are content with their jobs and work environment is known as employee satisfaction. By putting employee satisfaction first, you can attract talent who will want to work for your organization. Supporting wellbeing promotes a happy workplace, which will improve performance and productivity across the board for the business. Also, the weighted means comes from the following question asked to the respondents, results are as follows:

- The result in variable 1 shows that 30% of respondents are very satisfied, 44% are satisfied, 22% are dissatisfied, and 4% are very dissatisfied, indicating that they are being noticed if they do their job.
- The result in variable 2 shows that 25% of respondents are very satisfied, 48% are satisfied, 22% are dissatisfied, and 5% are very dissatisfied, indicating that they are being recognized if they did their job.
- The result in variable 3 shows that 29% of respondents are very satisfied, followed by 39% satisfied, while 26% are dissatisfied and 6% are very dissatisfied, indicating that they are satisfied with the amount of work they do being proportional to their pay.
- The result in variable 4 shows that 33% of respondents are very satisfied, followed by 33% who are satisfied, while 28% are dissatisfied and 6% are very dissatisfied, indicating that some are satisfied and some are very satisfied with how their employer handles them.
- The result in variable 5 shows that 28% of respondents are very satisfied, 34% are satisfied, 29% are dissatisfied, and 9% are very dissatisfied, indicating that the majority are satisfied with how their employer handles their complaints (Table 4).

Table 4. Average Measurement of Employee Engagement:

Variable	Weighted Mean	Verbal Interpretation	Rank
I am passionate about my work	3.47	Very Satisfied	1

Composite Mean	3.06	Very Satisfied	
I regularly receive evidence/information about my progress toward achieving my overall performance goals	2.82	Satisfied	5
Throughout the year, my department celebrates its progress toward achieving its goals	2.69	Satisfied	6
My supervisor/manager recognizes when I competently perform my job	2.94	Satisfied	4
I have mastered the skills necessary for my job	3.32	Very Satisfied	2
My supervisor/ manager delegates important projects/tasks to me that significantly impact my department's overall success	3.09	Very Satisfied	3

The data from table 5 above shows that on a scale of 1 to 4, where 1 is the lowest score and 4 is the best. The weighted mean on how passionate they are about their work is 3.47, how their supervisor delegates important projects to them that significantly impact their overall department's overall success is 3.09, and on how they have mastered the skills necessary for their job is 3.32. According to these 3 variables, their mean score means that they are very satisfied. The score on how their supervisor recognized when they competently perform their job is 2.94, on how their department celebrates its progress toward achieving its goals is 2.69, and on how they regularly receive evidence about their progress toward achieving their overall performance goals is 2.82. According to their scores, the composite mean is 3.06 which means that they are very satisfied with their engagement to the other workers that affects their job.

Through employee engagement measurement, organizations can identify profiles of engaged employees as well as opportunities to increase engagement levels. The weighted mean of this table comes from the data gathered by the researchers and it shows that the following respondents answered the survey are as follows:

- The result in variable 1 shows that 56% of respondents are very satisfied, while 38% are satisfied, and 6% are dissatisfied, indicating that most are very satisfied and passionate about their work.
- The result in variable 2 shows that 37% of respondents are very satisfied, 39% are satisfied, 23% are dissatisfied, and 1% are very dissatisfied, indicating that their employer trusts them with tasks that contribute to the department's overall success.
- The result in variable 3 shows that 51% of the respondents are very satisfied, then 32% are satisfied, while 15% are dissatisfied, and 2% are very dissatisfied, indicating that most are very satisfied with their skills necessary for their job/task.
- The result in variable 4 shows that 30% of respondents are very satisfied, followed by 41% who are satisfied, 22% are dissatisfied, and 7% are extremely dissatisfied, indicating that the majority are satisfied with how their managers or supervisors recognize them if they do their job competently.
- The result in variable 5 shows that 18% of respondents are very satisfied, 46% are satisfied, 25% are dissatisfied, and 11% are very dissatisfied, indicating that most are satisfied with their department's celebration if they progress toward their goal.
- The result in variable 6 shows that 25% of respondents are very satisfied, followed by 42% who are satisfied, 27% who are dissatisfied, and 6% who are very dissatisfied, indicating that the majority are satisfied with their overall performance goal (Table 5).

Table 5. Average Measurement of Role Based-Culture

Variables	Weighted Mean	Verbal Interpretation	Rank
Communication with your supervisor	3.13	Very Satisfied	3
Recognition received from your supervisor	2.91	Satisfied	5
Your supervisor's management capabilities	3.01	Very Satisfied	4

Your supervisor's active involvement in your career development Your overall relationship with your supervisor	3.15	Satisfied Very Satisfied	2
Your relationship with your peers	3.43	Very Satisfied	1
Composite Mean	3.09	Very Satisfied	

The data from table 6 above shows that on a scale of 1 to 4, where 1 is the lowest score and 4 is the best. The weighted mean on the communication with their supervisor is 3.13, on their supervisor's management capabilities is 3.01, Their overall relationship with their supervisor is 3.15, and their relationship with their peers is 3.43. Based on the weighted mean of the 4 variables, it means that they are very satisfied. The weighted mean on the recognition they receive from their supervisor is 2.91, and on their supervisor's active involvement in their career development is 2.91. Based on the weighted mean of the 2 variables, they are satisfied. According to the weighted mean of all variables, the composite mean is 3.09 which means that they are very satisfied with the role based-culture in their workplace.

Measuring a company's culture establishes standards for how employees should act, collaborate, and perform as a team. In this manner, culture can help to blur the lines between siloed teams, direct decision-making, and enhance overall workflow. The weighted mean of this table comes from the data gathered by the researchers and it shows that the following respondents answered the survey are as follows:

- The result in variable 1 shows that 38% of the respondents are very satisfied, then 41% are satisfied, while 16% are dissatisfied, and 5% are very dissatisfied, indicating that most are satisfied with the communication with their supervisors.
- The result in variable 2 shows that 33% of the respondents are very satisfied, then 35% are satisfied, while 26% are dissatisfied, and 6% are very dissatisfied, indicating that most are satisfied with being recognized for the work they've done.
- The result in variable 3 shows that 39% of the respondents are very satisfied, then 29% are satisfied, while 26% are dissatisfied, while 6% are very dissatisfied, indicating that most are very satisfied with their supervisor's capabilities.
- The result in variable 4 shows that 38% of the respondents are very satisfied, then 29% are satisfied, while 21% are dissatisfied, and 12% are very dissatisfied, indicating that most are very satisfied with how their supervisors are involved with their career development.
- The result in variable 5 shows that 42% of the respondents are very satisfied, then 39% are satisfied, while 11% are dissatisfied, and 8% are very dissatisfied, indicating that most are very satisfied with their relationship with their supervisor.
- The result in variable 6 shows that 58% of the respondents are very satisfied, then 32% are satisfied, while 6% are dissatisfied, and 4% are very dissatisfied, indicating that most are very satisfied with their relationship with their co-workers (Table 6).

Table 6. Average Measurement of Quantity of Workload

Variables	Weighted Mean	Verbal Interpretation	Rank
Mental Demand: How mentally demanding was the task?	16.43	Very High	1
Physical Demand: How physically was the task?	15.76	Very HIgh	3
Temporal Demand: How hurried or rushed was the pace of the task?	15.58	Very High	4
Performance: How successful were you in accomplishing what you were asked to do?	11.84	Low	5
Effort: How hard did you have to work to accomplish your level of performance?	16.23	Very High	2

Composite Mean	14.61	High	
Frustration: How insecure, discouraged, irritated, stressed, and annoyed were you?	11.81	Low	6

The data from Table 7 above shows that on a scale of 1 to 20, where 1 is the lowest score and 20 is the highest. The weighted mean on the Mental Demand is 16.43, on Physical Demand is 15.76, on Temporal Demand is 15.58, and Effort is 16.23. This means that these 4 variables are very high on demand. The weighted mean on the Performance is 11.84, and on Frustration is 11.81, which means that these 2 variables are low on demand. According to their overall mean, the score is 14.61 which is high on demand in the quantity of their workload.

Workload analysis, also known as "query probing", collects details about your warehouse queries as you execute them and then examines the resulting data to identify which queries would benefit from acceleration. The weighted mean of this table comes from the data gathered by the researchers and it shows that the following respondents answered the survey are as follows:

- The result in variable 1 shows that 33% of the respondents choose the score of 20, 2% choose the score of 19, 12% choose 18, 4% choose 17, 29% choose 15, 3% choose the score 14,13, and 12, 2% choose 11, 8% choose 10, and 1% choose 5, where most of the respondents' mental demand scores are very high.
- The result in variable 2 shows that 30% of respondents choose the score 20, 2% choose 19, 7% choose 18, 3% choose 17, 7% choose 16, 26% choose 15, 5% choose 14, 3% choose 13, 4% choose 12, 1% choose 11, 8% choose 10, 1% choose 9, 1% choose 5, and 2% choose 1, where most of the respondents' physical demand scores are very high.
- The result in variable 3 shows that 29% of the respondents choose the score of 20, 4% choose 19, 3% choose 18, 4% choose 17, 3% choose 16, 30% choose 15, 6% choose 14, 2% choose 12, 1% choose 11, 13% choose 10, 1% choose 8 and 9, and 3% choose 5, where most of the respondents' temporal demand scores are high.
- Accord the result in variable 4, 11% of the respondents choose the score 20, 2% choose 19, 4% choose 18 and 17, 3% choose 16, 24% choose 15, 3% choose 14, 2% choose 13, 12, and 11, 14% choose 10, 1% choose 8 and 6, 6% choose 5, 2% choose 3 and 2, and 17% choose 1, where most of the respondent performance scores are high.
- According to the result in variable 5, 31% of the respondents choose the score of 20, 6% choose 19, 11% choose 18, 2% choose 17 and 16, 25% choose 15, 1% choose 14, 3% choose 13, 2% choose 12 and 11, 13% choose 10, and 1% choose 9 and 5, where most of the respondents' effort scores are very high.
- The result in variable 6 shows that 20% of the respondents choose the score 20, 2% choose 19, 4% choose 18, 3% choose 17, 1% choose 16, 12% choose 15, 2% choose 13, 3% choose 12, 1% choose 11, 26% choose 10, 3% choose 9, 2% choose 8, 3% choose 5, 1% choose 4 and 3, 2% choose 2, and 14% choose 1, where most of the respondents' emotional status score is low (Table 7).

Table 7. Average Measurement of Four Factors

Variables	Weighted Mean	Verbal Interpretation	Rank
Employee Satisfaction	2.91	Satisfied	3
Employee Engagement	3	Satisfied	2
Role Based- Culture	3.03	Very Satisfied	1
Composite Mean	2.98	Satisfied	

Variable	Weighted Mean	Verbal Interpretation
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Quantity of Workload	14.61	High
Qualitity of Workload	1 1101	111511

Table 7 presents the measurement of four factors that affect the Productivity and Performance Efficiency of Warehouse Worker in Taytay Rizal. According to the research, respondents with a NASA-TLX score of 15 are highly productive and perform efficiently, while those with a score of 15 who were measured for employee satisfaction, engagement, and role-based culture were found to be satisfied (Table 8).

Table 8. Pairwise Pearson Correlation Between Performance Efficiency and Productivity

	Performance Efficiency		
	r- value	value p- value Decision	
Productivity	0.198	0.039	Significant / Reject Null Hypothesis

Legend: a < 0.05 Significant

a > 0.05 Significant

5.1.2 Hypothesis Statement

Null hypothesis: There is no significant relationship between the performance efficiency and productivity. Alternative hypothesis: There is a significant relationship between the performance efficiency and productivity.

The Pearson correlation coefficient of performance efficiency and productivity is 0.198 which indicates a very weak correlation and the p-value of 0.039 is lower than the 5% ($p \le 0.05$) which means that the correlation coefficient is statistically significant thus, the null hypothesis is rejected (Table 9).

Table 9. Pairwise Pearson Correlation for Performance Efficiency

	Performance Efficiency		
	r- value p- value Decision		
Employee Satisfaction	-0.013	0.891	Not significant / Accept the null hypothesis
Employee Engagement	-0.038	0.696	Not significant / Accept the null hypothesis
Role Based- Culture	-0.047	0.631	Not significant / Accept the null hypothesis
Quantity of Workload	0.046	0.634	Not significant / Accept the null hypothesis

Legend: a < 0.05 Significant

a > 0.05 Significant

5.1.3 Hypothesis Statement

Null hypothesis: There is no significant relationship between the performance efficiency and the different factors. Alternative hypothesis: There is a significant relationship between the performance efficiency and the different factors. The Pearson correlation coefficient of performance efficiency and 4 different factors are all lower than 0.199 which indicates a very weak correlation and the p-value are higher than the 5% ($p \ge 0.05$) which means that the correlation coefficient is not statistically significant thus, the null hypothesis is accepted (Table 10).

Table 10. Pairwise Pearson Correlation for Productivity

	Productivity		
	r- value	alue p- value Decision	
Employee Satisfaction	0.132	0.172	Not significant / Accept the null hypothesis
Employee Engagement	0.134	0.166	Not significant / Accept the null hypothesis
Role Based- Culture	0.142	0.141	Not significant / Accept the null hypothesis
Quantity of Workload	-0.081	0.404	Not significant / Accept the null hypothesis

Legend: a < 0.05 Significant

a > 0.05 Significant

Hypothesis Statement:

Null hypothesis: There is no significant relationship between productivity and the different factors. Alternative hypothesis: There is a significant relationship between productivity and the different factors. The Pearson correlation coefficient of productivity and 4 different factors are all lower than 0.199 which indicates a very weak correlation and the p-value are higher than the 5% ($p \ge 0.05$) which means that the correlation coefficient is not statistically significant thus, the null hypothesis is accepted (Table 11).

Table 11. Multiple Regression for Performance Efficiency

Term	Coefficient	P- value	Decision
Constant	3.411	0000	
Employee Satisfaction	0.524	0.286	Not significant / Accept the null hypothesis
Employee Engagement	-0.583	0.452	Not significant /Accept the null hypothesis
Role Based- Culture	-0.017	0.971	Not significant / Accept the null hypothesis
Quantity of Workload	0.0169	0.574	Not significant / Accept the null hypothesis

Legend: a < 0.05 Significant

a > 0.05 Significant

Table 11 illustrates the multiple regression analysis of the Performance efficiency versus Employee satisfaction, Employee engagement, Role based- culture, and Quantity of workload. The regression equation applied consists of 4 independent variables and 1 control variable. The constant or the controlled variable which is 3.411, Employee satisfaction which is 0.524, Employee engagement which is -0.583, Role based-culture which is -0.017, and Quantity of workload is 0.0169. Based on the coefficient collected in Employee engagement, and Role based-culture, since it has a negative value, there is 1 unit increase. Thus, Performance efficiency is expected to decrease by 0.0583 and 0.017 units. In Employee satisfaction, and Quantity of workload, since it has a positive value, there is 1 unit decrease. Thus, Performance efficiency is expected to increase by 0.524 and 0.0169 units. The data that has been distributed from the analysis of variance are normally distributed. It shows that reject ho (null hypothesis) if and only if the p-value is less than or equal to the level of significance (p≤0.05). In the given results, the Employee Satisfaction (0.286>0.05), Employee Engagement (0.452>0.05), Role Based- Culture (0.971>0.05), and Quantity of Workload (0.5740.05) shows that they are not statistically significant since their p-values are greater than the level of significance (0.05) which means that it is failed to reject the null hypothesis (Table 12).

Table 12. Multiple Regression for Productivity

Term	Coefficient	P- value	Decision
Constant	3.207	0000	
Employee Satisfaction	0.055	0.908	Not Significant /Accept the null hypothesis
Employee Engagement	-0.091	0.903	Not significant / Accept the null hypothesis
Role Based- Culture	0.203	0.660	Not significant / Accept the null hypothesis
Quantity of Workload	-0.0226	0.435	Not significant / Accept the null hypothesis

Legend: a < 0.05 Significant

a > 0.05 Significant

Table 12 illustrates the multiple regression analysis of the Productivity versus Employee satisfaction, Employee engagement, Role based-culture, and Quantity of workload. The regression equation applied consists of 4 independent variables and 1 control variable. The constant or the controlled variable which is 3.207, Employee satisfaction which is 0.055, Employee engagement which is -0.091, Role based-culture which is 0.203 and Quantity of workload is -0.0226. Based on the coefficient collected in Employee engagement, and Quantity of Workload, since it has a negative value, there is 1 unit increase. Thus, Productivity is expected to decrease by 0.091 and 0.0226 units. In Employee satisfaction, and Role Based- Culture, since it has a positive value, there is 1 unit decrease. Thus, Productivity is expected to increase by 0.055 and 0.203 units. The data that has been distributed from the analysis of variance are normally distributed. It shows that reject ho (null hypothesis) if and only if the p-value is less than or equal to the level of significance (p≤0.05). In the given results, the Employee Satisfaction (0.908>0.05), Employee Engagement (0.903>0.05), Role Based- Culture (0.660>0.05), and Quantity of Workload (0.435>05) shows that they are not statistically significant since their p-values are greater than the level of significance (0.05) which means that it is failed to reject the null hypothesis.

6. Conclusion and Recommendation

After conducting the study, the researchers concluded that, through use of statistical treatment with Multiple Regression analysis and Pairwise Pearson's Correlation, the data results within the various factors affecting the performance efficiency and productivity of warehouse workers are recognized as The Pearson correlation coefficient of performance efficiency and 4 different factors are all lower than 0.199 which indicates a very weak correlation, and the p-value is higher than 5% (p \geq 0.05) which means that the correlation coefficient is not statistically significant and, thus, the null hypothesis is accepted. As for the relationship between performance efficiency and productivity, it is correlated and statistically significant, and based on the results, the researchers failed to reject the null hypothesis. The Pearson correlation coefficient of performance efficiency and productivity is 0.198, which indicates a very weak correlation, and the p-value of 0.039 is lower than the 5% threshold (p \leq 0.05) which means that the correlation coefficient is statistically significant and, thus, the null hypothesis is rejected, and at Table 14. It illustrates the multiple regression analysis of the performance efficiency versus employee satisfaction, employee engagement, role-based culture, and quantity of workload, which resulted that they are not statistically significant since their p-values are greater than the level of significance (0.05) which means that it failed to reject the null hypothesis. As for the multiple regression analysis of productivity versus employee satisfaction, employee engagement, role-based culture, and quantity of workload, It is shown in Table 15. This resulted in their not being statistically significant since their pvalues were greater than the level of significance (0.05) which means that it failed to reject the null hypothesis. The respondents indicated in Table 10. that they are very satisfied with their performance efficiency and productivity even though the quantity of workload is high, which is why the researchers failed to reject the null hypothesis of the independent variables.

Based on the conclusion, the researchers proposed the following recommendations:

- For future researchers, it is recommended to find a different independent variable that correlates to the dependent variables, such as productivity and performance efficiency.
- The researchers recommend for future researchers that they should also consider the number of populations, such as changing the confidence interval to 95% in Slovin's sampling size, which may change the results of the data gathered.

• As for our intervention in order to increase the retention in warehouses as well as other forms of workplace that may use our development program, the researchers created a program where the employees such as warehouse workers will develop different skills. This intervention is based on their comments when we were gathering the data. The method as well as the pros and cons of such methods are shown in Table 13.

Table 13. Development Program

Method:	Pros:	Cons:	Recommendation:
coaching - to help the workers to develop their personal capabilities and capacity to empathize and understand others. Inspire Creativity Empowerment Performance Support	 Improve individual performances Identify Strength and weaknesses Develop a potential employee Career growth for employees 	 Time constraints Discomfort 	 Must be motivated and voluntary for those who want to join. The joiners must know how to handle the criticism or feedback.
SAFETY TRAINING - to have a safe and secure workplace that ensures the safety and success of everyone. • Proper Uniform • Optimize Warehouse Layout • Practice Emergency Drills • First Aid Training	 Develop a healthy and positive culture Working becomes second nature to everyone. Minimize the risk of injury. Increase Productivity 	 Time consuming. Cost. Quality of work depends on the quality of training. Language Barriers. 	 Have professionals demonstrate the training. Have Learning Objectives. Provide continuous self-service learning. Relate to the job of the workers.
CERTIFICATION TRAINING - help and boost the workers' professional credibility and to help their employers' time and money by being more efficient. • Logistics and Supply Chain Management • Warehouse Operations • Transportation Rules	 Structured learning. Integrated Approach. Enhanced credibility. Additional Knowledge and Skills. Increase Efficiency. 	 Cost. Shortcuts. Cannot replace experience. 	 Must be voluntary. Must be motivated. Present and demonstrate the importance of training.

Leadership Skills			
MATERIAL HANDLING TRAINING - for everyone, so all of them or majority of the workers will have another or improve their skills. • Forklift Training • Conveyor Training • Pallets, Stacking, and Racks Training • Packaging Training	 Increase the expertise of the workers. Build a competitive advantage. Improve productivity. Prevent skill gaps. Reduce wastage. Reduce inventory. 	 Time consuming. Loss of interest. Cost. Results may depend on the quality of training. Maintenance. 	 Consider the employee engagement and interest. Evaluation of different skills of workers. Consider Ergonomics when designing the material handling system. Create a warmup program to avoid workplace injuries or accidents.
COMPREHENSION AND PEOPLE SKILL TRAINING AND ACTIVITIES - to improve the worker's morale, become more efficient when doing their job and complete their task quickly. • Implementation of policies or incentives to encourage a good lifestyle. • Communication and Teamwork training. • Encourage positive habits. • Time Management Activities or training. • Facilities. • Scheduled checkup. • Critical thinking. • Seminar or meeting every week about the problems and recognition of the workers.	 Reduce absenteeism. Reduce organizational stress. Better team cooperation. Improve employee wellbeing. Reduce insurance cost. Increase worker's productivity and satisfaction. 	 Cost for facilities. Time consuming activities. 	 Consider the environment. Identify the worker's health needs. Assessment of worker's capacity. Promoting a healthy lifestyle. Demonstrate the importance of having a healthy environment and as an individual.

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