

Effectiveness of Systems Applications and Products (SAP) Business One in the Inventory Management of CPAC Monier Philippines Inc.

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Abstract: The paper studied the level of effectiveness of using accounting system in inventory management of CPAC Monier Phils. Inc. This specifically answer the significant relationship on the level of effectiveness of using an accounting system based on the six factors of business productivity framework and five features of effective inventory management system when grouped according to their profile. The six factors are collaboration, business insight, flexibility, usability, familiarity and transactional efficiency while the five features are accuracy of in-stocks, availability of timely report, inventory segmentation, cost optimization and accurate forecasting. Data gathering was done through survey questionnaire and available inventory reports. Data were analyzed thru descriptive statistics, JMP statistical tool and Microsoft Excel. Frequency, percentage, weighted mean and chi-square test. Effectiveness was measured into three levels base on the perception of the user: highly effective, effective and not effective. The levels of the system effectiveness was then associated to the business productivity measures in terms of its six factors. Chi-square test was used in determining the relationship between respondents profile and features of an effective inventory management system. Results of this study bear significance in the context of the organization's continuous effort to decrease the On-time In-full Invoice Complete rate through effective inventory management.

The findings of the study implied that using accounting system in inventory management of CPAC Monier Phils. Inc is effective. This study suggests the following, thorough system initialization, regular trainings for all SAP users, reliable back-ups for the system, good internet reception and customize report generation.

Keywords: Inventory Management, OTIFIC, SAP, Business Productivity Framework.

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Introduction

In a fast-paced business environment, every organization needs to properly maintain its essential records like list of assets, personnel service records, and processed raw materials and products to be globally competitive. And in the process of maintaining critical records, problems like lost of data, inaccurate information, and difficulty in generating the needed reports can pose a threat in every organization's productivity thus preventing it in gaining

competitive advantage among its peers. Information technologist implements an information system to an organization's business operations to solve the identified problems in maintaining an organization's records. Information system is a group of IT related components like computer hardware and software, telecommunication channels, storage devices, and updated procedures designed to perform specific tasks.

One of the leading information systems introduced in the market is the System Applications and Products (SAP). SAP Business One is an integrated enterprise system resource planning software that targets business software requirements of small and medium sized enterprises. CPAC Monier Phils Inc believed that SAP Business One is the best choice to maintain the company's day to day transaction. Concrete Product Aggregate Corporation (CPAC) Monier Phils Inc. is a joint venture between La Farge of France and Siam Cement of Thailand. It is engaged in manufacturing and distribution of concrete roof tiles and playing the business for ten years.

CPAC Monier is currently maintaining big bulk of finished goods including supplies, accessories and other assets. Inventory is one of the company properties that needs a thorough inspection, analysis and maintenance, in other words a company inventory should be managed well. Inventory management helps a company to provide accurate stocks for forecasting and timely reporting for business decision and strategy making. SAP has inventory module feature in their packages, CPAC believed that this is one of the best help in the inventory management of the company. It will also proved that SAP Business One will ensure that there will be a successful output in the status of the organization particularly in the On-Time In-Full Invoice Complete (OTIFIC) which is used in the evaluation of business productivity as a business unit of the directors who owns the organization. OTIFIC rate is computed based from the completion of Purchase Order of customers in relation to the actual deliveries served to the customers.

This research arises from the low OTIFIC rate that the company has experienced. As the company engaged in the manufacturing of concrete roof tiles, CPAC Monier Philippines Inc. is maintaining a big bulk of inventory. The company which is located at San Felix, Sto. Tomas Batangas. CPAC Monier Philippines Inc is the only manufacturer of concrete roof tiles who has its own production plant that uses machine in manufacturing roof tiles.

This research is made to help the company to find ways improve the management in terms of report generation and presentation in its inventory management by maximizing the full potential of SAP Business One information system. It will offer the advantages of using an information system in maintaining an organization's inventory by showing its benefits over file management approach. The comparison will be based from the six factors of business productivity measures adapted from Keystone Strategy Firm and from the good features of inventory management by Jon Schreiberfeder. This research will also explain the basic transaction of inventory cycle of the SAP Business One focusing on the inventory module of the system. Aside from the basics of inventory module it will also explain the steps of the inventory turn-over of the CPAC Monier Philippines Inc.

Statement of the Problem

This research paper entitled "The Effectiveness Of Systems Applications and Products Business One In The Inventory Management Of CPAC Monier Philippines" located in San Felix Sto. Tomas Batangas seeks to answer the following questions:

1. What is the personal profile of SAP Business One user at CPAC

Monier Phils. Inc. in terms of:

- 1.1 educational attainment;
- 1.2 job position;
- 1.3 length of service; and
- 1.4 type of SAP user?

2. What is the level of effectiveness of SAP Business One in the inventory management of finished goods based on the six factors of business productivity:

- 2.1 collaboration;
- 2.2 business insight;
- 2.3 flexibility;
- 2.4 usability;
- 2.5 familiarity; and
- 2.6 transactional efficiency?

3. Is there a relationship between the profile of respondents and their perception in the level of effectiveness of SAP Business One in the inventory management of finished goods based on the six factors of business productivity?

4. What is the level of effectiveness of SAP Business One at CPAC Monier Phils Inc in terms of the features of an effective inventory management system:

- 4.1 accuracy of in-stocks;
- 4.2 availability of timely report;
- 4.3 inventory segmentation;
- 4.4 cost optimization; and
- 4.5 accurate forecasting?

5. Is there a relationship between the profile of respondents and their perception in the level of effectiveness of SAP Business One based on the features of an effective inventory management?

6. Is there a relationship between the six factors of business productivity and features of effective inventory management system?

7. What areas of the inventory management system at CPAC Monier Phils. Inc. need improvements?

Significance of the Study

At the end of this study the researcher believed that the company as a whole will benefit, the top management for business strategy and decision making, the sales department for accurate forecasting, the finance department for accurate valuation and the researcher will also gain benefits from this research through continuous learning of innovative information which will help me grow more as an individual.

Scope and Limitations

The study generally covered the uses of SAP Business One information system in the inventory management of CPAC Monier Philippines. The study is limited on the SAP Business One Module only because there are other SAP Business information system existing. The study focused on the inventory cycle of the finished goods of CPAC Monier

Philippines. It focused from the production to the delivery of the roof tiles for the year 2008. This study will cover the inventory issues for the past two years that CPAC Monier Phils Inc is using the System Applications and Products Business One (SAP Business One). The basis of determining the effectiveness of SAP Business One will be the six factors of business productivity measures adapted from the study of Keystone Strategy Firm and the different features of effective inventory management.

This study was conducted based on the actual inventory movement of the company. It used historical transactions for the last 12 months of 2008. It compared the OTIFIC rate for the last 12 months of 2008. All the persons involved in the inventory management were interviewed regarding the help of using SAP Business One system. The information gathered was analyzed using a graphical presentation of the OTIFIC rate.

Theoretical Framework

This chapter shows the theoretical framework based on the framework of Keystone Strategy Research firm under the direction of Dr. Marco Iansiti, a professor of Business Administration at the Harvard Business School. The framework is designed to show the effectiveness of using information system in relation to business productivity of a company. The business productivity is measured using six factors: collaboration, business insight, flexibility, usability, familiarity and transactional efficiency. The concept of inventory management and SAP business one is added in the framework to further explain the queries and questions of the readers. Inventory management and SAP business one concept are based from the results of the research conducted by the researcher in the internet.

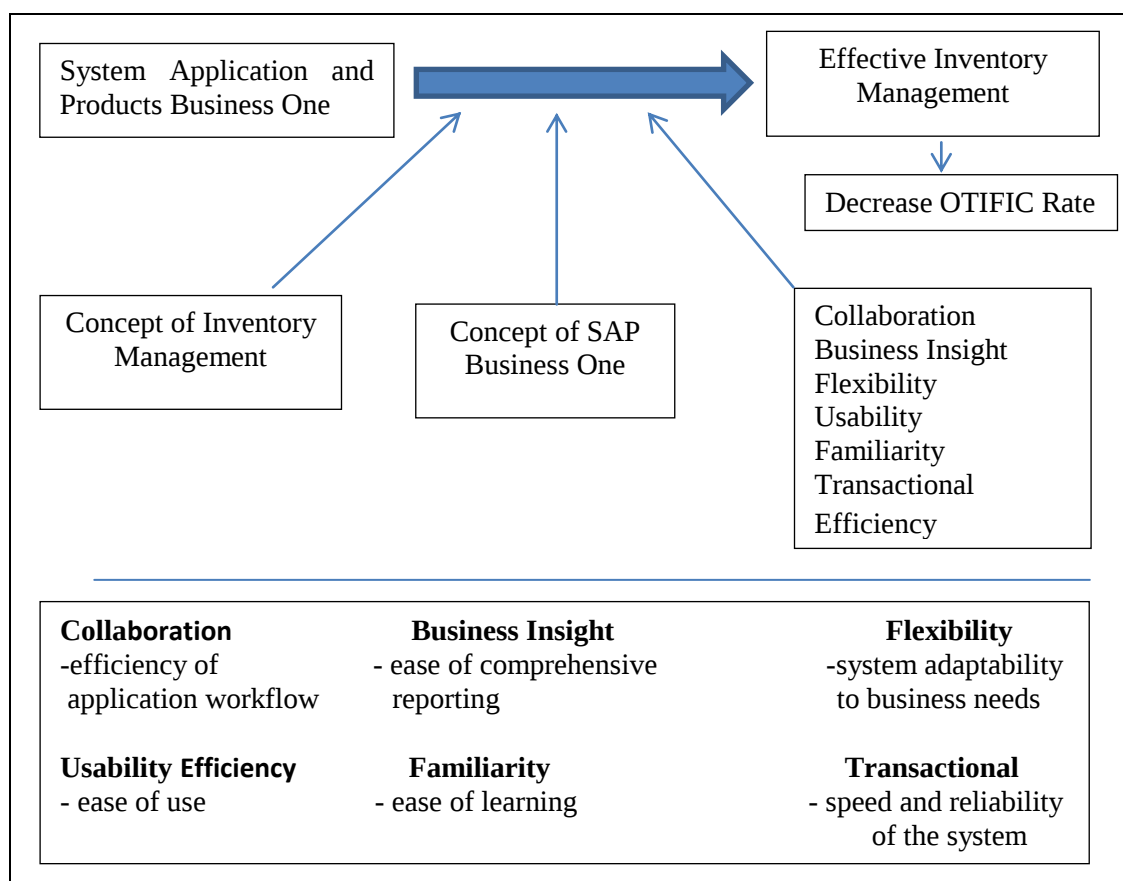


Figure 1. Business productivity measurement framework

Operational Framework

The operational framework shows how this study was conducted. This will show how SAP Business One information system will help CPAC Monier Phils to effectively manage their stocks. A survey was conducted by the researcher to all the employees with access to the inventory module of SAP business one, the questionnaire in the survey is based from the six factors used in measuring the business productivity pattern from the model made by Keystone Research firm.

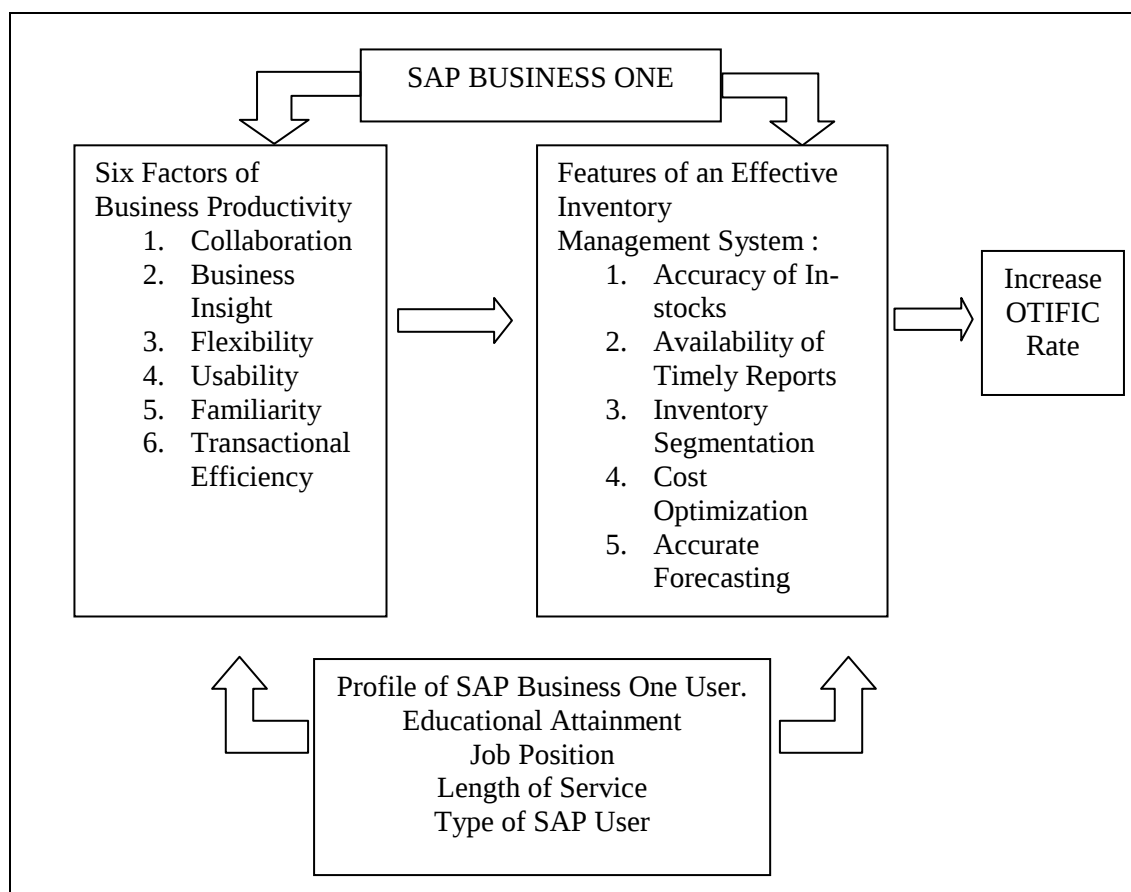


Figure 2. Research Paradigm

Research Design

The main focus of the study is to determine the effectiveness of using Systems Applications and Products Business One. The descriptive method of research was used in this study, through the primary data gathered from the survey. Correlation will be use in determining the relationship between respondents profile, six factors of business productivity and features of effective inventory management system.

The assessment was focused on the factors identifiable with business productivity measures pattern from the framework in the study conducted by Keystone Strategy Research firm, and from the features of a good inventory management according to Jon Schreibfeder.

Sampling design

A purposive sampling technique under the non-probability category was used in the study. Total sampling means restricted sampling where the researcher would choose all the respondents to get the total percentage of the population. Primary data were gathered from all the employees of CPAC Monier Phils. Inc with access to the Inventory Module and other

modules of SAP Business One, primary data were collected using the questionnaire and interview methods.

Respondents of the study

A total of twelve persons are the respondents of this study. The respondents are composed of the logistics coordinator, the warehouse officer, the purchasing officer, the sales and administration coordinator and her assistant, accounting supervisor, cost accounting officer, production supervisor, production secretary, credit and collection officer and her two assistant and other employee who has concerns with the inventory. The managers and CEO's were considered in the interview and survey but based only on their availability.

Effectiveness was measured into three levels base on the perception of the user: highly effective, effective and not effective. These levels are based from the ratings given by the respondents on the survey given to them. The levels of SAP Business One effectiveness was then be associated to the business productivity measures in terms of its six factors. (collaboration, business insight, flexibility, usability, familiarity and transactional efficiency). Chi-square test (Correlation) was used in determining the relationship between respondents profile and features of an effective inventory management system.

Findings

1. On the profile of respondents, 83 percent of the respondents are college graduates and 17 percent of the respondents have master's degree. The frequency distribution according to educational attainment shows that all respondents are capable of analyzing the capability of an information system. Seventeen percent of the respondents are supervisors, 25 percent are officers and 58 percent are staff. This shows that more than 40 percent of the respondents are officer and supervisor which make the results more reliable since they are the ones with more access and transactions that deal with SAP Business One. Around 67 percent of the respondents stayed for the company for less than three years, 25 percent has served for four to six years and eight percent is working in CPAC Monier for more than seven years. Even though there are more respondents who stayed for less than three years, the result is still reliable since SAP Business One information system is only implemented three years ago. SAP Business One has different types of users, eight percent of the users is considered a super user or user who has no limitation on the use of the system, 58 percent are professional user, these are users who have licensed but have limitations of access in the system and 33 percent are CRM users or users who can only view SAP Business One information system.

2. On the level of effectiveness of SAP Business One information system based on six factors of business productivity, the respondents assessment indicate that all of the six factors of business productivity which are collaboration, business insight, flexibility, usability, familiarity and transactional efficiency are all effective in the features of SAP Business One information system that is used in CPAC Monier Phils Inc. Of the six factors of business productivity, SAP Business One information system is most effective in terms of usability based on the perception of the user. This shows that SAP Business One is user friendly and can easily be navigated.

3. On the relationship between the profile respondents and their perception on the level of effectiveness of SAP Business One based on the six factors of business productivity, the respondent assessment indicates that there is no association between the profiles respondents to their perception on the level of effectiveness of using SAP Business One information system in CPAC Monier Phils. Inc. Among the respondent's profile, job position is the most

likely to have significance in most of the six factors of business productivity since most of the features of SAP are manipulated by employees who has higher position.

4. On the level of effectiveness of SAP Business One based on features of an effective inventory management the respondent assessment indicates that all of the features of an effective inventory management such as accuracy of in-stocks, timely reports, inventory segmentation, cost optimization and forecasting are all effective in the features of SAP Business One information system that is used in CPAC Monier Phils Inc. Among the features of an effective inventory management system, based from the perception of the user, SAP Business One is most effective in terms of inventory segmentation. Inventory segmentation is very helpful in a company that maintains big bulk of inventory just like CPAC Monier Phils Inc. This indicates that SAP Business One information system is effective in properly managing the inventories of a company.

5. On the relationship between the profile respondents and their perception on the features of effective inventory management, the respondent assessment indicates that there is no association between the profile respondents to their perception on the features of effective inventory management by using SAP Business One information system in CPAC Monier Phils. Inc.

6. On the relationship between the six factors of business productivity and features of effective inventory management, usability is the only factor which shows that there is weak and not significant relationship between the two factors. This is because usability deals with the uses of system itself and is not concerned with the process of inventory management.

7. On the aspect of SAP Business One that need improvements, most of them said that the initial implementation should have been done in a more thorough manner. Report generation was also one of the most concerned areas of SAP Business One user especially the officers and supervisory levels. Trainings and pre testing are also one of those major concerns of the SAP users. Aside from report generation, trainings and initial implementation, power interruption and internet connections are the other concerns of the SAP Business One users of CPAC Monier Phils. Inc.

Recommendations

In general, it is recommended that CPAC Monier Phils. Inc. should continue to use SAP Business One information system in their inventory management and other transactions such as financial, banking, sales and production because the results shows that SAP Business One is effective based on the perception of the user in the level of effectiveness based on the six factors of business productivity and features of an effective inventory management system.

CPAC Monier Phils Inc uses SAP Business One as their information system for more than two years. Some of the recommendations of the researcher are the following, thorough system initialization, regular trainings for all SAP users, reliable backups for the system, good internet reception and customize report generation. On inventory management system, customize inventory segmentation is the area which most of the respondents wanted improvements.

It is also recommended to improve the level of effectiveness of SAP Business One in the inventory management system of CPAC Monier Phils Inc. Trainings and seminars will help the SAP user to fully utilize the features of the system. It is also recommended to maximize

the use of all the features of SAP not only the inventory module but also in other modules such as human resource management, banking, financials and even production.

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