ASSESSMENT OF THE EFFICIENCY OF CUSTOMER ORDER MANAGEMENT SYSTEM: A CASE STUDY OF SAMBAJO GENERAL ENTERPRISES JIGAWA STATE, NIGERIA.

Muhammad Yakubu,

Kampala University, Department of Business and
Management Studies,
Ggaba P.O.BOX 25454, Kampala, Uganda

Abubakar Yahaya Bakabe
St. Lawrance University Uganda Department of
Telecommunication Engineering,
Mengo P.O.BOX 24930, Kampala, Uganda

Abstract: The Supermarket Management System deals with the automation of buying and selling of good and services. It includes both sales and purchase of items. The project Supermarket Management System is to be developed with the objective of making the system reliable, easier, fast, and more informative.

Keywords: Employee, customers, managers, staffs, online order, supermarket.

1. Introduction

Order management system is the administration of business processes related to orders of goods and services from a customers to a seller. With the rapid growth of online retail world, when the number of orders placed, the number of shipments made is growing rapidly, a good order management system/ sales management system can help a retailer save a lot of time and make their life much easier. It includes the process of tracking a sales order from inception (when the order is placed from the buyer the administrator check the store for the available stocks, if stock ordered are available or not a notification sent to the buy when stock a not available the order will be cancel, if stock a available the buy will paid, then the order will be deliver to the buyer). Order processing is an important area for improvement to achieve efficiency in supply chain performance. For high performing organizations efficiency in the processing of customer orders is a distinguishing characteristic (Esker 2013). Although the manual system of order management has its own benefits, the electronic system seems to be more advantageous for being faster and efficient in processing of information; automatic generation of accounting documents like invoices, checks and statement of account. With the larger reductions in the cost of hardware and software and availability of user-friendly accounting software package, it is relatively cheaper like maintaining a manual accounting system. Many types of useful reports can be generated for management to make decisions, on timely information can be produced. However, the digital system has its own disadvantages as well for example, power failure, computer viruses and hackers are the inherent problems of using computerized systems. Once data been input into the system, automatically the output are obtained hence the data being input needs to be validated for accuracy and completeness,

we should not forget concept of GIGO (Garbage In (Input) Garbage out (Output).

Lack of integration among different stakeholders in the supply chain causes fall in business performance and reduced profit and market share of the business (Whitepaper 2007). An order management system (OMS) automates and streamlines order processing for businesses. An OMS provides constantly updated inventory information, a database of vendors, a database of customers, a record of customer returns and refunds, information on billing and payments, order processing records, and general ledger information. Benefits of a well-implemented OMS include improved sales visibility, improved customer relations, and efficient order processing with a minimum of delays and backorders. Order management is important primarily in the retail industry, but also in the telecommunications, health care, pharmaceutical, financial, and securities sectors

2. Statement of the Problem

Business transactions yield a valuable data which provides information on that facilitates the monitoring and proper management of businesses. The information needs to be accurate, easy to retrieve and secure. Currently some supermarkets still use paper based kind of system for monitoring and managing their business. This paper based system is prone to errors, difficult to retrieve when it increases in volume, and it is insecure whereby any unauthorized one could access it, misplace it, tear it, and so forth. What's more, it enables employees as well as all the stakeholders of the business to waste their time as they wait processing their transactions.

It's also less accurate in comparison to computerized processing system. Besides, there is difficulties in which it would be hard to track stock products knowing how much you bought and how much products and goods you sold plus stock balance. It is difficult to track finance whereby it involves how much money you spent on purchases and expenses, how much you got from sales, how much you have in bank, how much you have in cash and lastly how much you have for profit/loss. Tracking customer orders, customer details and managing stuff details could be another challenge in the manual system. Employees always encounter a problem when they generate periodic reports from sales or purchases and profit/loss.

The situation in the study area (Sambajo General Enterprise) with regards to customer order management system was not different from those found in other places. Complains from both staff and customers with regards to difficulties experienced in managing customer orders are so frequent leading to frustrations, loss of customers, less productivity etc. Thus, this study was designed to look into issues relating to customer order management system with the aim of ascertaining its SWOT analysis so as to come up with a better system that bring to end the numerous difficulties faced by both staff and customers.

The current system in Sambajo General Enterprise customer's information collected where recorded manually with pen in the record book which included: name, email, residential address, phone number and business address if a business man is. There were a lot of problems with this manual system. The data collected varied from employee to another a day 300 to 400 attended the store. Most of the time the hand-writing was unclear when it was typed in a hurry, to Search for a customer details when needed is become a problems. They is a need to develop a system to record such information.

3. Requirements for the solution

There is needed to create a better solution for customer information record system. The solution will be used by employees and management as well as customers.

The new solution should provide a unified way of storing the customer data. In other words the information stored should not fluctuate depending on the employee who stored it. The data should be easier to find than with the manual bookkeeping.

The system should speed up the daily work with the employees working with the customers. The customer information usability should be enhanced for both the employees working with customers and for the management managing the daily work. The new system will also allow the customers to order online without visiting the supermarket

4. Materials and Methods

The study involved 155 respondents comprising of 55 staff of the Sambajo General Enterprise and 100 customers selected using the Purposive and Systematic Random sampling techniques. Descriptive Survey design was used deploying both qualitative and quantitative approaches. A closed ended questionnaire was used to collect quantitative data while one on one Interview was also used to collect qualitative data. Collected data was analyzed in SPSS Version 20 using Descriptive Statistics.

5.1 Analysis of results

5.2 Efficiency of the system in use

One of the fundamental data necessary for the design of a customer order management system is the evaluation of the efficiency of the current system in use. Quantitative data was collected in order to analyze efficiency of the current system at the store.

Table 1: Response of staff on the efficiency of the current system (paper based)

Categories of responders	Number of responder	Frequency (%)		
		Less efficient	Efficient	Very efficient
Managers of the supermarket	3	2 (66.6%)	1	0
Operational staff	37	20 (%)	17	0
Customer care services	15	14(%)	1	0
Customers	100	98 (%)	2	0
Total	**155**	**134 (86.5%)**	**21 (13.5%)**	**0**

The above table indicates responses of the respondents in respect to the efficiency of the current system in use i.e. paper based system. The table shows that out of the total respondents of 155, 134 of them (86.5%) agreed that the current system was less efficient while only 21 of them (13.5%) stated that the system was efficient. Among the 3 managers involved in the study, 2 said the current system is less efficient (66.6%), only 1 claimed that the system is efficient (33.3%) while on the part of the operational staff out of 37 of them, 20 stated that the current system was less efficient (54.0%) and 17 said it was efficient (45.9%).

With regards to the customer care service, 93.3% of the respondents stated that the current system was inefficient while only 6.6% claimed that the system was efficient. Finally, with regards to customers' responses on the same issue, 98% of them stated that the system was inefficient while only 2% felt the current system was efficient.

5.3 Ease of use of the system

Table 2: Responses in relation to ease of use of the current system

Categories of responders	Number of responders	Easy	Difficult
Managers of the supermarket	3	1 (33.3%)	2 (66.6%)
Operational staff	37	10 (27.0%)	27 (72.9%)
Customer care services	15	2 (13.3%)	13 (86.6%)
Customers	100	10 (10%)	90 (90%)
Total	**155**	**23 (14.8%)**	**134 (85.1%)**

The above table shows responses obtained from the different respondents on the ease of use of the current order system in use at the store. Based on the responses of the managers of the supermarket, 33.3% stated that the system was easy to use while the majority of them (66.6%) claimed that system was not easy for manipulation. On the part of the operational staff, 27.0% of them stated that the system was easy to operate while the majority of them (72.9%) were of the view that the system was not easy to operate. Besides, responses obtained from the customer service staff showed that 13.3% of them believed that the current system was fine while a good number of them was of the view that the system was not difficult to operate whereas the remaining 86.6% claimed that it was difficult to manipulate. Finally, on the part of the customers, only10% was of the view that the current system being used at the store could be easily used whereas the majority of them (90%) stated that the system was difficult to operate.

6. Feasibility Study

This was how problems inherent with the current manual system being used at the store were examined based on the requirements for the development of the proposed system were weighed in order to find out the possibility of overcoming them. This was looked at from three different perspectives; operational, technical and economic perspectives.

6.1 Technical feasibility

This was conducted with the aim of examining whether the operational and managerial staff of the Sambajo General Enterprise as well as the customers had the technical knowledge how to operate the new system proposed to be developed. From the results obtained from the feasibility studies involving Key Interview Informants (KIIs), all the operational staff (100%) as well as about 78% of the customers interviewed had the technical skills required to operate the system.

6.2 Operational feasibility

The operational feasibility study was conducted with the aim of studying whether the environment at the Sambajo General Enterprise was suitable to operate on the proposed system to be developed. It was discovered that as a result of using the manual order system, whenever customers wanted to shop at the store, they had to go to the Sambajo General Enterprise in person to select what they want to buy and then proceed to the available cashier on seat to pay for what they purchase. As result of this, the supermarket most of the time becomes congested with customers and it took longer time to serve the customers in queues. However, from the findings made from the study operational feasibility study conducted, the supermarket had all the requirements needed to support the new order system proposed to be developed such as the availability of enough space, stable power supply, security as well as sufficient hardware to maintain the new system to be designed. In addition, both the operational staff and customers were found to possess the knowledge and skills required to operate the new system when implemented.

6.3 Economic feasibility

From the interviews conducted with managerial staff of the supermarket, it was discovered that the supermarket can financially afford the cost of the system proposed to be designed and developed with regards to hardware, software, sufficient staff and security. Besides, that survey revealed that 80% of the customers use smart phones which they can utilize in operating the new system when installed.

7. System Requirements

These refer to the requirements needed for the system as a whole rather than individual component of it. These are services that can be grouped into functional and non-functional requirements. Functional requirements vary from system requirement however; non-functional requirements tend to be almost uniform for all types of systems. Examples of such requirements include; efficient

utilization of system resources, time to load, ram required, disk space occupied, usability, maintainability to mention but a few.

7.1 Functional Requirements of the System

In the current system in use at the stores at present, all transactions were recorded on papers whereby a customer presents the commodities he/she wants to buy to the operational staff who then checks for the price of the commodity requested and writes the invoice one by one. From there, the customer moves to the cashiers table for payment. After payment, the purchased goods are brought out from the store and given to the buyer. More often such transactions tend to be so tiresome and stressful leading to errors in the day's records which arise from the manual recording. At the end of each day's business transactions, records of the daily transactions must be balanced before closing. Hence, it is sometimes very difficult to get the record of back date transaction, however when they is a new product in the market the price has to be write and place a side for checking by the operational staffs when customers brought, in some time.

Meanwhile, with the new system proposed to be developed, data from the keyboard can be captured which will be processed by the system such that transaction details can be displayed. With this system, all product details, sales, expenses, suppliers and other transactions conducted at store by the customers and staff can be tracked. The system can as well accept orders from the suppliers and hence calculate the expenses involved. It should provide security mechanism which could restrict any un-authorized access and must allow the administrators to manage and access all information entered by all users of the system. In addition, the system must have a search engine mechanism which allows the stakeholders of the system to search for relevant records and information such as searching customer's details. It also enables users to select and print out the reports generated by the system and makes it easy for users to backup data. The system must also have functions such as updating records, deleting, adding and so on.

7.2 Non-functional Requirements

When fully implemented, the new system must be able to possess the under listed criteria in order to be able to install with case.
The system must not occupy more than 500mb of disk space.
It must be easy to learn and use.
The system must be able to easily load.
The system failure rate not be more than five minutes a months.
The user must able to use the system without errors after five hours of training.
The system must be platform independent.

7.3 Hardware and Software Requirements

This system can run on any computer with minimum speed of 500mhz, ram of 512mb, and 2gb free of hard disk space, 1 eight port switches, 1 uninterruptible power supplies (ups) of 220-240 volts 100 meters of cables. This system can be run on any machine with windows xp or above like windows vista, windows 7.

7.4 Security Requirements

This specifies system behavior that disallows unauthorized users from accessing the system. Thus, unauthorized users should not be allowed to access the database; this can be enhanced by the use of passwords and user names. Relevant information should only be made available to authorized users (staff). Besides, security measures such as antivirus to prevent damage to the software should also be incorporated.

8. Development tools

8.1 PHP and MySQL can be use

PHP and MySQL can be used to develop. There are no licensing costs for these tools. The tools have wide community support and there are lots of examples and tutorials available even for complex application designs, it was noticed that PHP and MySQL are widely supported globally with the hosting service providers.

9. Advantages and disadvantages of the proposed system

It is believed that once the proposed system is developed and fully implemented, a lot of benefits can be driven from it. Some of these are; order can be made within few minutes depending on the number of items a customer wants and the customer will be able to keep track of orders placed and also organize the bill. The managers can as well manage the products and stock in the inventory using the new system. Other benefits of the new system are it saves time, enhances security, reduces congestion, enables large sales, and reduces stress on the part of the customers as well as the staff and so on. One of the disadvantages of the new system may be that of internet and power failure that can bring transactions to abrupt stop.

10. Discussion

Based on findings made with regards to the current system, it was revealed to be so inefficient based on the respondents' views. This finding agrees with that of Maxat *et al.,* who stated that in a study of a restaurant at Switzerland, the customers 46% stated that the Restaurant was in efficient when it come to the order management process. Similarly, with regards to the ease of use of the current system (paper based), it was revealed that those using it (customers, staff and managers) stated that the system was not easy to use and was so tiresome and time consuming. Besides, it was very liable to loss and

destruction. It's a digital world, and every business owner is inundated with finding another solution to streamline work, and to take things "to the cloud." Going paperless has many advantages for business owners. Even so, there are risks that some business owners are wondering exactly what they should keep in a digital space, and what should they relegate to old-fashioned paper methods. Keeping everything stored in a digital format, whether on computer drives, flash drives or in cloud-based systems, is cheaper than printing and storing it on paper. This eliminates the cost of shredding services for paperwork with sensitive information. Some businesses have entire rooms and storage units devoted to archiving paper, Paperless systems eliminate this cost.

In addition, the study was also able to find out that the current system in use at the Sambajo General Enterprise was not easy to use and was too stressful and tiresome. Many studies have confirmed this further explaining the benefits of using the digital order system. When everything is stored digitally, versus on paper in files, accessibility becomes quick and easy. Employees, consumers and business owners have access to all data, contracts and consumer files with just a few mouse clicks. This eliminates having to locate the file or form, which saves everything at a go one time. Meanwhile, when information is stored on paper and locked in file cabinets, someone would need to physically have access to the papers to steal information. Hackers don't need to worry about this when everything is stored digitally. Business owners often get too busy to update software and virus protections, making it easier for hackers to install spyware, steal information or hijack company data.

Furthermore, the recent years have gone through a rapid growth of ecommerce and as a result of that the distribution of goods to consumers has reshaped (Birner, 2015). Consumers of online shopping, increasingly use numerous of internet enabled devices. A global standard for all online payments is under development by the consortium.

With regards to ease of use of the current system in use, the majority of the managerial staff, operational staff as well as the customers stated that the system was difficult to use and more stressful. This finding agrees with that of Resham *et al*. in his paper Volume 2 , Issue 1 January 2014 International Journal of Advance Research in Computer Science and Management Studies Research Paper Available online at: www.ijarcsms.com

11. Conclusion

Sales and Invoice Management is an important aspect of any organization that must be handled skillfully. The implementation of these processes has made the working more efficient, keeps the employees up-to-date and

administrators are well informed to take important decisions. Existing systems have various missing aspects that is covered by the system, making it a better alternative. Another highlight of this system is that it extracts knowledge from data which goes beyond traditional charting tools to determine critical information about customer loyalty, product popularity, employee efficiency and overall organizational success. From the findings made by this study, it can be concluded that, considering the inefficiency of the current system being used at the Sambajo General Enterprise presently coupled with the fact that the system was found to be very difficult to use besides being too stressful and tiresome, the proposed system to be designed if well installed and implemented by the store, all operations of the store with regards to order management and customers details will be highly enhanced. In addition, customer satisfaction will also be improved.

12. Recommendations

Sambajo General Enterprise are encouraged to adopt this system for its efficient running of their operations which enables them to meet their user requirements, especially in the current age of technology where every activity in any organization should integrate computer into their business transactions in order to improve and enhance their services such as vast customer order service.

In fact, data is really vulnerable and very crucial which has to be given a further consideration. Therefore, it can get lost, by deleting intentionally or it can be infected by tragedy like failure of computer hardware or may be, say, a virus can mess it up. Hence, I strongly recommend you to back up all the relevant data for the system in order to avoid any unnecessary risks which could happen to them. Moreover, the system developer has really restricted some forms to be dealt with a concrete data entry. For instance, there are some forms which restricts user to fulfill the required information which he/ she can't skip it due to validation. So, what I really recommend you is that, you need to fill all the required information as indicated by asterisk symbol on the form indicating you it's a must to fill that particular field. If failure so, any data entered by user will not be saved hence error display message will pop up.

Finally, it's also important thing to have a system developer to work with the system if any problems are encountered or may be, say, that if there's need to educate some naïve users of how to be familiar with the system, this   also   recommended.

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[10] Master Project Communication Systems Group (CSG) Department of Informatics (IFI) University of Zurich

[11] Binzmühle strasse 14, CH-8050 Zürich, Switzerland URL: http://www.csg.uzh.ch/

[12] Ardhariksa Zukhruf K Fakultas Ilmu Komunikasi Universitas Mercu Buana , Jl. Meruya Selatan No.01, Kembangan, Jakarta Barat 11650, Efforts to Communicate Corporate Identity through Company Website *International Journal of Science and Research* Volume 7 Issue 7, July 2018 www.ijsr.net

APPENDIX 1
QUESTIONNAIRES

The aim of this study is to investigate the challenges face by the Sambajo General enterprise for customer record and customer order management and suggest the solution for the enterprise. Therefore, I kindly request you to answer the following questions objectively.

1.   What is your position in Sambajo General Enterprise?   **(Tick where appropriate)**

       ☐   ☐   ☐

       Manager   storekeeper   Customer

2.   Are you a computer literate?

       ☐   Yes   ☐   No

3.   Did it take long time to sever one customer?

       ☐ Yes   ☐ No

4.   Do you have back-up copies for your records?

       ☐ Yes   ☐ No

5.   Does it take long to process a customer shopping order and print out a result slip?

       ☐ Yes   ☐ No

6.   Did the current system face challenges as well as weakness of the current paper manual system?

       ☐ Yes   ☐ No

       7. How do you view the current system of managing customer order shopping's?

       ☐ Very easy to use Easy to use   Difficult to use   ☐

8.   Did you encounter a problems when you're trying to storing, updating and retrieving customer orders?

       ☐ Yes   ☐ No

9.   Do you think that Management Information System can help the challenged mentioned in?

       ☐ Yes   ☐ No

12 Which system between the following would you prefer?

Paper-based system   ☐   computerize system   ☐

13.   How are the important records of transactions stored in the Supermarket's stock?

       ☐ Yes   ☐ No

14.   Did the current system is up to standard for recording the customer details?

       ☐ Yes   ☐ No

Thank you for taking time to fill in this questionnaire. Your response is appreciated.