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Development of Computer Based Yarn Production Program

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Abstract

Computer plays a vital role in every type of operations of industry. Instantaneous calculations and control of automated systems help in increasing production, shortening delivery time and improving quality. It aids in researching, engineering, designing, and online processing control of continuous operations. Unless, until you do not have an efficient and reliable management information system you can not feed the management right information at the right time. The objective of this information system is to provide the management a variety of informative data so that budget and historical revenue statistics can be compared with current results and statistics and correct action may stem quickly when necessary. To meet the requirements system has been analyzed by following the system development life cycle (SDLC) technique. Oracle and VB has been used for development of system. Different managerial reports have been produced for providing a ground for decision support system. The computer-based version of this system has unveiled a number of facilities and advantages that are available to both the management and users, which help them in doing their job efficiently.

Key words: Computerization, Yarn production, Database, SDLC

Introduction

The use of computer has brought revolutionary changes, not only in the field of science but also in every sphere of human activity. We are rightly to claim that we are living in computer age. The use of computer has solved multiphase problems of modern life. If we keenly examine manual systems in most of our industries, we may reveal many common problems like certain reports that can not be generated, manual documentation that can causes time wastage, errors and miscalculations, loss or theft of data due to insecurity, difficult maintenance, slower processing and late results creating problems for timely decision making.

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Rapid advances in the Information and Communication Technology (ICT) have changed the way we conduct business. Textile industry of Pakistan contributes a significant share to uplift the national economy. This includes huge exports of yarn, gray cloth in 100% cotton and blended form, bleached, dyed, printed fabrics etc. Textile industry involves a number of steps starting from cotton ginning to the production of fine cloth. In this project one of these step i.e., yarn production is computerized.

The Purpose of "Computer Based Yarn Production Program" is to provide the facility to the management and employees of the organization to perform their jobs effectively and efficiently. This project was directed for design and implementation of a fully operational and integrated cotton purchase and yarn production system for the Arshad Textiles Mills (Pvt.) Limited, Faisalabad.

Materials and Methods

Lee (1998) has explained that an information system is the effective use of hardware, software, data, procedure and people to achieve specific results that supports the company's business objectives.

The computerized system is designed after complete analysis of the manual system. It was planned that initially proposed system would be practiced and after verification; manual system will be converted to computerized one. The replacement of manual system with computer-based system was necessary to improve the performance, information, economics, security, efficiency and service.

From concept to production, we can develop a computerized system by using the SDLC, which contains multiple stages of development. This top-down systematic approach to development, transforms the business information requirements into an operational database (Hoffer, 1998). The old yarn production system was manual, creating a lot of problems and it was also laborious and time consuming.

SDLC is a series of steps that are used to build an information system. The system development life cycle consists of five phases named: System Planning, System analysis, System Design, System Development, and System Implementation

In order to develop a new system a thorough study of old system must be made as it helps to identify

the drawbacks and problems within the system. The old system was running manually and for its each and every step, a separate document had to be prepared that requires more formalities, paper work, and manpower. The choice of software is very important factor to be considered during the development phase of a new system, as there are many tools available in the market (David, 1996). After doing the study and comparisons of some common tools, analyzing the problems and considering the organization needs, it was decided to develop the software in MS Visual Basic6 and Oracle8.

After implementation, the new system should be evaluated. In recognition of the fact that evaluation of information system is important, many evaluation techniques have been devised. These techniques include cost-benefit analysis, models that attempts to estimate the value of the decision based on the effects of revised information theory; simulation problem and user involvement; and information utility approaches that examine the properties of the information. Martin (1990) said that the information utility approach for evaluating information system can be comprehensive and fruitful technique for measuring the successes of the proposed system. Utilities of information include possession, form, place, and time. In order to evaluate information system comprehensively, these utilities must be expanded to include actualization utility and goal utility. Then the utilities can be seen to address adequately the question of who (possession), what (form), where (place), when (time), how (actualization), and why (goal). An information system can be evaluated as successful if it possesses all six utilities (Pressman, 2001). Thus the information system utility framework is a direct way to evaluate a new system based on six utilities of possession, frame, time, actualization, form, place and goal. These utilities correspond to answer the questions of who, where, what, when and why in order to evaluate the information system utilities. Utilities can also serve as a checklist for a system under development.

Results and Discussion

The new system has been developed keeping in view the demand of Arshad Textile Mills (Pvt.) Ltd and its ultimate effectiveness. Electronic data processing methods and use of computer-based system has made it error free. It is efficient and meets the requirements of the mill. It has the capability to store and update information accurately and efficiently. Using the new system, it is very easy to generate different kind of reports that are helpful for making the future decisions. This system is quite easy to operate and free of errors. The evaluation of this system reveals:

- The new system involves very less manual work, which makes it more efficient and accurate in nature.
- The system performs much of the routine work automatically.
- This system needs only one person for entry and calculations, which reduces the burden of work.
- Security in this system safeguards the data from deliberate and accidental damages or access by unauthorized person.
- Record stored in the new system is much faster and requires less physical storage for the data.
- In it retrieval of information is fast, as one does not have to waste time in searching the data in different files.
- The chances of error or duplication have been minimized.
- It is easy to generate different types of reports for management, for any purpose at any time.

Conclusion

The developed computer based yarn production system is implemented after through testing and evaluation. After evaluation it is observed that this system has provided many facilities to the users, management and other concerning entities over the old manual system, like ease in data entry and retrieval, report generation etc. Moreover the use of Visual Basic for front-end development is efficient and powerful and provides many facilities to the programmer; same result has also been concluded by the Hadfield (1998).

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