Lab management software

Technology, Information Technology

Lab Management Software 8th December, There has been an increase in the need for better management of lab samples and related analysis of reports from lab results. This need increasingly calls for an improved lab management system. There are many benefits of such a system if it is well designed and implemented efficiently. The purpose of this paper is to study lab management software. In particular, this paper will look at the benefits of lab management software, its benefits and detriments, in addition to the effectiveness of implementing such system in the handling of the day to day activities in the lab.

Introduction

Lab management software is a set of software technologies meant to replace manual systems in the lab. They are used to automate operations in a lab. The need for lab management software arises from the poor management of lab samples and related analysis including reports obtained after tedious manual processes often cumbered with errors (Dessy & Starling, 2013). Lab management software advance efficiency and collaboration in a modern computer lab by incorporating information. In so doing these software accelerate innovations and facilitate sustainability strategies. These software can be tailored to meet specific requirements for protecting and managing intellectual property (Pearce, 2012). In addition, the software can be used in the planning, analyzing, executing, mining and reporting of experiments and experimental results.

Benefits of Lab Management Software

This section delves into the analysis of the benefits of using lab management software as opposed to the manual process of recording and managing

experiments and experiment data. One benefits of lab management software is assisting lab personnel in making orders. This is because it allows searching across multiple vendors to compare prices of lab equipment and supplies (Pearce, 2012). Further, the personnel may also search from a large database that offers a huge variety of products and thus choose to add new items. Lab management software helps managers to view orders of all their members in one place, and easily edit and remove duplicate and unnecessary items during the processing of orders (Dessy & Starling, 2013). Additionally, lab management software is essential in inventory management. It allows lab personnel to track the location, details and status of lab supplies (Pearce, 2012). Here automatic reports are generated for this tracking.

Further, use of lab management software allows for integration with external data. According to Nichols (2011), these systems allow for linking of online data with an existing research project. Some lab management software even have the capability of managing the lab remotely. Nichols (2011) argues asserts that this is important since the managers don’t have to be there physically to monitor the operations in the lab. The use of these systems enables increased efficiency as data is only entered once and is instantly available for querying, generation of reports and data export. The fact that the data is saved electronically also minimizes paperwork and reduces data loss (Dessy & Starling, 2013).

Drawbacks of Lab Management Software

However, the use of lab management software has some drawbacks. One major drawback is technological limit (Pearce, 2012). The current technology

is limited in the extent of number of tasks that may be automated. Some tasks may not be automated and are left to human hands.

Another drawback is the cost of implementing such systems. Not all organizations can afford the cost of implementing such systems (Nichols, 2011). The ones which do afford also face increased costs of maintenance of such systems.

Further, implementation of such systems requires staff to learn new skills to operate the systems. This is often costly and time consuming.

This paper has researched on lab management software. The use of such systems has been found to be advantageous to the organization, in spite of the few drawbacks experienced. Improved efficiency of these software is imperative to fully benefit from their application. Additionally, the improvement of these systems must be matched by improved hardware capabilities to ensure maximum benefits and full utilization of resources.

References:

Cohen, C., & Cohen, S. (2012). Lab dynamics: Management and leadership skills for scientists. Cold Spring Harbor, N. Y.: Cold Spring Harbor Laboratory Press.

Nichols, J. (2011). Management of Remote Laboratory Data. Laboratory Medicine, VI(XI), 532-534.

Dessy, R., & Starling, M. (2013). Information retrieval and laboratory data management. Analytical Chemistry, 924-948.

Pearce, S. (2012). LIMS — beyond CSV: A strategy for LIMS data quality assurance. Laboratory Automation & Information Management, 13-15.

Roebuck, K. (2011). LIMS: Laboratory information management system. Newstead, Australia?:[Emereo?].