A New Approach to Increase the Efficiency of Classical Approach In Designing Management Information Systems (MIS’S)

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ABSTRACT

Classical approach is one of information systems methodologies that are used to design and build the management information systems (MIS’s), it always uses the all five stages in its life cycle during the design of (MIS). Management information system (MIS) is a computer based system which concerns greatly with computer programs, and according to the availability of wide range of computer programs (software), this paper presents a new approach in designing management information systems by using classical approach according to the type of computer program (software) that (MIS) needs. This approach will lead in some cases to partially use of classical approach life cycle instead of the fully use of the life cycle, which will save time, effort and cost in designing the (MIS) , and this will increase the efficiency of designing (MIS) by using classical approach.

KEYWORDS


1. Introduction:

Management information system (MIS) is a computer based system, which uses computer programs or software, to process the data [10], [11]. Whatever the kind of (MIS) has changed, the function of (MIS) remains the same [10], [11], which depends on: receiving data, data processing by computer programs, and showing the results and decision. [10],[11]

Classical (traditional) approach is one of the information systems methodologies that may be used to design and build management information systems, it always uses the all stages in its life cycle during the design and build of (MIS) [1].These five stages are:

1- Planning Stage: it is the first stage in the information system life cycle, the responsibilities of this stage are:
   - Defining the problem and collecting the required information about problem which the system will solve it.[1],[8],[9]
   - Determining the user’s requirements, which the developed system will solve them.[1],[6],[8]
   - Determining the estimated budget and time to accomplish the system.[1],[8]
   - Suggesting a solution or list of solutions to the problem.[1],[7],[8]

2- Analysis Stage: it is the second stage in the information system life cycle. In this stage the system analyzer will study each solution in the list of the suggested solutions that is obtained from the previous stage (planning stage) and then choose the best solution.[1],[8],[9]

3- Design Stage: it is the third stage in the information system life cycle. Here, the designer’s team will provide all the design necessary requirements such as: input screens, output screens, reports, database and system algorithms.[1],[9]

4- Development Stage: it is the fourth stage in the information system life cycle. Here the system will be programmed and operated.[1],[6],[8]

5- Test and Maintenance Stage: it is the fifth (final) stage in the information system life cycle. Here, the system will be tested if it includes some errors or if it needs to some improvements to be
better and effective in achieving the users requirements.[1],[8],[9]

2. Research Methodologies:

Management Information systems are usually designed and built in order to solve some management problems. This paper shows a new concept in order to define the wide range of management problems according to the type and nature of computer program (software) that will be used to solve these management problems. In this issue, the research divides the computer programs (software) which will be used by (MIS) in order to solve the management problems into two main types:

The first type: Here, management problem needs software, which can be founded as software package, and this means that management problem doesn’t need to build and develop new software, but it needs software package which is ready software, that is available directly in the markets.

The second type: In this case, management problem needs to build and develop its own special software, which (MIS) will use it to solve this problem.

Hence, this research provides a scientific contribution which is: the building of computer program (software) will cause the need to use the design stage, and vice versa. So, if there isn’t need to build a computer program (software), design stage in the information system life cycle will be skipped.

2.1 The First Type of Management Problems:

Now, and according to the properties of the first type of management problems which have been mentioned in this section, the research develops a new approach (MIS New Approach) to build the management information system (MIS) which will be used to solve this type of problems.[1]

The MIS new approach will skip the third stage (Design Stage) in the information system life cycle that is adopted by classical approach. this means that this new approach will minimize the information system life cycle to be four stages instead of five stages, and this will cause to reduce the number of employees that will work in the project team, in addition, the use of this new approach will help to save time, effort and cost, and this will lead to increase the efficiency in building and designing the management information systems by using classical approach.
The MIS new approach will use the classical approach with skipping its third stage (Design Stage) in order to build the management information system (MIS) which will be used to solve the first type of management problems [1].

The resulting management information system from the use of MIS new approach will contain three stages which

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Figure 3: The fist (left) approach is the information system life cycle that is adopted by classical approach; the second (right) approach is the MIS new approach.

3. Application Example:

A pharmaceutical company wants to know the expected amount of its sales during the next seven years, in order to develop its strategic plan for this period. The managing director of the company is looking to find a management information system (MIS) in order to solve this problem.

This problem, doesn’t need to build and develop a special software in order to solve it, since it can be solved by SPSS software package which is an open source software and it can achieve the solution, so this problem can be classified as a first type of management problems, so in this case the management information system (MIS) can be built and designed through the MIS new approach, which will skip the third stage (Design Stage) in the information system life cycle that is adopted by classical approach, and this will help the project leader to avoid the appointment of staff and allocation of budgets for the third stage (Design Stage) also will help to save time, effort and cost.

So, in this case, the project leader will follow the MIS new approach to build and design the required (MIS) which can solve this problem and achieve the users requirements without consuming more time, effort and cost.

The resulting management information system from the use of MIS new approach will contain three stages which
are: data collection, processing, results and solutions, which are mentioned through introduction. [1]

4. Conclusion:

This paper develops a new approach which is defined as (MIS new approach) that builds and designs the management information systems (MIS’s) by using classical approach in order to solve some management problems which this research defines them as: first type of management problems. The MIS new approach minimizes the information system life cycle that is adopted by classical approach to be four stages instead of five stages, so this approach will help to save time, effort and cost, and this will lead to increase the efficiency in building and designing the management information system (MIS) by using MIS new approach.

REFERENCES


