Introduction

My name is Beni Iyaka H00181266 currently studying with Heriot Watt university Dubai campus. This report was submitted to fulfill the necessary course work for Heriot Watt Bachelors of Science in Computer Systems Honors degree.

This report emphasizes on the history, concept, purpose, theories and key authors in the field of systems analysis.

System analysis is a techniques used to solve problems by breaking down a system into components pieces so as to study how well those pieces operates and also interact in order to accomplish their purposes.

This is usually used in the development stage of a project that mainly focuses on the business problem independent to any technology that may be used to implement a solution to the problem.

History

System analysis began as a severe mathematical rational means of comparing the cost, benefits, and risks expected from the alternative future system. The word “System” shows that every decision should be considered as a combination of similar parts organized into a complex whole; and the word “Analysis” focuses on the need to minimize a complex problem and sort out the twisted significant factors so that each of them should be analyzed by the method most suited to it.

Practical example of where system analysis was used in our days is the Brookings airports in the South Dakota USA. This airport never had a weather reporting equipment therefore pilots will land planes without having accurate weather conditions at the airport.

Systems analyst used different stages of system analysis so as to establish how a weather reporting equipment will be of use to pilots and air traffic controllers at the airport.

System analysis was created in the 1950s at the RAND Corporation which is a nonprofit organization that was formed by Douglas Aircraft Company so as to give research and analysis to the United State Armed forces. System analysis was used to support wartime assessments in creating a science of war to evaluate alternative nuclear weapons scenarios. This was later used for the basics for social policy analysis across different areas such as education, poverty, healthcare and municipal services. System analysis is a field that focuses more on the quantitative and qualitative aspects of the product that’s about to be implemented.

Purpose

The basic purpose of system analysis is to evaluate in depth a system by:

* Understanding the goals of the system by using the SMART criteria method.

This method looks at the Specific, Measurable, Attainable, Relevant and Timed. When looking at:

Specific

This analyses the organization general goal and helps it set a specific goal because it has a greater chance of being accomplished that the general goal. To set a specific goal, the organization should be able to answer the “W” questions. Such as:

\* Who: Who are involved?

\*What: What do we want to accomplish?

\*Where: Where do we find ourselves?

\*When: When do we intend to achieve the goal?

\* Which: Which are the constraints and requirements?

\*Why: Why do we have to accomplish this goal?

A practical example will be Boeing and Airbus; when looking at these two flying companies, their general goal is just to transport people from one country to another but Boeing’s specific goal is to get people faster to their destination rather than the capacity while airbus’s specific goal is to carry a larger number of people to their destination and not concerned of the speed.

Measurable

This analyses the current progress and helps it set concrete criteria so as to measure their progress toward accomplishing each goal set by the organization.

The good way of measuring the organization progress is by staying on track, reaching the target dates and also experiencing the exhilaration of achievement that encourages continuing with the effort to reach the goal.

To determine if the organization’s goal is measurable, they need to ask question such as:

\*How will we know when it is accomplished?

\*How much? And how many?

Attainable

This analyses all the goals and helps identify the most important to the organization and also figuring out ways of which they can make them come true by developing the attitudes, skills and financial capacity to reach them.