**Week 6 and 7 slides and explanation of Dr. Ramzan in the video recording.**

**Blue means slide text, and black means the explanation**

**Wk6: Systems Strategy**

**how do we answer the question about the system that we are proposing?**

**Systems Planning is a part of a bigger Systems Strategy.**

System planning is about e.g. selecting team members or the scope of the project.

Planning is to see how, and when, we can do the different components of the system. Planning is about answering the W questions such as these in the following:

**Some key questions to ask here include:**

* Why is this information system being developed?(the purpose or the need)

like when a hospital asks you to develop a system that enhance the the patient satisfaction. And now it is your responsibility to determine how and in which part of the hospital system would you implement your system to get that. The question can be made as “why our customer want this system ?”

* Who are the system’s current and future users?

Here you have to know the user who will use your system. Users are NOT always customers. Customers are those who ask you to develop the system and pay for that. But users are the people who actually use it. So you have to know the users and create profiles. You have to see their skill and educational levels. Also you have to see their acceptance to new technology. Not just the current users, also the potential future users. Because people are changing in the organizations.

* Is the system new or an upgrade or extension of an existing system?

If you are upgrading an existing system that means there is a system that has its design and implementation information and tools that you will follow to complete the work or add new feature. The good thing about it is that the percent of failure is much lower, because nothing is new. And the complexity of development is much less. And the success or failure is not your responsibility because the system is already there.

In the other side. If you are developing a new system from the scratch, you are choosing the method and the tools you will use, and this is an advantage. But the complexity of development and the uncertainty and the cost will be high.

* Which functional areas (departments) will be using the system?

Every department send, receive and share data in any organization. And each department has different functions. For example, some departments relates to human resources, financing, funds and so on. It is a countless number of departments. And your system will be working on a particular department or sometimes maybe more than one department. And also may be the system will work on a small part of department.

**Your research should be able to answer all the questions from the previous slides.**

**Make sure users understand the four Ws:**

Why, Who, When, What

**Your research should also examine the following:**

* The organization’s strategic goals(like when we said in the hospital example, the purpose of developing a particular system is to enhance or increase the patient satisfaction. This is one of the information about the strategic goals of the organization. Like when the organization want to increase the efficiency, productivity, And so on. So you have to know those senior management goals and achieve them.)
* How the proposed system can support these goals. (Here you have to tell how your system will work to achieve a particular objective or goal by showing the advantages and result of your system, and how that affects the achievement of a strategic goal of the organization.)
* Which factors are critical to the proposed system’s success. (projects in planning phase have risks associated with, because all what we have in the planning is a “guess”. Some risks can be ignored, like the risks that we know might happen but we can deal with if it happen and it is small. But the serious risks are those related to the design for example and it affect in a huge manner. Like when we discover that the requirements we gathered were wrong or the, so the coding is wrong too, and that means we have to do a lot of rework.

Risks can be considered as critical factors if they are huge.

Another type of critical factor is “what are the things that the project will be greatly depend upon”.

* Criteria for evaluating the proposed system’s performance. (when we done with the implementation, what are the measures that we can use to evaluate the project performance, useability, and other things. So we have to define parameters, because if we don't define parameters every one will have there way to measure and that might differ. So it has to be clear to everyone what the measures are.)

**Wk7: The Systems Development Life Cycle (SDLC)**

SDLC is defining the PATH which a project can go in.

every project is unique. Each has unique requirements, unique methods. Some of the projects made to upgrade a system, some of the projects are in-house projects, and some made for other organization, some has easy schedule, some others has tough schedule.

Even if the requirements are the same, projects can use different methods.

Those different methods of different projects called SDLC. All projects have requirement gathering, planning, designing, implementing and maintaining, but using different methods (like spiral, agile, prototype, or other models).

* **The development of a new software or application typically follows a methodology.**
* **This is called the Systems Development Life Cylce (SDLC).**
* **A methodology is a series of well-defined phases, performed in sequence, that serve as a framework for developing a system or project. (very important line). This is the definition of the SDLC, and contains all important parts we talked about.**

**It is a method, a method means something we repeat. Method means the procedure that is repeatable, that is properly documented, properly written. That has been executed before.**

**Well-defined phases means that the phases we go through, like analyzing, are clearly defined.**

**In sequence means no one done before its order in the sequence. It also means that the phases cannot be implemented simultaneously.**

**Framework means it is a template, but it is not the actual method, it tells you haw you should do things, so it is not the method by self, it is a guideline. It give the framework and make you then choose the method for your project.**

* **Each phase’s output (results) becomes the input for the next phase.**
* **The initial Planning and Strategy, and to a large extent, the Research you have been working on, are part of the SDLC methodology.**

**Very important diagram**

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**1, 2, 3, 4 are part of the early analyzes. Before starting in gathering the requirements.**

**1) identify the potential systems in the org: Here we see what are the functional areas that the organization has, what are the systems they already has, and what are the systems they need.**

**2) this means to analyz, identify problems in the organization. And then make an agreement with the customer based upon what you found, and this is the system that we will build, and if it is ok then move on.**

**3) feasibility studies: are the studies we make before going heavily in the project implementation. It is a quick analysis. It tells us if, for example, this project is feasible to be built within this period of time, budget or is is legal, or any other factors listed in the figure.**

**4) here is the decision whether the project move on or not, based on the previous studies and problem identification. If the feasibility studies shows that is feasible then you make the decision to go on with the project. In the other hand, if the user is not satisfied of what you can do in the project, or ask for things that you can not do, also if the studies shows that it is not strong enough to continue for any reason; economic for example of any other, then the decision will be Not to continue the project. This process might be conducted only once, or might be done again and again.**

**5) this phase can be divided into two phases but here we have it as one phase. It is about gathering the requirements, analyzing them, finding and solving conflicts if any, make diagrams, perform analyzes to see that if this is what the user wants, and this is how we see the user requirement, what are the steps.**

**Testing is continuously through the phases, because errors can happen any time in the phases. Also feasibility studies are also continues through all phases to see if the project is still good to continue or not.**

Best of luck