Breaking Thought Barriers

Water Fee Solution for Water Corporation, Kassala State, Sudan

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Business Challenge

The Water Corporation is one of Kassala's largest and most successful water service providers with more than $10 billion invested in water services infrastructure. The Water Corporation enjoys an excellent performance record with years of commercial and technical experience.

The corporation provides world-class water, wastewater, drainage and irrigation services to the burgeoning city of Kassala and hundreds of Kassala towns and communities spread over 2.5 million square kilometers. The corporation takes pride in the leading role our organization has played in developing the vast and diverse State of Kassala by providing the most cost effective and suitable business solutions. The corporation does this by continually improving customer service, planning and technology, with a commitment to balancing environmental, social and economic outcomes.

Water Supply Authorities worldwide claim unaccounted for Water of 30% and more leading to huge loss of revenue. Part of the losses is due to non-metering of all the supplied water. A system to track the supplied and billed water by region could reduce part of the losses. CSM's Water Billing Solution is a versatile application which can eliminate the problems found in the whole distribution and billing system.

Purpose of the Web based MIS for Water Corporation
The concept for developing the Web Based MIS for Water Corporation is to track the data collected in different segment in the entire production process. The Web Based MIS should also project its core values and process for different activity to reach out different department, Management personnel etc.

The MIS admin will work in the application for controlling the huge data repository and streamlining this information.

Web Based Management Information Systems mine data from Legacy, Production applications to provide executives, management with comprehensive, real time reporting, available at their finger tips. These applications provide executives access to business critical information, in real time over a secure Internet connection, wherever they are, in their office, on the road or at home. Information pools could include all business critical data warehouses.

Objective
The primary action of developing the MIS application is to gather the requirement. The objective of requirements analysis is to gather the information necessary to develop a system that will fulfill the business objectives of Water Corporation of KASALA City. In the case of a Web-based information system, requirements analysis includes defining the objectives of the application; gathering information about its possible users and their needs, its content and the way in which it will be presented; and generating specifications and recommendations necessary for designing the system. Four elements are central to the analysis of a Web-based MIS system: problem domain, users, content, and presentation.

Elements	Means
Problem Domain	We emphasize the importance of researching and understanding the problem domain of a Web-based information system at the beginning of the analysis phase. The problem domain refers to the "overall environment within which the application will exist. A clear definition and understanding of the problem domain, and how it relates to the Water Corporation of KASALA CITY and its users' goals, is a prerequisite for achieving accurate system requirements. Although the definition of a problem domain is also realized in traditional information system development, the domain and stakeholders considered in the case of a WIS are broader in scope.
Users	There is a close correlation between users' requirements and business objectives. Indeed, the goal of Water Corporation of KASALA CITY is to provide graphical MIS that management are willing to use. Although users of a web based MIS have various attributes that increase the challenges of requirement elicitation and analysis, requirements analysis is still an essential phase of the development process.
Content	Content refers to the pieces of information contained in the Web application or system. Content analysis is important for several reasons: the dynamic and interactive characteristics of a web based MIS, how the information is structured within the system, and the types of data that will best address the users' and needs of Water Corporation of KASALA CITY.
Presentation	As mentioned previously, users of Web-based information systems are acquiring more experience and, by the same token, are becoming more demanding as far as content presentation is concerned. Thus, the visual appearance of a Web-based information system is extremely important. Users have now a plethora of sites they can visit and their expectations grow with the number of sites available for comparison-shopping. Therefore, offering an attractive and easy-to-use interface can make the difference between a system's success and failure.

Solution

There are three types of users for the proposed solution for Water Corporation of KASALA City Corporate Office,

Customer: These users will be treated as the external users of the Water Corporation of KASALA City Web Based MIS. These users will play important roles in executing the entire repository.

Management User: This user will be treated as internal user but access to the data repository will be different. This user will have access to view the MIS graphical statistic for various sections like production, materials, mining, finance etc.

Administrator: This user will have the super power to manage the entire Web based MIS Application, but can also manage both Section & management users accounts, as well as configure certain settings within the application. For example, super users can edit the MIS process parameters which can be changes as and when required. Super Users accounts are strictly limited due to the potential for catastrophic deletion of MIS Data, for security and for preservation of standards and appropriate use of the MIS Application Tools.

In the proposed system every customer & management user will be an authenticate users. They have to register with the system and the administrator will have to authenticate them. The registered user will have two options in the system to get them authenticated. If the section user fills the form and click on submit, this will go to the admin for authentication, but if the admin creates the MIS user id then it doesn't requires any authentication.

The first and the foremost thing which the system will be based on is the organization structure, particularly for the production section. The internal users are mapped to the respective reporting authority. We assume here that the organization has the users who are reporting to their reporting authority. In actual case it may deviate from our proposed system.

The basic idea behind the proposed system is to centralize the scattered information for each of the process for generating data for the MIS. And to store in one location. The system will be referred as Web Based MIS that automates and facilitates Water Corporation of KASALA City MIS generation processes. The primary functional areas in the webs based MIS system will be: metering, Error free billing, timely collection and etc. The data captured by the section coordinator or whoever irrespective of the application tool they are using in the system will stored in a central location so that there will be a minimum risk of losing the data. There will be a single point interaction with the data (Administrator).

Results

There are many benefits to developing a web-based MIS application. However, as with all research techniques, there is trade-offs involved with this methodology. Web-based MIS is not the perfect choice for every study. Below is a table that summarizes some of the key benefits and drawbacks of web-based research.

Benefits	Drawback or Limitation
Data collection is faster.	This is not always true. It depends on the target audience, the list source, and the complexity of the web survey design.
Ability to implement longer, more complex studies.	This is true - within limits. Long surveys often require time, especially for MIS and technical professionals.
Good medium for presenting statistic concepts, lengthy descriptions and visuals.	However, complex graphics and visuals may require high speed internet connections or special player software to view.
Less intrusive	However, guidelines for sending e-mails are becoming very strict and spamming is now a legal issue.
Data accuracy: Respondents are entering the information themselves while viewing the question.	Data inaccuracy: To finish the survey fast, or to get the incentive, some will just enter any response to complete the task.
Less expensive	This depends on your research target and the availability of a project table list.

At CSM, we understand the critical nature of keeping the customer's organiztion up and running from an IT perspective. We understand the technical issues within complex systems and work to put together the best solution to support end users' needs, both today and in the future.

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