



Collaborative Systems: Management and Technical Barriers from Design and Implementation Perspectives- Cases from UAE Public Sector

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ABSTRACT

Collaborative Systems have played major role developing performances in organizations, increase efficiency in taking right decisions, increase coordination and communication among various departments in the organization, and allow managers to detect errors and deal with them effectively. Collaborative Systems have provided link between organization and stakeholders and allow them to participate in decision making for better implementation and adoption.

Collaborative systems have great influence on companies working in governmental sector like DEWA, DU, and Dubai Municipality. Those systems have played major roles in increasing effectiveness, coordination among various departments, allow those companies to provide better services, reducing duplications of processes (save time), saving resources to reduce operating costs, and increase collaboration with private sectors and civil society to achieve what is best for the organization and society as well.

In this paper we will focus on the importance of collaborative systems in most successful public organizations in Dubai (DEWA, DU, and Dubai Municipality) by focusing on real situations or cases they face with collaborative systems and how they deal with it in order to develop a clear perspective that will benefit us in our future careers.

1. INTRODUCTION

Collaborative systems are defined as information systems used to facilitate managerial activities by allowing efficient sharing of data between various projects and departments, sharing knowledge and experiences at various levels within the organizations and among teams (Online, 2018; Quesado and Silva, 2021). Collaborative systems importance vary from industry to another, but all agree that it is an important tool to control operations at various locations and among different teams that will benefit company for

achieving its goals and objectives efficiently and effectively, " collaborative systems are used to to facilitate efficient sharing of documents and knowledge between teams and individuals in an organization" (Blumenthal and Jannink, 2000). Collaborative systems includes many communication tools like emails, video conferencing, project management software, and other tools that allow managers and people in charge to monitor performance, compare current results with preset goals and take

strategic/corrective actions to deal with problems (Tolone et al., 2005). Collaborative systems are considered effective and efficient for reasons related to removing time and location barriers, those systems are enabling for greater number of participants in various divisions, departments, and that will enhance collaboration between all departments for better results (Akkermans and van Helden, 2002; Alshawabkeh et al., 2021; Bordetsky, 2001). According to (Sadiq et al., 2016) the goal of a collaboration software application is to foster innovation by incorporating knowledge management into business processes so employees can share information and solve business problems more efficiently" (Bafoutsou and Mentzas, 2002; Scutto et al., 2017).

The main idea that we will focus on in this paper is how Collaborative Systems are applied by three leading organizations in UAE; why and how they use it and what are the major problems they face during implementation and how they go over them.

2. LITERATURE REVIEW

The increase in the importance of I.T department during the last 20 years has allowed it to be a major department and partner in designing companies strategic plans, set objectives, and providing innovative solutions that other departments can't provide (Farrukh et al., 2023; Gaytan et al., 2023). The importance of I.T will continue to increase as more companies are expanding globally (Aljumah et al., 2021a; El Khatib et al., 2020b), as they need an effective tools to coordinate their activities in the local and international markets (T M Ghazal et al., 2023a), detect errors, and share experiences and needed information among various teams and departments (Abudaqa et al., 2022; AlDhaheri et al., 2023; Gulseven and Ahmed, 2022). According to (Al-Dmour et al., 2023; Aziz et al., 2023; Blooshi et al., 2023; Louzi et al., 2022a) Information technology (IT) benefits the business world by allowing organizations to work more efficiently and to maximize productivity (Aljumah et al., 2021b; El Khatib and Opulencia, 2015; Mubeen et al., 2022), in hard market conditions, strong competition, and market changes efficiency is a major factor to gain competitive edge over competitors (Ahmed and Nabeel Al Amiri, 2022; Nadzri et al., 2023; Nuseir, 2021; Sakkthivel et al., 2022).

Collaborative systems are one of the I.T innovative

solutions that is based on connecting various company actors (teams, managers, departments, and many other related parties) in a simple network, according to (Abudaqa et al., 2021; Ahmed et al., 2022; A I Aljumah et al., 2022a) collaborative system is "a set of actors connected by a set of ties" with actors being "persons, teams, organizations, concepts, etc." (Haitham M. Alzoubi et al., 2022a; Amiri et al., 2020; Nuseir and Elrefae, 2022). Each company having its collaborative system or network will be able to achieve its goals effectively and efficiently, create a working environment where everyone shares his/her knowledge and information with everyone and all collaborate for company success (Alshurideh et al., 2022; M T Alshurideh et al., 2022; Alzoubi et al., 2020; Yasir et al., 2022).

Collaboration among teams, departments, outside partners, stakeholders is considered vital for company success regardless of its size, location, industry, and many other factors vary from situation to another (Alshurideh et al., 2020; Alzoubi and Ahmed, 2019; El Khatib et al., 2022). Collaborative systems have been the most important and innovative solution that has played major role in increasing the importance of I.T department in strategic planning and how its innovative solutions will create a difference. According to (Alzoubi et al., 2019) Collaboration has become the key issue to rapidly answer market demands and changes in all companies, through sharing competence and resources"; collaborative systems facilitate sharing of information, experiences, and many other things that will help company to run its operations smoothly and effectively (Lee et al., 2023; Mohammed T. Nuseir et al., 2022).

Collaborative solutions can be obtained from external sources and that is important to reduce R&D development costs and time needed to design your own collaborative system (Akour et al., 2023; Bawaneh et al., 2023; M T Nuseir et al., 2022a); many companies prefer to go for external vendors to buy a collaborative system that best fit their needs and operations (Aityassine et al., 2022; Al-Marroof et al., 2022b; Haitham M. Alzoubi et al., 2022g; Khan et al., 2022). Cisco is one of those vendors that provides the companies with interoperable solutions allow you to take advantage of new cloud services and 'cloud-connect' them with your existing infrastructure (I.

Akour et al., 2022; Muhammad Turki Alshurideh et al., 2023c; Khatib et al., 2022). We offer a wide range of solutions from the Cisco Cloud, private cloud solutions, and Cisco Powered cloud services from certified partners (Muhammad Turki Alshurideh et al., 2022a; Louzi et al., 2022b). The reason behind those collaborative solutions are to Improve employee engagement (Nuseir et al., 2021), increase customer satisfaction, reduce costs, and accelerate innovation and growth (Almasaeid et al., 2022; Muhammad Turki Alshurideh et al., 2022b; Haitham M. Alzoubi et al., 2022c).

3. METHODS OF DATA COLLECTION

3.1. Interviews

Interviews are considered as qualitative method of data collection where the interviewer ask direct questions to interviewee regarding specific issues for the sake of collecting information about the issue. The interview will be conducted with I.T professionals to discuss how I.T is considered a major factor behind the company success (H M Alzoubi et al., 2022).

- a. I.T people from the three companies (Refer to appendix 2)
- b. I.T vendors (Refer to appendix 1)

3.2. Web researches

Companies websites and other related websites to collect information about various related topics mentioned in the project, surf the net for related managerial/I.T theories for the reasons of comparison and emphasis.

3.3. Hypothesis

- How does Collaborative system designed by I.T Department help in managing companies and solving managerial problems?
- What are the major problems in designing and implementation processes?

3.4. DEWA (Dubai Electricity and Water Authority) Company profile and industry

DEWA is formed in 1992 to be responsible for producing and distributing electricity and water to Dubai. The company has succeeded to execute its mission and has developed itself to meet the expectations of its customers and cope with the huge expansion in the city (Al-Kassem et al., 2012; A I Aljumah et al., 2022b; Arshad et al., 2023; Varma et al., 2023). DEWA has increased its projects and

crews to cover Dubai growth era and the need for updated organization to cover the increase in demand for electricity and water (Khatib et al., 2016; Nuseir, 2020). It is a hard task for senior managers at the organization to cover every single detail related to tens of projects conducted at the same time; the solution was designing a new collaborative system that help the company and managers to run the organization effectively and efficiently (T M Ghazal et al., 2023b; Mat Som and Kassem, 2013; Nuseir et al., 2020). " DEWA employees a workforce of over 9,000 employees who constantly endeavor to see that both the quantity and quality of services provided are of the highest standards in consistency and reliability (El Khatib et al., 2021). In Dubai, DEWA provides over 600,000 customers with electricity and over 500,000 customers with water (Al-Awamleh et al., 2022; Muhammad Alshurideh et al., 2023; Kurdi et al., 2022). Looking and analyzing those numbers we can realize the need and the importance of collaborative system at DEWA and how it helps the company to manage its activities (Muhammad Turki Alshurideh et al., 2023b), various teams, and many projects effectively with minimal errors (Al-Kassem et al., 2013; Al-Marroof et al., 2022b; Haitham M. Alzoubi et al., 2022f; El Khatib and Ahmed, 2019).

3.5. Current Situation at DEWA

DEWA is developing and depending on its "Collaborative System" to meet the challenges of EXPO2020 (data presented in this paper have their reference in the interview conducted with Senior I.T Manager at DEWA). DEWA is expanding its network to cover various and remote areas in the city, DEWA is expecting a huge increase in demand before and during the EXPO2020 and the company must deal with this problem by focusing on new system that allows DEWA to detect problems during peak hours and find solutions (El Khatib and Ahmed, 2020), DEWA engineers and teams are working at different locations the existence of collaborative system the coordinate and organize their efforts is vital for the DEWA success (Taher M. Ghazal et al., 2023; Mohammed T. Nuseir and Aljumah, 2020). DEWA projects are focusing on designing networks and connecting them together; any problem in one unit will influence the whole system and will be negatively reflected on over company performances, and here comes the

importance of I.T department at DEWA that is responsible for designing collaborative system that allows managers to control and teams to communicate for outstanding and efficient performance.

3.6. *The Identified Problem*

As presented above DEWA is under pressure to finish its projects before expo2020 where the company is considered a major partner in this international event (Ahmad Ibrahim Aljumah et al., 2022b; M Alshurideh et al., 2023; T M Ghazal et al., 2023c). Since the beginning of operations (the core of the problem) managers have realized many problems in the inventory system where some locations have to stop working waiting for materials that will come from the main storage area in Jabel Ali, or getting the wrong material that doesn't consistence with material in the order-slip, and sometimes location managers will receive an email that there is a delay in delivery without any previous notice that will allow managers to put contingency or emergency plans. Senior managers (including I.T Manager) at DEWA have realized the huge size of the problem and the vital need for an innovative solution to deal with "inventory problems".

How does Collaborative system designed by I.T Department help in managing companies and solving managerial problems?

Inventory management is considered a critical problem that has its influence on both time (delay) and cost (increase costs and expenses) (I. A. Akour et al., 2022; Al-Kassem, 2014; Al-Marroof et al., 2022a). I.T department at DEWA has suggested a solution that is based on Collaborative system or network the allowed the company to maintain and keep enough stock of inventory to avoid shortages, meet increase in demand, and at the same time avoid storage costs (excess supply) (Haitham M. Alzoubi et al., 2022d; El Khatib and Ahmed, 2019; M T Nuseir et al., 2022b). The collaborative inventory management system designed by I.T is based on connecting POS (Point-of-Stock) to purchasing department at DEWA; that is each time inventory is going out of the stock area, the purchasing department will receive an automatic notification regarding the decrease in inventory (specific amount, location, and price) (Alshurideh et al., 2022; E Tariq et al., 2022). Purchasing department is also connected by the same system

to what is called "Minimum Inventory Quantity" where any decrease in quantity below the minimum required a direct message to CEO and financial department asking for permission to buy new inventory to avoid shortages and loses (Haitham M. Alzoubi et al., 2022b; Khatib, 2022). Location managers are also connected to CEO where demand for materials are send first to CEO for approval; the approval is sent to POS and the location manager will be notified for approval by the POS (A. Al-Marroof et al., 2021; R. S. Al-Marroof et al., 2021b). The POS Collaborative Inventory System designed by I.T ensures that each time inventory is used, this amount of inventory will be deducted from the inventory count, purchasing department must be informed to cover up the inventory gap, and that what will lead to a closed information loop between many departments to have things run effectively and with highest levels of coordination (Akour et al., 2021; Al-Kassem, 2017; R. S. Al-Marroof et al., 2021a; Alzoubi, H MAlhamad et al., 2021).

What are the major problems in designing and implementation processes?

The major problems regarding the POS Collaborative Inventory System designed by DEWA can be summarized as follow:

The short time to design the prototype directly after winning expo2020, where the system didn't go under intensive testing before adoption.

The need to allocate needed inventory to specific location to avoid excess inventory returns and avoid shortages (E. Khatib et al., 2021).

Absence of time schedules regarding needed time from POS to various locations to avoid delays.

Human Resources are not prepared to design training programs to cover all the needed staff and the lack of I.T staff to run the training program (Aljumah et al., 2020; Haitham M. Alzoubi et al., 2022e; Emad Tariq et al., 2022).

the huge size of employees and managers involve in the implementation process (the bigger the number of employees and the size of the company the harder implementation will be).

3.7. *DU Company profile and industry*

DU is considered new to its main and only competitor Etisalat and that what makes the market duopoly where the customers have few choices to choose from them (Muhammad Turki Alshurideh et al., 2023a). The company has started

its operations in 2006 and since this period DU is striving to provide its customers with highest quality services, latest technologies in communication industry (El Khatib et al., 2020a; Hani Al-Kassem, 2021), and providing its customers attractive packages that fit their needs. DU main activities are in Dubai and for that reason the company is considered a strategic partner in preparing for the world expo2020 that is hosted by Dubai; for the followings reasons, I did emphasize on DU and how it uses its I.T department to deal with this current situation.

3.8. Current Situation at DU

Du and Dubai Silicon Oasis Authority (DSOA) has signed an agreement in 2014 to develop the communication infrastructure at Dubai Silicon Park. Du senior managers have realized the importance of developing collaborative systems that link Du headquarter with various teams involved in planning and implementation processes, developing teams from (DSOA), Municipality authorities, and stakeholders involve in this huge project (Aljumah et al., 2023; H. Alzoubi et al., 2022; El Khatib and Ahmed, 2018; Ghazal et al., 2021). Du senior managers have ask I.T Department to design Collaborative system map that provide link with various parties involved in the implementation process; at this stage I.T Department at Du is collaborating with other I.T departments at external vendors to build and design a map that organize the flow of data and communication, asset management, and coordinating various activities (Ahmad Ibrahim Aljumah et al., 2022a).

3.9. The Identified Problem

At the beginning of operations Du was not in vital need for a software that allow the company to coordinate its extended operations, the number of customers was small, and the company projects across Dubai were limited (Mohammed T. Nuseir and Aljumah, 2020). After expo2020, Du has realized the importance of finding a collaborative system that allows Du to manage and track its operations, data basis, manage its assets, and coordinate its expansion projects; I.T department at Du lacks the experience and logistics to find a solution by itself (start operations in 2005) (Nuseir et al., 2023). I.T department at Du has received the permission from senior managers to start looking

for external vendors that will help Du in finding suitable solutions that will help it to finish its expansion process effectively and efficiently before expo2020 (M. El Khatib et al., 2021). The problem can be summarized as the vital need for Du to manage its rapid expansion process, coordinating its spreading activities, and the absence of software that is allowing it to do so; according to Du vice president Abdulhadi Alalyak" the company has undergone a widespread roll out of new facilities and infrastructure, mobile masts and base stations, landing stations and data centers (Al-Kassem et al., 2022; Nuseir and Aljumah, 2022). To give some idea of the scale of operations, having built out its presence across the Emirates, du now has over 3,000 separate real estate contracts related to facilities in the country; for those reasons the company assessed solutions from a number of vendors".

How does Collaborative system Adopted by I.T Department at Du help in managing companies and solving managerial problems?

Du has asked many vendors to provide it with suitable collaborative solution that allows it to manage its operations effectively and efficiently. Du has decided to take the software designed by IBM and it is called IBM's Maximo Asset Management; the importance of this solution according to Du are related to the followings: Du Business activities and processes are mapped carefully to ensure that operations would align with pre-set goals and objectives; where all departments and teams are connected together.

This collaborative solution will allow Du to adjust and update its procedures atomically and with minimal costs.

The system gives us a complete end-to-end enterprise and project asset lifecycle management, that includes the main offices, back offices, retail shops, technical and data centers, and warehouses (El Khatib, 2015).

The new collaborative solution provided by IBM and adopted by Du will insure highest levels of transparency, better collaboration functions, and will lead to more tangibility of the efforts of each function (M T Nuseir and Aljumah, 2020).

IBM's Maximo Asset Management will standardized performance and procedures across all functions, this will lead to greater uniformity in operations and performances.

What are the major problems in designing and

implementation processes?

The major problems regarding new collaborative solution called Maximo that is designed by IBM Computers can be summarized by the following:

As mentioned previously, it is an external solution where Du has to pay huge amount of money to benefit from it.

Time needed to install Du procedures and operations in the system, " some areas have been completed, some areas are in the process, which will take a few months" .

Training staff and the related costs and time needed for that process.

This solution can be used and adopted by competitors (El Khatib et al., 2019; Kassem and Martinez, 2022).

The time needed for updating and installation.

Maximo is focusing on internal operations and procedures with less focus on external issues related to customers' satisfaction and relation with stakeholders.

3.10. Dubai Municipality

- *Company profile and industry*

DM is considered one of the most important national organization in Dubai due to the size of responsibilities allocated to it. DM municipality is founded in 1954 with seven members and limited responsibilities; DM responsibilities have increased to deal with every single aspect related to Global City of Dubai and employing thousands of people and conducting hundred of projects across the city.

- *Current situation at Dubai Municipality*

Dubai Municipality in vital need for a tracking system that allow the municipality to track, control and complete destination projects at the Emirate. According to municipality senior managers "all projects at design stage or under construction to be ready ahead of Expo 2020", but this rapid implementation requires a well designed security and collaborative system that will allow municipality to track those projects at different locations, reduce waste and abuse of resources, organize team participation and efforts, increase safety measures regarding database and information regarding customers and projects, take quick actions when needed, and finally provide communication with various authorities involved in the project implementation like DEWA, Etisalat, Police Department, and other

governmental agencies. The interview conducted with Mr. Abdulmajid AlMulla will clarify how the municipality has designed the required collaborative system and for what reasons, who design the system, and how it is implemented.

3.11. The Identified Problem

Dubai Municipality can summarized its problems by the following points and the focus will be in finding an I.T solution that will help the company to find effective solution,

1. Rapid implementation requires a well designed security and collaborative system that will allow municipality to track those projects at different locations
2. Reduce waste and abuse of resources where the company needs a tracking system that allows it track resources from storage areas to it final destination.
3. Organize team participation and efforts
4. Increase safety measures regarding database and information regarding customers and projects
5. Take quick actions when needed
6. Finally provide communication with various authorities involved in the project implementation like DEWA, Etisalat, Police Department.

3.12. How does Collaborative system Adopted by I.T Department at DM help in managing companies and solving managerial problems?

The I.T department at DM has decided to go for external vendors for the sake of saving time, efforts, and achieve its goals effectively before expo2020. According to Khalid Abdul Rahman Al Awadhi, head of DM's I.T section " Dubai Municipality (DM) has successfully executed a firewall consolidation and upgrade activity for its critical infrastructure using Fortinet's FortiGate network security virtualization. It said the consolidation of multiple firewall clusters and virtualization of the upgraded infrastructure will substantially achieve long term cost savings, ease of maintenance and provide a robust and single layer of IT security". The adoption to this soft ware from Paramount (external vendor) will help DM to achieve the following:-

1. Reduce timely completion
2. Meticulous planning
3. High-level management engagement and

technical brain-storming were the key factors in the early stages of the project.

4. Coordination between managers at various locations
5. Sharing experiences, knowledge, and resources
6. Direct reports are send directly to the selected people based on levels and areas of responsibilities as assigned by senior managers and updated on continuous basis.

3.13. What are the major problems in designing and implementation processes?

As mentioned previously, it is and external solution where DM has to pay huge amount of money to benefit from it.

1. Time needed to install DM procedures and operations in the system, this require huge efforts and collaboration between I.T department at D.M and Paramount team regarding implementation process, training people (coordination with H.R), and other procedures.
2. Training staff and the related costs and time needed for that processes.
3. Time needed for updating, implementation and installation.
4. Paramount Team experience with DM all activities and projects is limited and need hard efforts from both companies to implement the software effectively and efficiently for better results.

4. RECOMMENDATIONS

Information Technology functions and importance have changed during the last 20 years. Companies must realize that I.T is a major tool for expanding globally and coordinating internal operations as well.

Information Technology will provide managers at all levels with needed information and data regarding internal and external operations, information about customers, market threats and opportunities, changes in environmental business forces ; the collected information will help senior managers in Designing company future plans and draw scenario planning that will help the company in avoiding future threats and benefit from future opportunities.

The success of I.T department in designing an

innovative technology solution is measured by the ability of this solution to achieve company goals and objectives, "selecting the right information technology to support business objectives sometimes involves carefully measuring whether the technology offers a tangible return on investment"(Schuerenberg, Beckie, Kelly, 2008).

For effective I.T solutions, senior managers must identify the problem or the specific need for I.T department in order to find the right solution that best fit the problem for the problem.

Sometimes external vendors are better than finding internal solutions for reasons related to time consumed in Research and Development, more effective solutions, and achieve intended results faster.

Collaboration with I.T and non-I.T managers (through collaborative systems) is considered major factor for achieving company goals effectively and efficiently; collaboration is a key factor for better performance.

5. CONCLUSION

We are living in the age that I.T department is major factor in company management, success, and management resources for achieving goals effectively; Impact of information technology has increased to touch every single aspect of companies, societies, and individuals and has changed the way of how the companies are managed, " Impacts of information technology upon individuals, organizations and society - Citizen science - Social computing - Open source - Business model innovation - Pervasive information services-Resources and people management".

I.T importance has increases since the last two decades, local governments and businesses have used it to transfer information among various departments and units, and to build good relations with customers. The use of I.T technology by governments and businesses has developed to deliver more services and increase efficiency to their own work process; those improvements have led to high productivity levels, greater customers' satisfaction, more efficiency and transparency where are considered major factors in building successful and strong stricture that is able to achieve goals and objective effectively and with less cost," Through the use of technology, governments have improved the delivery of services to constituents and increased the

efficiency of their own work processes. These improvements have led to greater citizen satisfaction, increased government transparency and significant reductions in operating costs" (How Information Technology Enhances Government Innovation,2007).

Each company having its collaborative system or network will be able to achieve its goals effectively and efficiently, create a working environment where everyone shares his/her knowledge and information with everyone and all collaborate for company success and better performance, "Adopting to an entrepreneurial collaborative orientation is accepted as strategy through which to improve the performance of firms" in a global/local contexts with many projects implemented at the same time, strong competition in the same industry, and market changes.

I have realized the importance of I.T department during the last two decades and how this department has changed from just data collection and analysis to a major partner in strategic planning for company future, change agent by providing the innovative solutions to current problems, increase transparency, and major tool for achieving goals and objectives. I have realized that 2 from the three companies included in the research paper have decided to go to external vendors to provide them with I.T solutions and design collaborative system that best fit their operations and processes; I.T vendors are able to design and tailor quick solutions that best fits the need of each company and that is another advantage regarding the flexibility of I.T solutions.

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Appendices

Appendix 1

(vendors interview)

1- **Mr. Ahmad Achakzai**, HR Manager at Grand Technology Resources, Information Technology and Services, GTR company

2- **Mr. Ajay K Nair**, Team Lead – Support Department, CAD Gulf Company

3- **Mr. Alexander Sokolov**, Head of IT Department, First Bit Company

Interview Questions

1. How does your company adjust *Collaborative systems to make them fit the needs of different industries and companies?*
2. Who design Collaborative systems at your company and on what bases?
3. What are the advantages and disadvantages of Collaborative system in new market challenges?
4. Do you provide training to your customers?
5. Do you target private or public sectors and why?
6. Do you provide maintenance and implementing services to your customers?
7. *Collaborative systems may confuse managers due to many projects and many departments involve in it, how you deal with this?*
8. How does your company test new

prototypes and why testing is considered important in this business?

9. Do one collaborative system applied to all governmental organizations in UAE and world-wide?
10. What is the relation between *Collaborative systems* and Company infrastructure and capabilities?
11. What are the major problems in designing and implementation processes regarding new collaborative system?

prototypes and why testing is considered important?

9. Who is responsible for training staff how to use Collaborative system?
10. Do one collaborative system applied to all governmental organizations?
11. What is the relation between *Collaborative systems* and Company infrastructure and capabilities.
12. What are the major problems in designing and implementation processes?

Appendix 2

(Interview with I.T people at local organizations)

- 1- **Mr. Abdalla Alhammadi**, Vice President - IT Infrastructure Operations- Du company
- 2- **Miss Fatima Faris**, Engineering Planning Performance Management, DEWA
- 3- **Mr. Abdulmajid Almulla**, Assistant Director Department of Information Technology, Dubai Municipality

Interview Questions

1. How does your company deal with Hardware problems in case of updating existing *Collaborative systems*?
2. How does Collaborative system designed by I.S Department help in managing companies and solving managerial problems?
3. What are the advantages and disadvantages of Collaborative system?
4. Who is responsible for assigning responsibilities, designing Groups, and reporting system that all related to *Collaborative system applied at your company*?
5. What are the departments involved in the company collaborative system and why?
6. *Collaborative systems may confuse managers due to many projects and many departments involve in it?*
7. How does your company involve new staff with Collaborative system used in the company?
8. How does your company test new