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Managing Outsourcing in IT Software Services - A study of 3 Perspectives and 3 Industries in UAE

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A R T I C L E   I N F O

A B S T R A C T

Depending on outsourcing software services is increasing so it became important to understand the idea fully and know how to manage it. This paper aims to identify and prioritize software outsourcing problems facing organizations in the UAE and to propose a solution for keeping these services under control. Thus, to meet project's objectives and answer research questions, qualitative research approach was used to cover "what" and "how" questions of the paper. The research's data were collected through employing semi-structured interviews done with IT managers, business managers and vendors from three organizations and three service providers so a total of nine interviews were conducted. The results indicated that organizations are outsourcing their software services because of some common reasons and in the same time they are facing issues with their service providers. The discussion revealed shared problems among participants and prioritize them according to their repetition. The value and originality of this research comes from revealing the set of problems facing each one of three studied groups: IT manager, business manager and vendors to provide a clear image of the reality of software outsourcing in the UAE and to help future researches about the topic. Based on findings and relevant literature a set of practical implications were suggested to control software outsourcing services and eliminate their risks on clients and vendors.

1. INTRODUCTION

The original outsourcing word from a business perspective is defined as "the strategic use of outside resources to perform activities traditionally handled by internal staff and resources" (Fraihat, 2006). The concept was not formally identified as a business strategy until the early 1990s. However, as other business concepts being affected by the information technology revolution, IT outsourcing emerged. IT outsourcing means outsourcing the information technology related work of the organization to other companies externally. Organizations are focusing on their core business and are relying on outsourcing their IT activities in areas that they had no or low competency internally (Jayatilaka and Hirschheim, 2009).

Companies and organizations are depending more and more on outsourcing IT to cut costs and concentrate on their core business. However, outsourcing IT has brought up its problems and its

increasing as mentioned before (Hopwood, 2018). Outsourcing IT services include hardware, software and infrastructure services according to the contract (Al-Kassem et al., 2022; Varajão et al., 2017). Outsourcing vendors should fulfill their responsibilities based on the agreed quality and time wise. As a result, "outsourcing IT increases the complexity and scope of IT audit" which will be examined later in the paper as the solution for the proposed problems (Farrukh et al., 2023; T M Ghazal et al., 2023a)(Kalbasi et al., 2021).

The UAE as one of the fast growing countries is encouraging the organizations to move towards electronic and smart functions (Muhammad Turki Alshurideh et al., 2022c). Consequently, organizations here are depending on external companies to provide them with technological solutions (H. M. Alzoubi et al., 2022d; Bongomin et al., 2020; Kassem and Martinez, 2022; Khatib, 2022). They are outsourcing their software services from expert vendors because they can't build it internally (M T Alshurideh et al., 2022). This research will be about outsourcing software services in the UAE, the problems they are causing and the solutions which can help in reducing problems or eliminating the negative effects of these problems. (M Alshurideh et al., 2023) All that based on the results of interviewing three organizations in the UAE (Hani Al-Kassem, 2021; Straub et al., 2008).

According to (Muhammad Turki Alshurideh et al., 2023c; Mtsweni et al., 2021), few papers looked at outsourcing relationships from both clients and vendors viewpoints. (Al-Kassem, 2017; Kalbasi et al., 2021; M. El Khatib et al., 2021) also suggested that using the viewpoint of some other stakeholders as well like IT and business managers or staff would provide some new ideas (Rimba et al., 2020). It was decided after reviewing many recent articles that the research done in this paper tries to fill this gap as it is based on several interviews done with IT managers, business managers and vendors (H. M. Alzoubi et al., 2020; E. Khatib et al., 2022; M T Nuseir et al., 2022a). The value and originality of this research comes from revealing the set of problems facing each one of three studied groups: IT manager, business manager and vendors. The objectives of this research are (Al-Dmour et al., 2023; H. Alzoubi et al., 2020; Aziz et al., 2023): identifying and prioritizing problems from IT managers'

perspective, identifying and prioritizing problems from business manager's perspective (Al-Kassem, 2014; Lee et al., 2023; Nadzri et al., 2023), identifying and prioritizing problems from vendors' perspective and recommending a solution for the discussed problems (A I Aljumah et al., 2022a; El Khatib et al., 2020b; Rundquist, 2009).

This paper started with a general introduction about outsourcing and a literature reviewing previous work done about the topic (Almasaeid et al., 2022; H. M. Alzoubi et al., 2022c; Mat Som and Kassem, 2013; Nuseira and Aljumahb, 2020). Most of the used references in the literature review were recent and done after the year 2004 as the topic is a new one while only few of articles done from 2000-2004 were used (A I Aljumah et al., 2022b; Alzoubi et al., 2019). After that the research covered a detailed research methodology done for the project (M T Alshurideh et al., 2022; Arshad et al., 2023; Blooshi et al., 2023; Louzi et al., 2022b), results and findings from the conducted interviews and a section for discussing these results and commenting on the findings. Also, research limitations and recommendations for future work will be pointed out after suggesting a solution for the proposed problems (T M Ghazal et al., 2023c, 2023b; Varma et al., 2023).

2. LITERATURE REVIEW

The global status report on the governance of enterprise IT (GEIT) of the year 2011 which included more than 800 respondents from 21 countries across the globe, (Al-Kassem et al., 2012; El Khatib et al., 2021; Nuseir and Aljumah, 2020) found that outsourcing IT services is one of the major nine IT-related initiatives planned for next 12 months by respondents with a percentage of 26 (Abudaqa et al., 2022; Ahmed and Nabeel Al Amiri, 2022; H. M. Alzoubi et al., 2022b; Gulseven and Ahmed, 2022; Sakkthivel et al., 2022). Since outsourcing was studied as a topic of special interest in the survey, the report (2011) revealed that outsourcing is widely utilized: "73 percent of respondents have fully outsourced some of their IT activities and another 20 percent use partial outsourcing (Abudaqa et al., 2021; Ahmed et al., 2022; H. M. Alzoubi et al., 2022a; Amiri et al., 2020; El Khatib and Ahmed, 2019). Full outsourcing of some IT activities is more prevalent in larger enterprises, enterprises with a centralized organization model, and those in which IT is

considered important or very important to the delivery of the business strategy or vision" (AlDhaheri et al., 2023; H. M. Alzoubi et al., 2022g; Gaytan et al., 2023; Khan et al., 2022; Nuseir and Elrefae, 2022). The report also examined the percentage of outsourcing each IT activities separately, it shows that application development and/or maintenance activity was 38.4% fully outsourced, 43.1 was partially outsourced and 15.1 was not outsourced (Muhammad Alshurideh et al., 2023; Nuseir, 2020). As outsourcing IT software services became one of the current trends locally and worldwide, problems associated with such practice are reported frequently (Ahmad Ibrahim Aljumah et al., 2022b; Alzoubi and Ahmed, 2019; Nuseir et al., 2020). According to the previous edition of global status report of GEIT done in 2008, problems with outsourcers increased from 74 in 2005 to 127 in 2007 (El Khatib, 2015; Nuseir and Aljumah, 2022). Some of the key problems are repeated which means they have been encountered by number of organizations. Problems being confronted not only by clients but also by vendors (Muhammad Turki Alshurideh et al., 2023b; El Khatib et al., 2019). The following paragraphs will go over key points of software outsourcing based on previous researches (Alshurideh et al., 2022; El Khatib et al., 2020a; Louzi et al., 2022a; M T Nuseir et al., 2022b).

IT outsourcing has many advantages and disadvantages for the clients (organizations) and vendors (the outsourcing providers) (Muhammad Turki Alshurideh et al., 2022b; Nuseir et al., 2021). A number of studies indicate that saving cost is the main and major reason behind software outsourcing (Aljumah et al., 2021a, 2021b). Other possible advantages are the need to improve management focus and access technical talent not available in-house besides centralizing the efforts on core business (Mohammed T. Nuseir et al., 2022). Even though outsourcing of development and implementation of IT projects was seen as a popular risk mitigation option for organization which offers the benefits of risk transference (Khatib et al., 2016), cost reduction and improved performance either the projects are outsourced within country or offshore, there are on the other side hidden risks (Ahmad Ibrahim Aljumah et al., 2022a; Ghazal et al., 2021; Khatib and Opulencia, 2015; Yasir et al., 2022).

Like anything else, outsourcing software services has pros and cons (Al-Kassem et al., 2013; H. M. Alzoubi et al., 2022e; Nuseir, 2021). Although IT outsourcing is saving costs for organizations, it has its own risks too so it has advantages but in the same time it has disadvantages (Taher M. Ghazal et al., 2023; M. El Khatib et al., 2022). Clients or organizations which ask for outsourced software services are facing number of problems. (Tariq et al., 2022b, 2022a) listed some problems in outsourcing from customer point of view as follows: outsourcing contract does not bring savings it was intended to, dependence on supplier and loss of control over essential function (R. S. Al-Maroof et al., 2021a; Alhamad et al., 2021; Mubeen et al., 2022). Also, intellectual property protection, quality, communication-language barrier and communication-time zone difference are some of the risks confronting organizations as mentioned by (A. Al-Maroof et al., 2021; H. Alzoubi et al., 2022). Also stated that organizations are facing problems with IT outsourcing like "problems in evaluating outsourcing contracts and ability to manage contract" (Al-Maroof et al., 2022b; R. S. Al-Maroof et al., 2021b)(I. A. Akour et al., 2022). While (Al-Maroof et al., 2022b, 2022a) discussed confidentiality, integrity and availability as risks of IT outsourcing.

On the other hand, vendors who are providing software outsourcing services are facing problems too (H. M. Alzoubi et al., 2022f). That's because when we think that outsourcing decisions is a challenging business action, we must also realize that uncertainties are equal for clients and outsourcers (Al-Awamleh et al., 2022; Muhammad Turki Alshurideh et al., 2023a). Possible problems from vendors' perspective are "the potential of disagreement relating to interpretation of requirements and difficulties in contract monitoring" (Aityassine et al., 2022; Kurdi et al., 2022). Other problems came from demand uncertainty facing vendors like sequential short-term contracts, divide orders and engagement of multiple vendors (Akour et al., 2023; I. Akour et al., 2022). A detailed research done by (Bawaneh et al., 2023) studied the different problems and uncertainties associated with outsourced IT projects from the vendor perspective and categorized them in three main categories. The research conclude and summarize vendors' perspective risks as: first: outsourcing outcome risks like client-side and vendor-side risks, location

risks and package risks. Second: outsourcing relationship risks like client expectations, trust, bad news and organizational culture (El Khatib and Ahmed, 2020). Third category is outsourcing environment risks which include: legal and credit risk, vendor's competition, reputation and contract terms (Aljumah et al., 2023).

Therefore, problems facing both parties have to be eliminated by early management and control or by finding a solution for mitigating them and reducing their negative impacts (Alshurideh et al., 2022; El Khatib and Ahmed, 2018). It was mentioned that "building collaborative partnerships with clients is helpful for reducing the probability and potential impact of risks before their occurrence". In addition, (Aljumah et al., 2020) suggested in his paper a framework to guide the structure of service level agreement (SLA) because organizations lack well-developed service level agreements which are used to gauge and manage IT outsourcing activities and relationships effectively. (Alshawabkeh et al., 2021; Muhammad Turki Alshurideh et al., 2022a; E. Khatib et al., 2021) concluded their case study on risk management for software outsourcing with three advices to have a successful outsourcing project which are: project requirement (Akour et al., 2021), project planning and communication.

Specifically, this research will answer the following questions:

What are the identification and prioritization of problems facing organizations in the UAE due to outsourcing software services from three separate perspectives: IT managers, business managers and vendors?

How to keep outsourcing software services under control?

3. RESEARCH METHODS

The aim of the investigation is to look at the current issues regarding the use of software outsourcing services in number of cases in the UAE. The studied cases of the clients' perspective include one governmental organization specialized in financial sector, one semi-governmental organization specialized in banking sector and one private organization specialized in aviation sector besides three companies which provide outsourcing services. It worth noting that each one of these organizations are located and operating in different emirate and some has branches in other emirate too. This expands the range of the research

to cover different sectors, specializations, locations, organizational culture and structure. Also, it will come across what has already been done regarding the issues and what needs more to be done to find solutions for these problems. Thus, to meet project's objectives and answer research questions, qualitative research approach was used to cover "what" and "how" questions of the paper. The qualitative methodology employed for this study aimed to gather an in-depth understanding of topic using both secondary and primary data. Secondary data collected from articles at journals and reliable websites to assist in writing the literature review and we tried to depend on most recent ones. While the main tool to gather primary data was through conducting semi-structured interviews with people concerned from selected organizations and companies. The data analysis used here was the thematic analysis which is a widely-used qualitative data analysis method that emphasized on identifying patterned "themes" within a dataset. General purpose of such method is to find out repeated points and create a pattern to provide an answer to the addressed research questions. The need for identifying detailed information gathered from the interviews and prioritizing them according to the research questions required applying thematic analysis.

The research was carried out by a group of four members and three of them were responsible to collect the primary data. Each one of three members conduct a total of three interviews: one with IT manager, one with business manager and one with vendor. A standard set of questions were used to make sure that the gathered data from different interviews will be direct and easy for analysis and comparison. Therefore, we selected our questions very carefully to help us understand the reality of software outsourcing services taking place in UAE's organizations with the focus on research questions and objectives. Although interviewers were prepared with standard set of questions, the nature of clients' interviews were in-depth, semi-structured covering open and close questions leading to more questions based on the points discussed between interviewer and interviewee. On the other hand, vendors' interviews was quick and based on few fixed questions. Consequently, a total of nine interviews were conducted. The target respondents were luckily from different administration and

managerial positions from IT and business departments like: Project Manager, IT manager, Manager of Software Engineering, Systems and Applications Manager, Business Team Leader, and Financial Section Manager.

Due to unavailability and time-restrictions, the interviews were held in different manners as some were face-to-face and others were done through long phone calls and in case of needing more clarification about certain point, questions were sent via emails. Furthermore, keeping in mind that there will be restrictions of confidentiality for all participants, only approved information were shared and interviewers were asked whether they accept their personal and organizational names to be shared or not so some agreed and some didn't. In-depths interviews took about 30 to 45 minutes on average and each was recorded. After that it was transcribed and content analyzed to create categories and classify what was expressed in the data. Interview questions for IT managers, business managers and vendors is provided in the appendices along with the detailed transcripts of all the conducted interviews.

We utilized all of the above to achieve the objectives we aimed at as finding out the type of IT service provided by outsourcers, feedbacks of the clients and vendors. Also, since everything has a dark side, we get more into problems and issues that appear and what is the responsive action taken. Besides, how much effort is put into keeping everything smooth and under control. Such as, how organizations and service providers are communicating and cooperating with each other in order to deal with problems as they appear and take a preventive action.

4. RESULTS

As stated previously, we have conducted a qualitative study in the project to obtain the information pertaining to the managers who are outsourcing their software services. The information presented in this section is taken through the interviews conducted with the IT managers, business managers and vendors. Questions asked to IT managers include examples of services they are taking, problems caused in software outworking, reasons for outsourcing services, duration of solving particular problem through outsourcing etc. They were also asked to rate the services provided by the vendors on the

scale of 1 to 5, varying from unsatisfied to very satisfied. Questions asked from business managers were: what services they ask from the IT firms, problems faced by the organization in taking services, why do not built those services internally and go for outsourcing, how outsourcing is making a difference for them etc. On the other hand, vendors were asked some question from their perspective, such as problems faced by them in providing services. Further, they were asked to rate their services and satisfaction on the scale of 1 to 5.

The interviews of the IT managers at SFD, banking sector and aviation sector organizations revealed the following. In SFD, IT managers claimed to be providing the financial system services and sub services such as financial accounting audit system, portal systems etc. According to IT managers, some of the problems faced in software outsourcing include issues of requirement details; it is observed that end users do not provide proper information pertaining to their needs and many times, engineer of outsourcing vendor requires end user to be present at the time of outsourcing the services. IT managers stated that they go for outsourcing services because they do not want their IT department to remain under the pressure and another reason given by them was desired services are provided by the vendors. IT managers provide services to the organizations according to their needs and within time assigned by them. Quality is the basis on which vendors are chosen by the IT managers.

In banking organizations, services provided by IT managers are software development, applications, systems, portals..etc. Main problems faced by them are related to losing control, quality of deliverables, clarity of requirement and time spent on managing vendors' issues, communicating and negotiating with them. In addition to that, some of the problems are related to the contracts such as changing requirements of the clients; it is observed that if project is of longer duration, requirements do change over a period of time so again they have to revise the contract, requirements and cost. Banking organization emphasized that outsourcing is cheap than producing the same services in-house. IT managers have rated their satisfaction as 3 which reflect neutral.

Moving to the aviation sector organization, IT manager there are facing the problem of the costs,

responses of the vendors, confidentiality issues etc. They claim that they are receiving required support from the managers and leaders of the organization. Some of the problems faced by them are related to staff.

Business manager at SFD stated that they ask for the financial services most of the time. According to business manager, some of the problems faced by them are related to the connection error, updating the system etc. According to business managers, taking outsourcing service saves money and time. Reponses for the service they get is based on the nature of problems. Where business manager at banking sector needs the alteration of some current used services, systems upgrade, private documents storage, access admin and any other technological service that benefit their business. Main problem, faced by them is of miscommunication to the vendors and IT managers besides time and integration issues. They do not mind getting outsourcing services until and unless they are getting what they want, so business managers at banks do not think about producing the service by their own. They have rated the services as highly satisfied, with the rating of 5.

Vendors were also interviewed to explore the problems from their perspective. A vendor at Synechron Company stated that major problem faced by them is of understanding the requirements or communication. Problem exists in providing services include changes in software, enhancement of software and contract negotiation etc. Services are rated at the scale of 4 by the vendors. Vendor at galaxy group said that major problem is of connection error. They are very fast in replying the clients. They have rated the services at the scale of 4. Lastly, vendor of "X" company

were asked to share their opinion and views in the same questions. Major problem faced by "X" company is of Scheduling the responses. Other problems are same as faced by the Synechron Company. They respond to the client within 1 to 3 days. Same rating is given by vendor of "X" company like the other two vendors.

On the basis of results, we can conclude that some of the common problems faced by business managers, IT managers and vendors were related to the connection error, miscommunications and time. All the vendors of "X" company, Galaxy Company and Synechron Company were quick in providing the services to the business mangers through IT managers. Business managers at banking sector, aviation sector and SFD were getting services related to financial audit, banking operations and any systems updates. As opposed by IT managers, it saves time, energy and is advantageous to their companies. More or less, it was found that business managers are satisfied with the services provided to them by IT department where they provide services quickly to their clients. This way, we can state that there are some problems which are faced in managing outsourced software services. Problems are faced by all whether it is vendor, business manager, or IT manager. These problems can be solved by proper understanding of the others. Business managers should specify the changes to the IT managers and vendors. Also, there must be proper understanding of outsourcing requirements as improper understanding results in problems for company outsourcing the services. The following table provide a summary of interview results.

Table 1: Summary of interview results

	Organization A (SFD)	Organization B (Banking sector)	Organization C (Aviation sector)
IT manager	IT managers provide financial services and many sub services at SFD. The main problem faced by them is regarding the details of the requirements of the clients. They are not having any problems with the vendors.	Banking organizations provide services pertaining to the organization. The main problem faced by them is strategic decisions. Contract related problem in understanding their clients. The main reason for outsourcing services is monetary, followed by lack of staff. A rating of 3 was given to	IT managers of the aviation sector also faced problems such as costs, responses of vendors and confidentiality issues.

		vendor by IT managers.	
	They acknowledged providing services on the priority basis and given a rating of 4 to their vendors.		
Business manager	Financial services are often taken by the business managers and they face the problems of connection errors and updating of systems. Outsourcing services are taken for saving money and time. Vendors are replying to them according to the nature of the problems.	Alteration of services is needed by the business managers working in banks. Miscommunication is the main problem faced by them. They do not mind getting services outsourced, until and unless they are getting what they want. So, business managers at banks do not think about producing the services by their own. They have rated the services as highly satisfied with the rating of 5.	Time of response, not user friendly, misunderstanding
Vendor	**Vendor A (Synechron Company)**	**Vendor B (Galaxy group)**	**Vendor C (X company)**
	A vendor at Synechron Company stated that major problem faced by them is understanding or communication. Problems at the time of providing services include changes in software, enhancement of software and contract negotiations, etc. Services are rated 4 on the scale by the vendors.	Vendor at galaxy group said that the major problem is about connection error. Other problems are related to software enhancement and changes in the software. They are very fast in replying to their clients. They have rated the services at 4 on the scale.	Lastly, vendors of "X" company were asked to share their opinions and views on the same questions. Major problem faced by "X" company is of scheduling the responses.

5. Discussion

Making the decision to outsource is not new in the UAE, this became more obvious when interviewing three organizations in the UAE. The people interviewed expressed their need and eagerness in using IT outsourcing. Their reasons resembled in what was stated previously in the literature and reiterated by (Jayatilaka and Hirschheim, 2009). These reasons are as follows:

1.   "Lower costs due to economics of scale". This point was agreed upon by all three members in three organizations which were interviewed.

2.   "Lack of in-house resources and skill sets". The financial section manager pointed out that we don't have people who are skilled enough to be hired, so the organization prefer to outsource.

3.   "Outsourcing risk versus keeping control of the process". In this regard they stated that although there are some risks of depending on IT outsourcing, yet the advantages are far more which

in terms encourage them on depending on outsourcing more but with providing solutions for the risks and problems that occur frequently.

4.   "Vendor and contract issues." This point was only stated by IT manager of banking system. Although there are issues regarding the understanding of contract between the vendors and organization. They keep looking for better vendors and try to deal with contract issues.

5.   "The ability to focus on core competencies (strategic advantage)." This point is stated by both IT managers and business managers of three organizations. As they prefer to use outsource as this allow them to focus on core business of their organizations.

What is more, three organizations pointed out number of the issues faced. Here looked at number of issues from different perspectives, namely, from IT manager, business Manager and outsource vendors in the three selected organization for this study paper. Starting first with IT managers from three selected organizations, the IT managers

stated different problems. IT managers from SFD and banking sector were similar in facing issues related to miscommunications and requirement details. SFD IT manager indicated that the end users always miss out the detail for the requirement before vendor finish the design of the applications. Once the demo is ready, the users add more details to the requirements. This lead to have the applications to be created from scratch and this add additional cost for the SFD to pay. While the banking sector IT manager stated that the miscommunications are frequent for the vendors to understand fully of what is required from them. As well as there was declaration of changing requirements in case of long contracts due to market rapid changes in technology. Both of the vendors for these two organizations are providing services with applications, systems and programs solutions. For the aviation sector, problems emerged because they outsource but with no contract which led them pay more and have to pay for every time an engineer has to come to fix the issue, as they are paid per hour for coming. If error occurred with the service, he/she complained of the time of response and how the email needs to be sent in detail for asking for the solutions for any problem. The IT manager at aviation sector complained that the service is really costly, as whenever the issue occurred of its functionality. Interestingly enough, the IT manager at the aviation sector indicated the eagerness of their top managers for using new technologies which could enhance the work flow and helps "the work to be done on the right time and the right way".

Moving on with the business manager of three organizations, all three business managers expressed satisfaction with outsource services they receive from vendors through the IT department. Business managers indicated the resistance from end users on using new software applications or new technologies and require time for training and teaching them. The banking sector business manager pointed out the miscommunications occurring and how the vendors don't provide applications which meet their business need. Business manager at the aviation sector complained about the time of response and high price of fixing services. What is more, the solution is not user friendly. Even with these issues, the business managers are satisfied with vendors' services as these services enhanced

their business processes and work which in turn led them perform greatly in this rapidly changing world.

Moving in with vendors, both Synechron Company and Galaxy group identified same issues faced during service providing. Both complained of not getting enough requirement detail from end users. Synechron faces other issues for having miscommunications with end users which are the cause for their delay and sometimes affects the quality of the final outcome. Galaxy group talked about minor issues they face frequently as network issue or slowdown in server which are solved quickly. Vendor C, however, explained their reasons for delaying their responses to clients' issues. They stated that they are only located in Dubai and Abu Dhabi so once email is received they need to check the nearest engineer to that location and a need of further details about the issue in order an engineer could be provided to solve the problem. Interestingly enough the three vendor companies stated that they are satisfied with their clients whom they are providing services to.

All in all, the identified common problems from the three cases are listed as:
•   Contract confusion.
•   Requirement confusion.
•   Miscommunications leading to applications not meeting business needs.
•   Not user friendly.
•   End users' resistance and need more training sessions.

Consequently, from all the above and after analyzing the results the prioritization of faced issues are as follows based on their repetition:
•   Prioritized problems faced by IT managers:
-       Clarity of requirements (2 organizations)
-       Cost (2 organizations)
•   Prioritized problems faced by business managers:
-       Clarity of requirements (2 organizations)
-       Cost (2 organizations)
•   Prioritized problems faced by vendors:
-       Time (2 companies)
7.   Implications for practice
It is stated in the study done by Ren "the elements of partnership such us trust, cooperation, and communication are essential for outsourcing success" (2010). The case with SFD, as found from interviews, they have developed trust with

outsource vendor, which were galaxy group and developed partnership which led them have minor issues related to outsourcing management. For their issue of not very detailed requirements are given, the solution would be to think what applications they need and list all the requirements to give vendors as this will help save costs. One more point helped SFD to be able to manage the outsourcing successfully is since they involved the vendors and IT department in their business processes which helped the vendors to know in depth of what applications are required from them. The same is applied to banking sector as they select their vendors carefully and build a strong relationships with them, as they elaborate on that point the speed and quality of the deliverables depends on their relations together. Also, due to the high demand of software outsourcers, they are asking their vendors to provide them with expert who can work within organization to fix frequent and urgent issues which strengthen the relation between two parties. "There is now a growing realization that relationship is a crucial factor in the overall success or failure of an outsourcing arrangement".

Furthermore, frequent communication helps avoid misunderstanding and improves cultural understanding which in terms maintain trust. "It has been suggested that trust is crucial for all business relationships as it enables more open communication, increased performance, higher quality deliverables and greater satisfaction in the decision-making process". Organizations and companies could minimize the shortcomings and overcome complexities by establishing trust between vendors and sectors. Thus organizations needs to communicate more frequently as to make the requirements clearer to the service provider. IT department could use the strategy of choosing vendors who share same goals and objectives as sectors, as this will lead to successful outsource arrangements. Then establishing partnership and working effectively is assured.

Other important practical implication is having a clear and well-defined service level agreement (SLA). The SFD provided the vendors with contract stating clearly the SLA which also added to make them fully understand of their work. Although banking sector organization is also following SLA and signing contracts, they face some issues with long period projects because technology is changing very fast and requirements and contracts should be updated too. It is suggested that aviation sector organization needed to start right and start with clear contract since they are facing costs issue because no contracts were signed. It is believed that "contractual governance is the written contractual and management-initiated mechanism designed to guide behavior towards desire objectives". Therefore starting with good detailed contract could help any organization facing issues like uncertainties of what are the requirements or to have to deal with additional costs.

Having metrics to measure the performance of service providers and the productivity of clients is considered as a strategic solution for outsourcing software services along with reward system. Outsource vendors should be controlled as to ensure their performance. As we stated previously, "outsourcing IT increases the complexity and scope of IT audit". This could be done by involving outsource vendors into the governance structure of the organization. It is believed that governance is essential to the stability of client-vendor relationships. So ongoing management and frequent communications to share information are essential to notice problems earlier and solve them quickly. IT strategies and business strategies should be aligned in order to create an integrated frame work which could address these issues and provide "better risk management, the implementation of best practices and cost reduction".

Last suggested implication to be practiced as solution is the implementation of risk management concepts to outsourcing software project. Risk management has been studied a lot in software services outsourcing areas and proved the effectiveness of using risk management in such projects which carry number of uncertainties. Threats are faced by clients and vendors and identifying possible risks altogether with proper mitigation plans will help in preventing problems to happen or eliminate their impacts.

6. LIMITATIONS AND RECOMMENDATIONS FOR FUTURE WORK

Time is the main and major limitation in our research because we had narrow time and many activities to be done. It was started by forming a group, selecting a topic, searching the literature, writing the proposal and finally writing the paper.

While we were restricted with a limited time frame, we had the challenge of finding organizations which accept sharing their software outsourcing experience with us. It was time consuming to search for good cases, contacting them, waiting for their approval and setting a time for the interviews. Other limitation we faced is the lack of information and resources about the researched topic in the UAE although it is widely practiced in organizations in the UAE.

Accordingly, future works should overcome these limitations and use this paper as the base to expand the scope of the topic. The following are some recommendations for further researches:

• Increase the number of respondents (more managers from clients and vendors) so that findings can be more generalized.

• Use focus groups and surveys besides interviews to strengthen the results.

• Compare problems and solutions of IT managers, business managers and vendors.

9. Conclusion and lessons learned

This paper is designed to answer two questions. The first question is about the identification and prioritization of issues faced by organizations in the UAE due to depending on outsource software services. The issues here are looked from three different perspectives in three different selected organizations. For doing so, three types of interview questions were prepared to ask IT manager, Business Manager and vendor representative in each of the three selected organizations. The second question is to look at how to keep outsourcing software under control. This research paper looked at several related literatures and discussed the results found from the interviews. In summary, depending on outsourcing software services is very popular in the UAE specially and around the world generally as it allows organizations to cut costs, investigate technology solutions and move their business toward the 21st century. Few points became clearer and many lessons were learnt by conducting this research paper which are worthy to mention:

1. There are some risks for depending on outsource services, yet it is one of the crucial thing to do in order to be up to date with the advancement of technologies and applications.

2. Using outsourcing applications could add advantages to the firm, as follows:

a. "Meet immediate business needs", as by outsourcing, IT department can work on finding solutions that meet today's business objectives.

b. "Converting IT costs from fixed to variables", having outsource provider support the firm, IT department could develop new skills needed for delivering new systems.

c. "Reducing time to market for new services" by having outsource provider, IT professionals are free to address new technology that can create and bring new services faster to market.

d. "Managing application demand" it department are free to address the ongoing demand for business changes to system.

3. A successful outsource arrangement could only appear if a business partnership established through sharing a clear goals and objectives between two parties.

4. Having a clear and well defined service level agreement in very important to reach the desired outcomes by clients and service providers.

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1. Appendices
Appendix A: Main interviews questions

Questions for the IT managers:
1. What are examples of software services does your organization outsource?
2. What problems are caused by software outsourcing?
3. Why you go for outsourcing software services?
4. How long do you take for solving a problem with outsourced software? (How fast does the vendor respond)?
5. Please rate your satisfaction about vendor software outsourcing services? On a scale of 1 to 5 (1=very unsatisfied, 2=unsatisfied, 3=neutral, 4=satisfied, 5=very satisfied)

Questions for the business managers:
1. What software service you asked IT for?
2. What are the IT software services problems that you are facing?
3. Do you prefer services to be outsourced or to be done in-house or it does not matter?
4. Was it outsourced or built internally?
5. Does outsourcing this service make a difference for you?
6. Please rate your satisfaction about the provided service? (1-5)
Very satisfied 5
7. How fast does the vendor respond for service?

Questions for the vendors:
1. As an outsource vendor, what problems are you facing when providing software services for organizations?
2. The following problems were introduced by IT managers (software enhancement, changes in software, software limitation, clarity of requirements for both clients and vendors, quality of the deliverables, contract negotiations…) do you think that these problems exist?
3. How fast do you respond to clients?
4. Please rate your satisfaction about the software services you provide? On a scale of 1 to 5 (1=very unsatisfied, 2=unsatisfied, 3=neutral, 4=satisfied, 5=very satisfied)
5. Please rate your satisfaction about clients (the way how you are working together)?On a scale of 1 to 5 (1=very unsatisfied, 2=unsatisfied, 3=neutral,

4=satisfied, 5=very satisfied)

Appendix B: Transcript of IT managers' interviews

1) <u>IT manager at organization A (SFD)</u>

1. **What are examples of software services does your organization outsource?**
There is one main application provided which is financial systems.
There are other sub services in financial services and managerial services like employees' portal system, financial accounting audit systems.. etc. We develop any systems that we are asked by different departments of the government organizations depending on their needs and what makes their performance better.

2. **What problems are caused by software outsourcing?**
Yes we faced problems many times. Most of the times the issues are related to the requirements detail, the end users are mostly the cause for not providing detail of the requirements. After the applications are provided, the end users discover that they are missing things. This leads to go through the applications from the start with additional cost.
There are sometimes issues with networking and end-users' confusion of the applications, which requires the need for the engineer of the outsource vendor to be available in the organization all the time. That is why I believe the outsource vendor should provide engineer in our organization.

3. **Have you ever found issues related to controlling the IT outsource?**
No, we never face such problems since we signed a contract and we are using the same vendor every time. So we are happy with their services.

4. **Why you go for outsourcing software services?**
Because there is no guarantees that employees will stay forever in your organizations. You don't want to experience an outstanding engineer to resign which can leave an organization stiff and puzzled what to do as happened at Sharjah electricity and water association (SEWA). Outsource vendors provide you with highly qualified and skilled

employees to provide you with applications and services that you desire. Having IT outsource doing their jobs, give us IT department less pressure to focus on the business of the organization and provide IT support to many departments that don't work with outsource applications.

5. How long do you take for solving a problem with outsourced software? (How fast does the vendor respond)?

There are priorities and categorizations of applications like which once needs faster solving and response. These are classified in service agreement level. The highest level holds great importance to the work and needs faster response. The records are kept of the time each issue was solved. The number of late responses are recorded and vendor will get a penalty for late responses. All these are signed in a contract so therefore, I am satisfied with their speed of response to issues.

6. Please rate your satisfaction about vendor software outsourcing services? On a scale of 1 to 5 (1=very unsatisfied, 2=unsatisfied, 3=neutral, 4=satisfied, 5=very satisfied)

7. How do you choose your software outsourcing vendors?

We look at what we need from services and applications and then we search for vendor which has the qualities and skills needed for such applications. Usually the qualities of around 90 % is enough since there are no vendors that can provide you with every things you want 100%.

2) IT manager at organization B (Banking sector organization)

1. What are examples of software services does your organization outsource?

Development outsourced, software testing outsourced, some parts of operations; IT operations not fully but some parts like infrastructure..etc. When I said development it means like whatever development we do it is all outsourced like applications whether it is a core banking application, whether it is intranet, portals, whether it is online banking. Everything related to software development.

2. What problems are caused by software outsourcing?

Any organization when they decide to outsource, that's a strategic decision. There is nothing perfect in this world, so every strategic decision has some pros and cons. Now these pros and cons depends on how you see it, I might say this is more beneficial for me and you say this is more beneficial for me. So our organization when they outsource, definitely they also know that there are some advantages and there are some disadvantages coz see.

Now the disadvantages of outsourcing is that you lose control over things to some extent because you have dependencies upon external vendors. Another disadvantages is that sometimes the quality of work goes down because others are doing something and you yourself are not doing so if you yourself are doing something for yourself you will do it with a better quality because when someone else do it, the quality is not the same.

Other problems when you do outsourcing is that you have to spend lots of time managing those vendors. Spending time on something which is not productive, something like vendor negotiations, contract negotiations, there are lots of time and efforts you have to spend on those things.

3. What about problems related to contracts?

What happens in contracts specially in software engineering I mean when it comes to, the problems we are facing when contracts is that initially when we do the contract, at that point of time the requirements are not very clear, and when sign contracts with vendors we tell them that this is the work you have to do and they tell us that this is the cost that we have to pay. The problem is because the requirements are not very clear, so initially when the contract is discussed and signed off your requirements are something else, after some time when you actually go in the details you will know that oh my requirements are different or maybe the person who signed the contract didn't understand it properly. So these kinds of things normally happens especially with longer contracts or for long duration. For example, you started a project for two years and when started it you did the contract, now one year back, how you expect the requirements to be same for two years, so what happens that over period of time requirements get

changed so every time you go over your requirements and renegotiate with procurements and legal departments

4. Why you go for outsourcing software services?

As I told you everything has pros and cons. everything has advantages and disadvantages. Now when organization decides something, it differs from organization to organization. So our organization briefly, finds that there are more advantages than disadvantages, so yes there are disadvantages which I told you but these disadvantages can be overcome by some processes and controls. There are lots of advantages also which are:

First of all, everything is about money and outsourcing is cheap and this is first advantage. Second, you are not depending upon the capacity, so for example I have a development team but obviously as a banking sector organization you have a limited number of team and people, how many people you have.. 10.. 20.. 30.. 40.. then what? If some work needs more than 40 people then what you will do? When you outsource you have the advantage that you have unlimited number of resources because you have number of vendors and if you combine the work on them you have almost unlimited number of resources, no matter the capacity you need.. you will always approach it and you can benefit from their help and their experience too. Third advantage, for example you are dealing with ten different systems, if you don't outsource you need to have experts about all these systems in you organization, but if you outsource you don't bother because as a banking sector organization my objectives is focus on financial core business not on IT and all other things so I should be investing in these . So those are IT vendors and they are expert in IT and I should let them develop my IT needs and I should focus on my core business.

5. How are you dealing with the stated problems?

Again, because of the many pros of outsourcing our software we have to come up with solutions to outsourcing problems. We minimize the problems by selecting our vendors carefully, making the right contracts and trying to give specific requirements and I told you we spend lots of time managing and controlling the outsourced work.

6. How long do you take for solving a problem with outsourced software? (How fast does the vendor respond)?

It really depends on our relations with vendors and what type of contracts you signed with vendors. Like in our case, our vendors are very fast. We can have vendor resource virtually with no time delay and if I tell them I need this and it requires someone they will bring resource inside to fix. Even sometimes you work offshore, I don't need a resource, I just tell them this is the work which needs to be done so they will do it and just bring the work.

7. Please rate your satisfaction about vendor software outsourcing services? On a scale of 1 to 5 (1=very unsatisfied, 2=unsatisfied, 3=neutral, 4=satisfied, 5=very satisfied)

3

8. How do you choose you required vendors?

Depending on the requirements of each project (software service) we choose vendor who has skilled expertise about what we want, and also we check for the price of providing us with that service. But the most important thing is the quality so if they have skills and experience the quality of the deliverables will be better and we have to negotiate on the cost because we don't want to lose the quality.

3) IT manager at organization C (Aviation sector company)

6. What are examples of software services does your organization outsource?

Database, Simulation software, programs, smart applications.. etc.

7. What problems are caused by software outsourcing?

The main issue is that a contract was never signed because of the over cost and since there is no contract, just for coming in to fix an issue, they are paid per hour. For example, the company bought number of smart printers, both hardware devices and software services provided with it since it is smart but it does not meet our expectations. Also

we had problems in time of response as responding late leads to delays in work.

Other type of problems is related to end user resistance in case of updating the system or implementing new solutions, it happens all the time because in general people don't accept change.

8. Why you go for outsourcing software services?

Software usage is restricted due to vendor policy. Also, not enough training has been given to the customer employees due to time restriction & manpower availability. Since the product is very expensive & sensitive, unintentional mistake may damage the device. Therefore, to avoid such scenario external help is requested.

9. Do you have staff working in your organization have enough skills required to handle outsource applications?

Yes

Why didn't you utilize their skills?

The problem was that the staff had limits to what they can do. There were restrictions, and if anything goes wrong it will be costly. Therefore, most of the time the vendor engineer was called-in.

10. How long do you take for solving a problem with outsourced software? (How fast does the vendor respond)?

The process of calling them in is long. An email should be sent with details of the incident. If we were lucky we'll get immediate response & the engineer will show up at the same day. But, this happens once in a blue moon.

11. Please rate your satisfaction about vendor software outsourcing services? On a scale of 1 to 5 (1=very unsatisfied, 2=unsatisfied, 3=neutral, 4=satisfied, 5=very satisfied)

4

12. Was there enough support from leaders and managers of the organization receiving outsource services?

Yes

Could you elaborate the types of support received?

The most concern from managers and leaders are that the employees can use technology in such a way that they get things done in the right time and way by using the best tools in the market. Once staff was complaining from the usage of a specific services, it took less than a couple weeks to introduce new one from different vendor.

13. Was there poor understanding of the contract between you and your service provider? When and was it solved?

There was no contract

Appendix C: Transcript of business managers' interviews

1) Business manager at organization A (SFD)

1. What software services you asked IT for?

Software applications and the most important one is financial audit system and there are other systems that come out of it. It is a system used by 62 government organizations in Sharjah which go under SFD control. All money related activities are kept recorded in the system. Like how much each governmental organizations spent, and on what and how much profit they made. All the records and profit made goes back to the SFD.

2. What are the IT software services problems that you are facing?

IT is usually minor problems like network connection error. There are problems related to how people working in the departments react to any new systems developed, like slow at learning or don't feel comfortable with the systems. This takes time to teach and train people. Sometimes, there are problems faced when updating the system, as in need to inform the stuff and train them again. There are problems related to slow in recording or retrieving data from the system. Sometimes staff report the system does not work as excuse for why they didn't do their work.

Most of these issues were solved because the systems are working and it enhanced the departments' work successfully. Most of it because of the environment of the work where everyone have to learn, train and use the system, since the data are very sensitive and all the work cannot be

accomplished without them. Once the system is developed; it goes to a period of demo testing, where enough training and testing of the system occur before launching the system. All the other minor problems are easily solved as we do regular check on the systems.

3. Do you prefer services to be outsourced or to be done in-house or it does not matter?

Of course depending on IT outsource saves money better, since they take money for their services only. If you buy applications and hire people for it, you will need to send them for training and learning which will be costly. What is more, IT outsource have people specialist in the field of work to develop and solve applications. They are qualified for developing a system and training the users, while hiring people may not know the applications and their any mistake can cost us a lot. We prefer using IT outsources because we don't have people highly qualified enough in the field.

4. Was your software outsourced or built internally?

Outsourced.

5. Does outsourcing this service make a difference for you?

Yes because the performance became better with the outsourced systems.

9. Please rate your satisfaction about the provided service? On a scale of 1 to 5 (1=very unsatisfied, 2=unsatisfied, 3=neutral, 4=satisfied, 5=very satisfied)

I would give it a very good point, since we are doing regular check up on the systems to avoid delay of the work. Once the issue is reported we go to the department twice a week, day for training and day for giving feedback.

10. How fast does the vendor respond for service?

It depends on the nature of the problems, but generally fast.

11. Give me a story of one of the problems you faced recently?

We once had a system needed to be developed, so we took all the details of the requirements and developed the demo testing. While teaching and training the staff, we discovered that system needs further improvements, and with the updating processes staff gets confused on which version to use and this takes lots of time to retrain and teach.

2) Business manager at organization B (Banking sector company)

1. What software service you asked IT for?

It depends on our needs and new technologies emerging which will benefit our business. Sometimes we asked for existing applications with few alterations for our organization and sometimes we ask them to develop an application based on a new idea. And also if we are using a program, we receive feedback from end users, so if we find some suggestions good we ask the IT team to make these changes. For example one of the recent services we request is private document storage where users can have all their financial documents in a safe place which should be very secure because the files are very confidential. There are other applications we request like access admin and upgrading existing softwares.

2. What are the IT software services outsourcing problems that you are facing?

Okay from my perspective I can say we are having problems in miscommunication. There is misunderstanding about the basic requirements, they can't understand what we want.
Time and deadlines, we tell them the specific time frame in which we need the software but there might not be enough time for them so we have to negotiate till we reach the best deadline for all sides.
Integration, we found it many times that the requested application can't be integrated with other application.
We faced problems regarding business requirements where the developed software doesn't meet business needs.
Organization environment and end users when the provided solution doesn't fit the environment or it is too complicated that end users don't like it.

3. Do you prefer services to be outsourced

or to be done in-house or it does not matter?

It does not matter for us since we are getting what we want.

4. Was your software outsourced or built internally?

As I said before, if the program or application is already there then we just outsource or even if our IT team can't make it by themselves then we outsource it also. Like the example of private document storage which is already developed by vendors in the market so they ask them to provide it to our organization.

5. Does outsourcing this service make a difference for you?

Sure.. It was well developed and I think it was a very good solution for some of the issues we encountered regarding our customers' documents because as you know the nature of our job is critical as these documents are very confidential.

4) Please rate your satisfaction about the provided service? On a scale of 1 to 5 (1=very unsatisfied, 2=unsatisfied, 3=neutral, 4=satisfied, 5=very satisfied)

Actually we liked the software so I am very satisfied with this experience.

5) How fast does the vendor respond for service?

They are fast.

3) Business manager at organization C (Aviation sector organization)

8. What software service you asked IT for?

Simulation software, application..

9. What are the IT software services problems that you are facing?

Time of response if there are any issues to be solved. Sometimes they are not user friendly so it takes time to move from "A" to "B". With constant training and motivation this obstacle was overcome. Also problem of misunderstanding the requirements or what we need exactly.

10. Do you prefer services to be outsourced or to be done in-house or it does not matter?

Usually its completed in-house with the assistance of a vendors. So we call an engineer or developer to come and fix issues inside organization. All work should be done in-house.

11. Was it outsourced or built internally?

Outsourced.

12. Does outsourcing this software make a difference for you?

Yes, if fulfills the company's heavy needs.

13. Please rate your satisfaction about the provided service? On a scale of 1 to 5 (1=very unsatisfied, 2=unsatisfied, 3=neutral, 4=satisfied, 5=very satisfied)

4

14. How fast does the vendor respond for service?

It depends but usually it takes couple of days.

Appendix D: Transcript of vendors' interviews

1) Vendor A (Synechron Company)

1. As an outsource vendor, what problems are you facing when providing software services for organizations?

Major problems we are having are, first not having clear idea about the specifications or requirements of the software so there are difficulties in understanding what mentioned in software "project" related documents. Second, sticking to the timeline with the requested changes in later stages which is really because they don't know what they want "clear requirements".

2. The following problems were introduced by IT managers (software enhancement, changes in software, software limitation, clarity of requirements for both clients and vendors, quality of the deliverables, contract negotiations…) do you think that these problems exist?

Yes, I agree that these problems exist and we have come across some of them.

3. How fast do you respond to clients?

I can't answer!!

4. **Please rate your satisfaction about the software services you provide? On a scale of 1 to 5 (1=very unsatisfied, 2=unsatisfied, 3=neutral, 4=satisfied, 5=very satisfied)**

4

5. **Please rate your satisfaction about clients (the way how you are working together)?On a scale of 1 to 5 (1=very unsatisfied, 2=unsatisfied, 3=neutral, 4=satisfied, 5=very satisfied)**

2) **Vendor B (Galaxy Group)**

1. **As an outsource vendor, what problems are you facing when providing software services for organizations?**

Usually we face minor problems like network connection error. There are problems related to how people working in the departments react to any new systems developed, like slow at learning or don't feel comfortable with the systems. This takes time to teach and train people. Sometimes, there are problems faced when updating the system, as in need to inform the stuff and train them again. There are problems related to slow in recording or retrieving data from the system.

2. **The following problems were introduced by IT managers (software enhancement, changes in software, software limitation, clarity of requirements for both clients and vendors, quality of the deliverables, contract negotiations...) do you think that these problems exist?**

Yes nearly all the mentioned above problems occur occasionally.

Changes in a software and enhancement occur as the end users don't provide us with the detail of the requirements at once, once the software demo is ready and the end users check them, then they add other requirements which need to develop the software again from start.

No issues faced with the quality of the deliverable and contract negotiations.

3. **How fast do you respond to clients?**

Pretty fast as we deal with important and sensitive data and delay could affect the work in the governments of Sharjah.

4. **Please rate your satisfaction about the software services you provide? On a scale of 1 to 5 (1=very unsatisfied, 2=unsatisfied, 3=neutral, 4=satisfied, 5=very satisfied)**

5. **Please rate your satisfaction about clients (the way how you are working together)? On a scale of 1 to 5 (1=very unsatisfied, 2=unsatisfied, 3=neutral, 4=satisfied, 5=very satisfied)**

3) **Vendor C (X Company)**
1. **As an outsource vendor, what problems are you facing when providing software services for organizations?**

Scheduling immediate responses. Since we are originated in Abu Dhabi and Dubai, trying to provide our services to all customers on time. Our services are distributed across the UAE so finding an available engineer closest to location and keeping in mind providing their IDs as soon as possible for access.

2. **The following problems were introduced by IT managers (software enhancement, changes in software, software limitation, clarity of requirements for both clients and vendors, quality of the deliverables, contract negotiations...)do you think that these problems exist?**

Yes, they do.

3. **How fast do you respond to clients?**

Once an email/call is received from customer for service an engineer is assigned to the task. It takes between 1-3 days.

4. **Please rate your satisfaction about the software services you provide? On a scale of 1 to 5 (1=very unsatisfied, 2=unsatisfied, 3=neutral, 4=satisfied, 5=very satisfied)**

4

5. **Please rate your satisfaction about**

clients (the way how you are working together)?On a scale of 1 to 5 (1=very unsatisfied, 2=unsatisfied, 3=neutral, 4=satisfied, 5=very satisfied)