

# **Australian University Adoption of the E-Services System A Case Study**

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*This case study is based in a Department of a university implementing an e-Services system project. Earlier discussion of the background/context of the case study is to provide a general overview of the Department and its business. Analysis of the data provides an insight into Management perceptions about their expectations for the system were. Insights on the e-Services project and the factors influencing the implementation are also described. The purpose of analysing the Management's perspectives about staff use of e-Services is to understand what factors affected the project development.*

## **1. Introduction**

The University is an institution with a good reputation for distance learning in Australia. The Department in the case study operates from the capital city office and provides its services to staff and international students on other campuses. The marketing managers in the Department frequently travel overseas to market university services and recruit international students. The Department also performs other marketing activities such as organising overseas visits, and marketing and advertising for the university. The Department's primary objective is to increase the overseas student enrolment in the university. The other functions of the Department are to manage customer relationships with new international students, to manage international students' admission applications and to administer the legal and administrative responsibilities required of the university.

## **2. Literature Review**

The interaction with e-Services is based on customer expectations that e-Services will meet their requirements (Zeithaml et al. 2000). A distinguishing feature of e-Services is direct customer interaction with websites. Compared to that in a traditional setting where customers are unable to directly access the systems providing the service and can select service options only indirectly via the trained operator.

Whereas in webenabled e-Services system, customers are empowered to directly influence service choices. The websites form a platform for managing and delivering e-Services (Chen and Li 2010; Al-Ghaith 2010; Kelaart-Courtney 2010; Battle-Montserrat 2007; Xue et al. 2004; Featherman and Pavlou 2002; Ruyter et al. 2001; van Riel et al. 2001; Teo et al 2003; and Negash et al 2003).

The implications of using e-Services are significant for business (Xue et al. 2004; Teo et al 2003; and Negash et al 2003). Customer participation in and acceptance of e-Services provides them with a broader choice of services that meet their requirements.

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In some organisations this has led to the overhaul of the service delivery system (Xue et al. 2004). It is therefore important to understand the user roles in e-Services system development. User - e-Services interaction behaviour on websites is unique in the sense that the interface takes place in cyberspace with in a short time. It is therefore important for business to understand what influences the use of an e-services system with in that short time frame (Grönroos et al. 2000). With the development of information technology allowing user participation in service delivery on websites, customers' roles in the e-services process have become more important. Therefore, it can be argued that researchers need to pay more attention to customers' and users' evaluations of technology-based services (Parasuraman and Grewal 2000; Chea and Lou 2008; and Chellappan 2008).

### 3. Methodology

The aim of the study is to investigate the adoption of e-Services amongst users. This led to the development of converging lines of inquiry, a process of triangulation (Yin 1994). In the first instance discussions were held together with three senior staff members involved in implementing the web-based learning project. They included the executive director, IT Manager, and an outside Consultant. In the second round separate individual interviews are conducted with these participants.

The third round of interviews was conducted with the admissions manager and separate individual interviews with two other staff members. Altogether six separate interviews with participants were held. Though the participant's gender is not a major factor for introspection, it coincided to balance, three males and three females. In the first round interviews the data collected were compared with the second round and third round interview data, for consistency, clarity and accuracy of the information.

Interview data were also compared to test for the factors having effect on users with high and low performance in learning how to use the web-based system. This provided the advantage of not duplicating the data with just one set of evidence. The discussions and interviews were open-ended (Yin 1994), the researcher in the beginning provided the topic, and the respondents are probed of their opinion about the events.

The questions are directed towards user's e-Services experience with the web-based system. This led the users in reflecting their recent learning experiences with the system and demonstrating its effectiveness in the web-based task. It provides the opportunity of capturing rich information that is fresh and part of the user-learning interface within the web-based system. It not only provides information about the user's learning experience, but also demonstrates the boundaries of the web-based learning system, in other words the scope of the system in providing enhanced learning is clearly reflected from the data the user's provided to what the system was capable of doing within the parameters. This approach took into consideration the users and the system context in understanding the web-based learning process. It provides important information from the user's perspective in the terms of the e-Services process available in the web-based system.

### 4. Analysis of the Research Problem

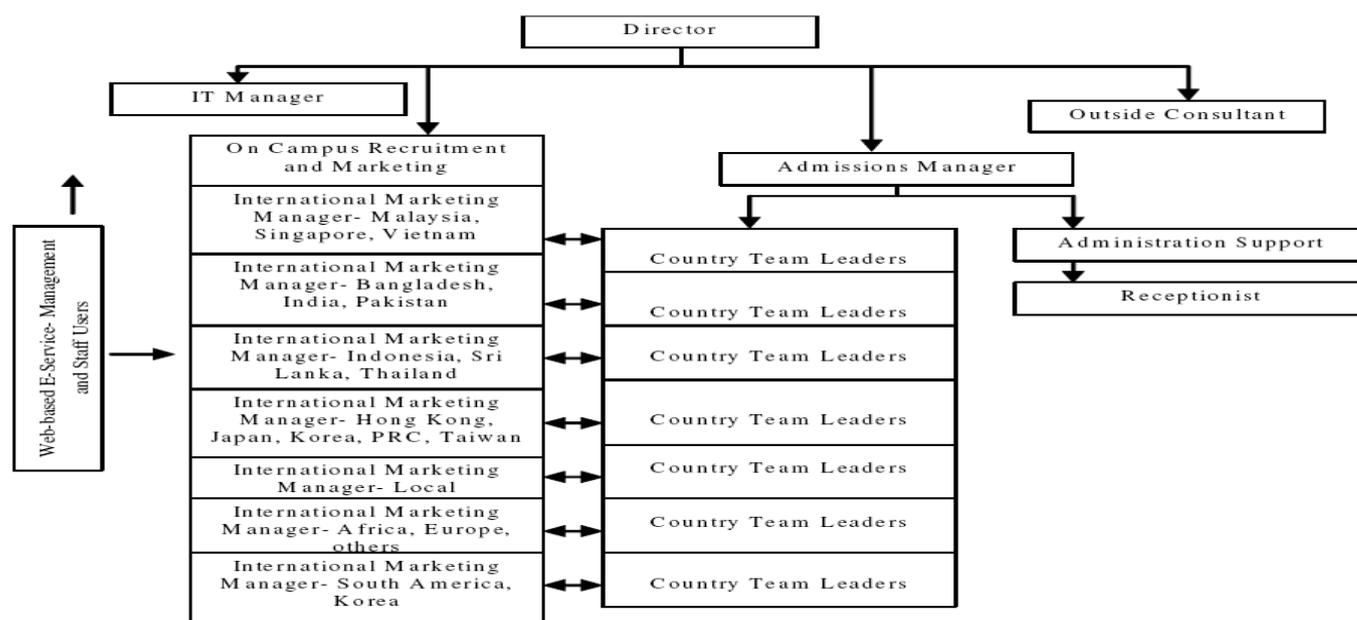
The case study examines the Web Electronic Service framework of the University of Australia (not the real name). The department is in the process of developing and implementing Web-based e-Service system. International students have the option to lodge the admission application through either of any: web-based e-Service system on the World Wide Web, phone, fax, or in person. On receiving the application a decision is made by the staff on the admission status. The department is implementing the electronic delivery of its services on the website. The web electronic service is believed to be in use for approximately last two and half years. The e-Service process involves students making the application and the staff processing application on the website.

The Department Management currently employs 20 full time staff. All administrative communication with international students within the university is filtered through this Department. The structure of the Department Management is displayed in Figure 2. The Executive Director, the top-ranking official in the Department, is assisted by the IT Manager, International Marketing Managers, Admissions Managers, and an outside Consultant. The outside Consultant was hired to assist in the e-Services project. The International Marketing Managers are assisted by the Country Team Leaders.

The Admissions Manager is also supported by the Country Team Leaders, an administration support person, and a receptionist. The International Marketing Managers are responsible for promoting the university in Australia and overseas through marketing and advertising campaigns. They frequently travel overseas for work purposes and have a need to access information when away. The Country Team Leaders process student information and look after the administration. The Admission Manager makes a decision about student admissions based on each student's academic qualifications.

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**Figure 1: Department's organisational chart**



The Department's role in the university structure is as the marketing and recruiting division for international students. It reports to a member of the Senior Executive of the University, the Pro Vice Chancellor (International). The Department plays a significant role in the university as it provides important information for potential overseas student enrolments to the university. The Department has a close working relationship with the different Faculties and regularly consults about course offerings, admission requirements, and on a range of other information. Based on student enrolment information, the Faculties are able to design, plan, and develop courses that are in demand.

*The Executive Director said:*

*Our brief is not on the teaching side of things.... We do the marketing, recruitment, branding of the university name. We have been doing that by visiting overseas markets. Going to places such as India, running exhibitions, seminars, interview programs. We were finding that a lot of our international students weren't coming from those ways. They were coming from different areas and they were writing to us... letters, enquiries, emails were coming to all parts of the university and were then redirected to us.*

The Department is a major revenue generating centre for the university in terms of recruiting full fee paying international students and the university therefore has a strategic interest in its functioning. The Department evaluates student academic records, accepts fees, provides information about living in Australia and about academic courses, and gives advice to international students on academic and non-academic issues such as housing, banking, and a range of other services on the Department's e-Services system.

### 4.1 Transition from Paper Based System to E-Services System

The Department's services are rapidly expanding and the working environment is busy. The role of the Department is to improve this service to international students and also to be the first point of contact for those wanting to study at the university from overseas. International students have the option of lodging an admission application through a range of means: e-Services system, phone, fax, or in person. On receiving an application, a decision is made about the admission status by the Department's admission managers. The process involves potential international students submitting an application and staff processing the application. The Department staff concurrently use two systems in doing their work, a relatively new e-Services system and a 15-year-old paper-based system. According to the IT Manager:

*At this time we are running two systems - e-Services and the paper-based system, which we also refer to as dual systems. Some of the information from the e-Services system we are pumping back into the other application systems. The structure of the databases is pretty much the same, developed by the same people. A lot of information that is in the e-Services system is actually pumped up from the application database as well.*

The Department has always used a paper-based administrative processing system to file information enquiries, process applications and support potential and existing overseas students at the university. With the volume of enquiries and numbers of applications increasing at 30% per year for the past 3 years, there has been a need to increase efficiency. The IT Manager said:

*It is a pretty big area. When starting the enquiries we are looking at ...there are probably about 30,000 individual records and many come down to applications...but you are probably dealing with a number a lot less than that.*

As a result the Manager of the Department initiated the development of an e-Services system to undertake all of the tasks previously done manually. The system has now been in place for 2 years. The Management envisaged that this new e-Services system would create new business opportunities by providing international students with an electronic platform for sending and receiving information. The system would also enable the Department to achieve its aim to provide quality customer service to these students and deliver all services electronically. The primary aim of the Department's Managers for the e-Services system was to reduce paper processes and provide quicker and more efficient service to its clients (i.e. international students).

Management expected the staff to use the e-Services system in their regular work so that they could use it to manage and make day-to-day work more efficient and more significant in managing workflow. Rogers (1995) suggests that perceived characteristics of the innovation is the relative advantage, which in this case the Management anticipated the e-Services system to be superior to the paper-based system. The staff and Management acceptance of the e-Services system and its continued usage in processing international student's admission applications is considered a major organisational requirement to meet Departmental targets in the university's Strategic Plans. However, the Executive Director noted:

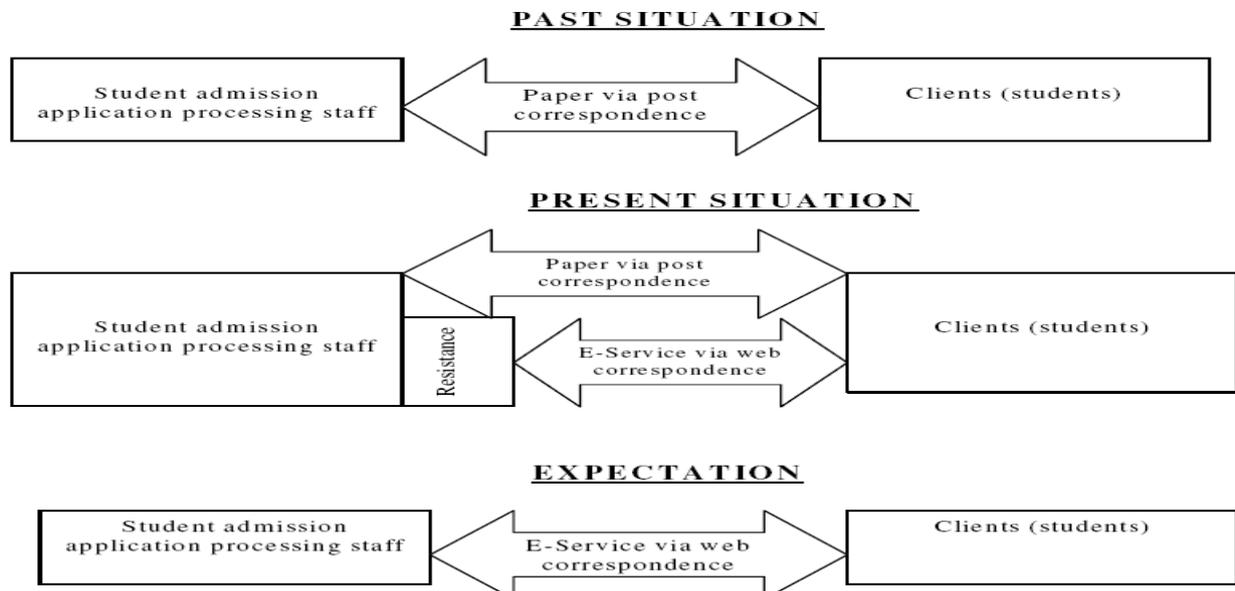
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*One of our problems is that we have a lot of trouble with our staff coping with the new e-Services system. To get them to work with the two systems is troublesome for them. But actually we have 'realised' that the e-Services system is part of everyday work. And it probably deserves more attention instead of paper-based print applications in many ways. Our e-Services practices had to change.*

Electronic services system were perceived by Management to provide benefits including less paperwork, quick delivery of information, easy editing and updating of information. Rogers (1995) argue that attributes of the innovation should be compatible to the organisation. At the same time Management realised that new systems challenge staff on implementation. Rogers (1995) suggests that complexity of systems implementation, trialability of the system, and ease of observability are the perceived characteristics of innovation. Through prior analysis of the situation, the Management's perception of introducing the new technology was based on the belief that such technology would have a positive impact on staff work when the advantages were reflected in their work.

To achieve their aims of a more efficient and effective service to prospective clients, the Department Managers wanted the new e-Services system to: 1) process all applications by the e-Services system; 2) respond to student correspondence by e-Services system within 24 hours (and at peak times within 48 hours); and 3) divert more international students towards opting for the e-Services system application. These goals were set in early part of the year. The situation that existed in the past with the paper-based and at present with both that and the e-Services system is shown in Figure 2.

**Figure 2: Past-present situation and future goals**



The paper-based system was expected by the Management to be replaced by the e-Services system. It was expected that the entire application processing would be performed by the e-Services system. What emerged was an intermediate stage. This is reflected in the present situation, which appears to be a compromise by staff between

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the old and new systems, and which resulted from their perception that the new system was inadequate to complete all their normal work tasks.

### 4.2 E-Services System Characteristics: Users Like and Dislike

The e-Services System was established on a unique domain, indexed to the university's website. The prospective student page provided information about courses and how to apply, about services and support, and about information on studying at the university, about the English Language Institute, about coming to Australia and about Education Abroad. The international students can find information about courses of interest to them and apply for admission directly online. In addition the e-Services system offers all international students in the university access to fee payment, enrolment, teaching and learning, information about all services provided (Library, communications, welfare, counselling, careers etc). The system was designed to enable all international students to complete all service transactions in the one place as well as provide an access point for their teaching and learning.

Until the new system was created, much of the information about the Department and its activities was not available on the Department's home page. For example the international students did not have the option of downloading application forms from the Department's e-Services system website. They had to request an admission form via email which was then posted. The Department would process the paper-based application form. The processing of forms was paper-based and time consuming and the international students had to wait for a long time to know the outcome of their application. As a result the Department had been losing international students (revealed by the Executive Director). The international students were applying to other universities, which were quicker to process their application on e-Services system and offer admission.

Before the introduction of the new e-Services system, the Departments used a website, specifically for limited use about information for international students. This website had open space that was not used for displaying information; rather the information was hidden deep inside other pages. The display of pictures distracted student attention from the information (according to a staff member). The use of the same colour for different navigation links was also reported to be confusing. One staff member reported:

*Similar colours for different navigation links makes it confusing to remember which one belongs to which.*

For example all the links were displayed in green coloured boxes that were confusing for international students. The information that was displayed on different pages was inconsistent. There were navigation links on the left side of the page that guided international students towards specific parts of the Department's website. The staff indicated that the process of navigation by going forwards and backwards was misleading international students using the website. One Marketing Manager said:

*Something in the e-Services system that I don't like is that since it is web-based, you have to go forwards and backwards and you can't go around and it gets confusing sometimes. I believe such aspects of the navigation may mislead the student in completing the application process online.*

To Management, the new e-Services system addressed and resolved these and many other issues and made interaction electronic, to enable international students to communicate directly and quickly with the Department's staff, to provide access to all relevant information and to enable prospective international students to apply on-line. The services and support section of the new e-Services system provides information about the university's location, about international support advisers available to help international students, about peer support, about support for families, student services, and about campus facilities.

The new e-Services system provides the sorts of access that management wanted to improve the performance of staff at work and improve access and use by international students. The system was also designed to increase recruitment and thus income for the university, to improve information dissemination within the university, to reduce costs in the provision of all types of services, including admissions, enrolments, teaching and learning, and support, and to impact on processing time and communication with prospective international students. In achieving these goals the Management had goals for the system itself and what would make it successful.

### **4.3 Management's Perspectives on the E-Services System: Qualitative Data Analysis**

#### **a) Managerial experience with e-Services system development**

To better understand the context of the e-Services system and its intended use by Management, it is important to discuss the level of experience of the Management staff involved in the systems development. Managerial inexperience in implementing e-Services system was significant. All informants agreed that the project from its inception was not well designed. No clear guidelines were set as to what was expected of the project and its contribution to the organisation's development, other than improved services provision and more income generation for the university. Implementation activities such as training and running a pilot were not considered important by the Management responsible. The study revealed that active participation by Management in project development was missing.

It is important to note that Management expectations for the new system were based on an understanding that the staff would accept the e-Services system in the same way as the existing paper-based service system. This knowledge, they noted in interviews, was based on assumptions they had, and on the little experience they had with e-Services system. The Executive Director noted the pressure to use e-Services was mandatory rather than voluntary. The study also reveals that the Management's attitude to e-Services system was centred on an authoritarian rather than a participatory style of management. They were insistent on its use and focused on that rather than on the needs of each of the sets of users. It was apparent in the interviews that there was little understanding by the Management of system usefulness and/or ease of use of an e-Services system. There were also no specific guidelines delivered as to how the staff should cope with the system as part of their everyday work. The Management expected the staff to use both systems, even after understanding that the staff were overloaded with increased work by using both systems.

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There was no in-house facility for updating the system's information. The IT Manager was inexperienced in e-Services system development work. An essential criterion for any e-Services system is to provide correct and up to date information (Earle 1999). To do that the e-Services system needed to be upgraded regularly from an information delivery point of view. The interviews revealed that Management saw the e-Services system as being something that would just work because it was better.

Management believed that the system was designed to assist staff with their work through direct interaction with the functions in the system. Some of the Department's staff believed that an online chat function on the e-Services system would greatly enhance their involvement, as they would have been able to communicate with other colleagues about their work without leaving their desk and that would have saved time. Management considered that the use of online chat would add little, if any, value, while acknowledging that the availability of online chat would have greatly reduced the staff time in responding to clients' telephone calls and emails. Management expected the staff to be able to use the new system to spot 'hot' prospective clients. But that was not an easy task.

Staff received an average of 400 emails a day at peak times and to know who was a 'hot' prospect was very difficult. Some emails were junk and staff time was wasted sorting these. In the paper-based system when the staff interacted with the clients over the telephone or face-to-face, they could sense from the communication if they were dealing with a genuine prospective client or not. The staff didn't have the experience in choosing the most prospective clients from a large pool of emails. They complained that it was frustrating to find just one prospective client after reading 400 emails. According to the Executive Director:

*Staff fail to identify hot prospective clients. They don't have any idea about how to know which client is important and which is not. They don't understand from using the e-Services how to know the hot prospects. Due to this we have lost some international students. Some international students have lodged complaints about not receiving a reply to their enquiries.*

Staff and Management expectations about the new system were not aligned. The motivation of Management for implementing the new system had not been made clear to staff and the apparent lack of documentation about its goals and its requirements meant that a gap existed between the needs of staff to do their work and the goals Management were hoping for from the new system. Acceptance and use of the new e-Service system by Management was based on demands from University Directors to improve their revenue generation and improve their services to international students. The issues were large scale and were not related to the expectations of staff and, it will be seen later, student expectations of the services themselves.

### **b) Motivation for the new e-Services system**

The motivation of the Department's Management to introduce the new e-Services system was about improvement, i.e. to provide a better and more efficient service to their clients (i.e. international students) and at the same time provide efficient work administration to their staff. The Consultant noted:

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*The whole of the e-Services system has been redeveloped. We are getting a much better funnelling of enquiries through and setting up processes and protocols for managing the traffic. Within that there is an effort to make it a lot friendlier from the international students' perspectives. If the students cannot use it easily it still creates work here for the staff. We are putting frequently asked questions, prompts, and whatever we are getting in the mandatory fields etc.*

Another motivation of Management was that with the use of e-Services the increasing work backlog of staff could be quickly controlled and it would lead to more effective management of student applications. Management anticipated that with the use of the e-Services system, staff would be able to process a higher number of applications per day, thus freeing staff time, which could then be used for other work. In the words of the Consultant:

*We are coming up with letter templates so that we can guarantee the quality and consistency of response and also save staff time so that they just have to paste and send it in the email to the students. And emails with standard type responses have been developed. We have come up with a standard response so that they can just paste it on the emails and send it rather than writing long emails.*

One further issue affected the project. The motivation to outsource the e-Services system development work resulted in the work being slow at a time of urgent need. The outsourcing agency had the responsibility of doing the work and was detached from the staff and international students. Their participation was limited only to the technical development of the project. The Consultant commented:

*The developer's work is very slow. A lot of the admissions offer letter changes have just started arriving and which should have been delivered long time ago. Some still have not been done. The work when given to the developer was told to be of top priority. We have so much on their work list that they cannot keep up. It probably takes up a significant amount of the IT Manager's time to manage the developers and check their rate of progress. The developers are not very useful...I find these developers frustrating with the flow of resistance to the things we want the system to do for us...With every new development work we had there are bugs. We have to test them and iron out all the bugs.*

There was no written communication from Management to the developers about which staff were the actual users of e-Services system and what was the purpose of their task. The IT Manager who was the only link with the outsourced agency also had limited information about different staff using the e-Services system. The Consultant said:

*The e-Services system needs to provide more flexibility to different staff. For example the staff have complained that they cannot edit offer letters very much. It is possible to do it. I think they don't realise how? Those staff who don't use e- Services very much haven't realised how? But we are gradually getting there on that.*

The Management's approach to addressing the systems problem appeared to be slow. The IT Manager was the only person who could assist with the technical side of the developments, but only to a limited extent because the technical development of the project was outsourced. The development agency was lagging behind in delivering the

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work that was given to them, and there was no contact between the systems developers and the staff or student users. The system was built entirely from the systems developer's perspective without understanding the staff work requirements from that system or from student user needs. The Consultant observed:

*There is no staff ownership of the electronic services system, it is lacking. There is no participation from the staff that suggests how we can increase the use of e-Services. They are not at all interested. We need to do something about it...We have provided training but the staff attitude to training is that it increases their workload. And they have to cope with that extra work. We are trying different ways to increase the use of the e-Services system but none of them has worked...*

In the interviews it was obvious that it was assumed by Management that information about the benefits of the new system would be self-evident to the staff when the system was used. The interviews and discussions with staff, however, found that failure to clarify objectives and failure to share such information reduced the motivation of the staff to use and continue to use the new e-Services system. The Executive Director noted:

*We have a huge backlog to catch up with. There is so much of work to catch up on. We have not been able to reply to last year's November and December email enquiries. And we have quite a lot of enquiries that we have received by paper mail. It's all adding up. I don't really know how we are going to cope with it.*

Management expected that the e-Services system would quickly take over the complex and ever-expanding problems of the existing paper-based system. Management believed that any inefficiency in the paper-based service would be rectified by the e-Services system. The Consultant, for instance, said:

*Our clients have not been happy with the slow and inefficient service we provide and they do not come back. We believe that e-Services could speed the service delivery to our clients reducing paper work and ensuring quick delivery of information to our clients. But we see this as not happening. We are lagging behind in delivering basic services such as advising international students on the admission application process.*

The e-Services system was also introduced to assist staff gain more confidence in their work and thus improve workflow. The Consultant commented:

*There is low confidence among staff... it's the culture, I will do my part and the rest is someone else's problem. They do not take things seriously when it comes to using e-Services. They just want to get the job done and regardless of how it is done and that is even if they have to use the paper-based system. They just like using the paper-based system, don't know why? The staff are using the system for emails and the Internet, but when we want them to go to the next level in using the system for the advantage of their work, that is what's missing. That link is not there. The motivation is there but it is very low at this time.*

The Executive Director confirmed this as well, noting:

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*If the staff are not sure of anything they direct the enquiry to the faculty. This is another low confidence thing amongst the staff. I tell the faculty to teach them how to do it. They are getting a little better now...*

Management were motivated to improve staff workflow. However the new system created a serious problem. The low confidence of the staff stemmed from them not understanding what their individual duties were when using the e-Services system. With the paper-based system it was very clearly understood what everyone's tasks were, and who was responsible for what, whereas the e-Services system opened up new avenues which were confusing. According to the Executive Director:

*The staff are team-based now. At times they are too focused on other things, apart from e-Services system. Their inspiration to use the e-Services system is based on their individual attitude that the system cannot perform to their work requirements. We (Management) understand that and try to help them in every way with the problems that they encounter with the e-Services system. But we strictly want them to keep using the system otherwise they won't use it.*

This desire to motivate staff with confidence in their work by using the new system was based more on performance and work related objectives rather than on technical issues such as the extent to which the system was easy to use or even useful. Again the factors influencing Management with the new system related to larger scale issues about work output. There was little if any attention to the system itself and how staff were able to or even wanted to use it.

### **c) Management perceptions on ease of use of the e-Services system**

From the interviews it was apparent that Management did not appear to take account of the ease of use factor in the development of the new e-Services system. The ease of use component was not tested by Management or by the outsourced technical development team during the project development. It was expected that if the systems did as Management wanted then the system was acceptable. Understanding such criteria and relating them to the task management features required extensive testing of the system. This was not done. For example, the Consultant noted that there was a problem with login because ease of use factors had been ignored. As the Consultant commented:

*There are four login screens. I haven't known a university that has that many login screens. I complain about that. I just don't know whether it is an expected part of this university's life. The university doesn't think to worry about it. It annoys the hell out of me. Remembering four different passwords drives me nuts. I have to write it down and here we are trying to encourage staff to use the e-Services system all day in processing applications. It is really complex and strange.*

The focus was on just getting and using the data available in the system, e.g. the IT Manager said:

*An essential part of the e-Services system instructions to the staff is to check every field and to make sure that the student has entered information that makes sense. We are also hoping that some stage make the system smarter. But at the moment we are trying*

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*to expand the technical boundaries of the system and we haven't really looked at a lot of internal- make it easier for staff, sort of things.*

Management's original requirements for the e-Services system were for the system to be easy to use and, more importantly, to be able to be used quickly so that it could deliver the information to both sets of users, the staff in the Department and other parts of the university and the international students. The Marketing Manager noted:

*A few times I have used the e-Services system overseas just to enter an applicant's data and it was very quick. But one cannot guarantee the consistency of e-Services being quick at all times. And speed being an absolute priority in our everyday work...*

Management had realised that the student use of the e-Services system was guided by the availability of computers and Internet connections in their home countries, which would make it easier for them to use e-Services if they were available. The Marketing Manager said:

*The e-Services system is exciting because it is instant and creates easy access for international students that connect to the staff. Computers and Internet connections can be very expensive in some countries and in other cases may not be available. This is another area that can be concerning because we are building an e-Services system on the expectation which can be misleading that it is easily available to international students.*

Management wanted an e-Services system that was flexible and able to complete all essential tasks. However, the system lacked that flexibility. In the interviews with both Management and staff it was obvious that flexibility was never tested, for example the capacity to format documents easily was not tested. There was little scope for easy editing of documents, which Management believed, and noted in the interviews, was not important. However it was also apparent in the staff interviews that this lack of flexibility restricted the staff from developing their own version of documents to suit specific clients, something they had done with the old paper-based system. The Marketing Manager stated:

*In terms of designing the documents the e-Services system is very good, consultative, and very quick to enter our changes on the draft board but there is no scope for easy formatting of the documents by individual staff users that meets their specific requirements. Though it [easy formatting] is not necessary and can lead to confusion because more than one staff may be working on the same case.*

From the beginning of the project the Management had control over what staff and international students could and could not do when working with the e-Services system. The objective was consistency rather than flexibility. The focus was task oriented and perceptions about ease of use were not seriously considered.

### **D) Management Perceptions on Perceived Usefulness of the E-Services System**

Management considered that the e-Services system was to be a channel for delivering better and more efficient services to clients and at the same time provide a means for more effective work administration to its staff. It was believed that, in the long term, such

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advantages would be reflected in better work management practices and increased work productivity. It was evident that the usefulness of the system was very much of interest to Management. However, the outsourcing agency responsible for development of the e- Services system did not receive any instructions about building usefulness into the product they developed. The Consultant expressed the following view:

*The ultimate aim is to funnel all enquiries into the e-Services system forms. It will be good to have an integrated communications e-Services system that handles phone, fax, and the lot. But I don't think that it is a realistic aim here in the Department. We are well aware of how staff use the e-Services system but we have little or no understanding how international students use the e-Services system. But sometimes we hear international students saying that I have applied some time back via the e-Services system and why haven't I heard. I believe it is frustrating for them.*

However the IT Manager did monitor the impact of the usefulness of the e-Services system. As he observed:

*The e-Services system caters to some clients very well; with others it is difficult. Especially overseas when we don't know why the e-Services system won't work the same way as it does for us here. Sometimes the student's emails don't reach us and they call us from overseas and complain that they have not got a reply. I believe our level of service is falling down and we need to do something about it very quickly, otherwise there are going to be a lot of other problems that will be associated with it. And this is not good for the reputation of our department.*

The different characteristics of clients and their circumstances were not an issue considered by Management, who based their judgement on having one standard of e-Services being accepted by all. Usefulness was an important consideration in the original requirements but the product delivered fell short of usefulness of many clients, especially when communicating from overseas. Internally for international students the system worked and was useful.

### **e) Management Perceptions on Usage Frequency of the e-Services System**

Frequent and continued use of the e-Services system was the primary consideration of the Management. Management believed that the 'use' factor was important for task management features that would deliver enhanced staff control over usage and continued usage. The message conveyed at the time was how to increase the use of e-Services system among the staff as well as with clients (i.e. international students). The Consultant noted:

*The e-Services system should be able to appeal to both the international students and staff. In one area, we need to make direct offers to international students online. We need to do some cosmetic changes to the look and feel of the e- Services system itself. And that is from the student as well as staff perspectives. What the student needs are should be rearranged such as frequently asked questions, user-friendly instructions, clear and visible menus, and helpdesk support that are helpful in their use of e-Services. From the staff perspective the system response speed needs to be faster, fonts made bigger if that is important, offer letters need tidying, so that the page breaks*

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*are appropriate and all those types of little things that makes staff use of the system easy and useful in their work.*

This proposition was that if more international students forwarded their admission applications, enrolments, fees etc via the e-Services system there would be an increased amount of workflow and response from the university happening on the e-Services system and hence higher continued use of the e-Services system by international students. This was thought to be a good sign as the Management perception was that increased workload would lead to higher usage by staff and international students. For example, one objective was to respond to new applications from international students within 24 hours. This was the target also set for non-normal applications from local students. However, there was no evaluation of how Management's focus on reducing the time limit for replying to client's enquiries could be achieved.

The Management perception was that e-Services would 'take care of that'. The paper-based system had supported the Department activities in the past and it needed to be retired once the e-Services system was successfully operational. In the interviews it was evident that Management's perception towards the paper-based system was continuously changing. It was evident that there was a sense of loyalty towards the paper-based system on the part of Management, and that it was hard to eliminate from the Management's view. Management wanted a systems that delivered services within specified times. They wanted a system that staff and international students would use and continue to use because they wanted better service delivery, reduces costs from services delivery, increased revenue from successful service delivery and more effective work flows by staff. Again the factors influencing Management's attitude towards use and continued use of the system were based on the strategic issues associated with demands on them from the University's Strategic Plan. Their concern was on the system as a whole and the delivery of services, rather than on how and why it was used at the individual level.

## 5. Conclusion

The Management's objective was that the e-Services system, when fully operational, would increase value to their business in terms of saving time and money, reducing paper work, offering quick delivery of information to international students and staff, and above all offering better control and management of information. Management believed that the e-Services system would be easier to use compared to the paper-based services, and that as a result this would significantly improve work processes for staff when fully operational.

The Management's expectations were that the e-Services system could be accessed from any computer by the staff, Management, and international students. The Management's view was that the more international students used the e-Services system the more staff would also and the more likely then that their strategic objectives would be realised. The Management's intention was to increase the usage frequency of e-Services by staff and international students. Management requirements for the new e-Services system were based on reducing the increasing amount of paper work, and in their view, inefficiency, that was being generated. Management thought that the e-

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Services system would quickly overcome the problems which were associated with the paper-based system.

However, there appeared to be misalignment between management perceptions about the new systems and those of their staff in particular. As a result, adoption of the new system by staff was initially poor. Management's initiative to push the adoption process further was met by staff resistance. The declining level of usage by staff was evidence that the new system had some major drawbacks. Management's past impressions of the system were based on their perception of (and not *experience* of) the extent to which the new system delivered the expected functionality. The Management impression of the system was reflected in staff usage (or, rather, lack of usage) of the new system. Management appeared to implement unrealistic goals based on systems expectations without understanding the attitudes of staff, those that were required for the successful adoption of the e-Services system. In the following revelations, the revelations of staff highlighted that their acceptance, or lack of it, was based on the usefulness of the system in their work.

Management's admitted inexperience in systems development work and lack of understanding of the implementation process complicated project management. Though Management had the motivation to introduce the e-Services system, they did not understand how the staff or student users could benefit from such a system in their work or services needs. The system was complex and was apparently difficult to work with. The usage of the system was initially low and subsequently declining due to the poor systems features and because it was incapable of working in different areas.

The staff admitted that they resisted using the system in their work because the system was incomplete and could not be used to entirely complete a task electronically; instead the staff had to rely on the paper-based system to complete their work. The factors influencing managements desire to have an e-Services system adopted and used related to the demands of the university as a whole. There were strategic targets to be met. Efficiency and service response times had to be improved. More revenue from better customer service had to be realised. Management had to get a system in place to meet these objectives. In interviews they admitted that whilst they had the motivation to get the system used they lacked experience with the development and use of e-systems and had little if no real understanding of what factors, other than a requirement to do so, encouraged staff and student users to use the system.

Some limitations of this study were associated with extracting relevant information from the mass of data collected. This involved extracting information that was significant and effective. Information relating to user experience and motivation was at times difficult to interpret taking into account the diversity of the user group that included the students, staff, and the management. The information that was most difficult to capture was- what inspired the users to use e-Services system in the first place? The specific attributes that related to each of the constructs used in this study may have a different meaning to the users when measured in the e-Services system context. The research did not identify the areas where users could have manipulated their thoughts in answering differently.

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