

Impact of the IT Revolution: A Case Study of King Saud University

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Abstract- The current era is considered to be an age of information. The technologies to convey, retrieve and manipulate the information have gain tremendous attention especially in business-oriented environments during the present decade and academia across the globe are no exceptions. The academia across the worlds seems ready to be part of the current Information Technology (IT) revolution that is changing the world quickly and has eased up the access to information. In order to provide the incomparable advantages of e-services and related IT technologies, the university's visionary leadership decided to heavily invest on the focused areas of IT revolutions. King Saud University (KSU) has delivered a lot in past few years as the result of extensive funding that have been spent on the establishment and enhancement of the e-services environment and infrastructure development. Keeping forth the growth of the university the web metrics 2010 has kept KSU at 199th position among the best universities in the world. This paper focuses on the past, present and future of the KSU in terms of the establishment and enhancement of the electronic environment.

Keywords-KSU, e-services, e-infrastructure

I. INTRODUCTION

King Saud University (KSU) is the largest yet and eldest university of the kingdom established in 1957. The university has a huge desire to remain committed with its mission and values that are focused around the best technological education and prosperous working environment for the faculty and staff within the Islamic culture and traditions. The idea of establishing the first university in the Kingdom of Saudi Arabia came as a natural response to the educational revival the kingdom enjoyed since its foundation. With the reign of King Abdulaziz, the kingdom's government sought to propagate education throughout the country. His efforts were crowned when King Fahd bin Abdulaziz assumed the office of the first Ministry of Education. Right after the first session of the Council of Ministers, he gave the following statement: "We will shortly establish the Saudi University; this is a foregone conclusion. This university will be one of the most prominent houses of culture and sciences, and will be worthy of our country where the light of Islamic faith and civilization has emanated." On another occasion, late King Fahd said: "I am seriously interested before anything else in supporting higher and vocational education in the country to have history repeat itself and add a new glory to our glorious past.

Therefore, the establishment of the Saudi university with all its colleges, institutes and laboratories built according to high standards, is my immediate concern." Only three years after the establishment of the Ministry of Education he announced in a statement to the press the following: "The Ministry of Education is seriously considering the creation of the Saudi University." Approximately one year later, the first Saudi university was founded according to the dictates of the Royal Decree No. 17 dated 21/3/1377 H and read as follows: "With the help of Allah, We Saud bin Abdulaziz, King of the Kingdom of Saudi Arabia, having the desire for the dissemination and promotion of knowledge in Our Kingdom, for widening the base of scientific and literary study, and for keeping abreast with other nations in arts and sciences and for contributing with them to discovery and invention, and to revive Islamic civilization and articulate its benefits and glories, along with its ambition to nurture the young virtuously to guarantee them healthy minds and ethics. The university was named as King Saud University, established in the capital city of Riyadh. The university, since its birth in 1957, has become the first choice for higher education for the local and regional students. Currently the university is proudly considered at 199th [1] position among the best universities in the world, and pursuing for even better position. This top position has become as a result of the top management commitment, which has a very clear vision and leadership to help this university grow.

II. VISION AND VALUES

The university has a very clear vision to excel academically while following the Islamic cultural values, the university is committed to [2]:

- **Quality and excellence:** is measured according to challenging criteria, honoring high ambitions and the pursuit of distinctiveness through commitment to the highest intellectual standards in teaching, learning and innovation.
- **Leadership and Team Work:** The university remains committed to promoting individual and institutional leadership roles that drive social development upholding professionalism, responsibility, and innovation. Also it aspires to maintain team work all along.
- **Freedom of inquiry:** Rigorous and honest intellectual exploration is fundamental to the university's academic traditions, and it is reflected in all the dimensions of scholarly activities.
- **Fairness and integrity:** the university is proud to abide by the principles of social justice, equal opportunity and

cultural diversity, consequently holding the members of the community to the highest standards of honesty, respect, professionalism and Social and professional ethics.

- Transparency and accountability: KSU remain committed to expose the thinking and ideas for society and scholars to judge the university's contributions to global knowledge, and KSU hold accountable everybody in our community for respecting and upholding the values in all forms of their scholarly activities, in the best way.

- Lifelong learning: KSU is committed to lifelong learning inside and outside the KSU community, enhancing continued intellectual growth and welfare of the society, in the best possible way.

III. TOP MANAGEMENT COMMITMENT & SUPPORT

Top management of the university has been very focused since the establishment of the university. The university has blossomed a lot in the era of the current rector of the university: Dr. Abdullah Al-Othman. The vision, commitment, loyalty, sincerity and hardworking of the rector and his devoted team has made the university to achieve and strive for the technical excellence. The university management has decided a number of goals to achieve and for that purpose keen efforts are being made to achieve them. The goals include but are not limited to

- Identifying and determining the key issues affecting the university mission
- Improving the internal efficiency of the university and quality of education
- Providing an environment attractive to distinguished faculty
- Satisfy assessment and academic accreditation criteria at the national and international levels
- Provide standard research requirements and resources and encouraging researchers to distinctive international fame
- Provide appropriate educational environment suitable for implementing modern technologies and trends in university education and perception.
- Enrich and enforce partnership between KSU and various community sectors
- Strengthen, Enrich and propagate the culture of strategic planning [3] within colleges and university administrations

The technical excellence has been achieved by execution of a number of programs including but not limited to:

- Distinguished Scientists fellowship program

- ISI KSU awareness
- King Abdullah Institute for Nanotechnology (KAIN)
- Riyadh Techno Valley

All these programs are contributing to implement the strategic plan [3] of the university and are focused to provide distinguished research environment.

IV. PAST, PRESENT AND FUTURE

It looks highly imperative to discuss the impact of the decisions that has been made on the management level and how they have effected the standing the university nationally and internationally. Regarding the up gradation of the e-facilities across the campus. It is also important to note that five years ago KSU was using legacy ICT system which has been replaced with the state of the art system currently and still posses more room for further enhancements in the future to become even better and more acceptable to the stakeholders of the university. In 2005, there was no concept of providing the e-services that certainly had a lot of anomalies and duplication of data across the university. in 2005 the basic facilities like e-mail were just limited to the faculty only. In recent time, the KSU management has broadly focused to make the changes visible to the world, of course, in the presence of the brighter vision the dynamic leadership of the honorable rector, new programs are being initiated and events are happening dynamically. In order to make the access to information more convenient and reliable it is important that the end users and the visitors are provided with the access to a web portal where they can find the information that is more relevant to them in terms of their needs. For this purpose the KSU web portal has been developed that in order to establish a web presence that reflects the image and reputation of King Saud University and its educational and research activities, the university has initiated the KSU Portal project. This online portal, enhanced with the state-of-the-art technologies available today, provides all with an enriching experience.

KSU Portal is designed to be a knowledge gateway for its faculty members, students, and visitors from all over the world. Its content is the result of contributions made by its different departments, deanships, colleges and staff members. Each college in the university has its own bi-lingual website that contains information about the college, departments, activities, and educational material. Again, more than 4600 Faculty members update their websites with their scholarly publications, articles, and course-related materials. Their websites have become an outlet for sharing their contributions and providing their students with a valuable educational experience.

The KSU portal has already led to several advances. For instance, KSU is the first in the Middle East region to have its campus available in 3D image on Google Earth environment, following the lead of highly ranked universities. The portal also contains an interactive map that can help in identifying the location of each college and

respective buildings with respect to their physical location. The portal contains the sub sections about the students, who can avail the e-services provided by this portal, including: the salary check, record updation, and login to the system. Almost all forms that are required by the faculty and students have also been made available on the portal to facilitate the masses to provide maximum benefits to the concerned people and departments of the university. Despite many other features of the portal the weekly news magazine of the university is also available on the portal for consistent and constant viewing of the users. The portal also maintains the archive of previous magazines. The KSU also has taken the lead in broadcasting some of its activities live over the Internet. A case in point is the broadcasting of the first Dental health care conference; such broadcasts not only provide people an easy access to knowledge, but also provide an international interaction among peers. KSU plans to continue this wonderful advancement by enhancing different parts of the Portal. The Knowledge Center part of the portal is designed to be always updated with different materials intended for different audiences ranging from students and non-academic people to leading researchers in different fields. The portal has been implemented in Arabic and English to provide more efficient local and global access.

V. ADVANCEMENT COMPARISONS

King Saud University (KSU), in response to the initiatives taken by the management has flourished dynamically in recent past, and expected to blossom hugely in the near future. Different factors that help in implementing the IT services, including network bandwidth, wireless coverage, network nodes and e-services can be compared to see the advancements that have been made as yet and that are expected to be made in the near future.

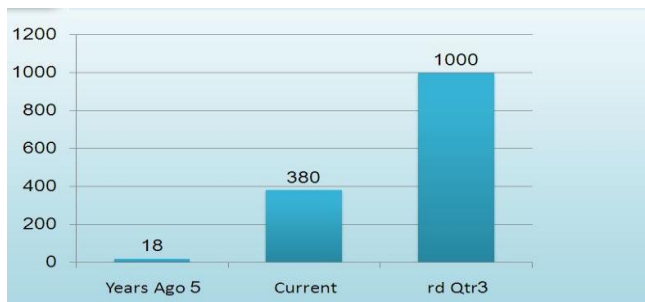


Fig.1 Internet Bandwidth, 2005- 2015

Figure 1, shows the advancements that have been made in the internet bandwidth over the past five years. It shows that internet bandwidth has increased more than 21 times as now as compared to that of 2005. It is also likely that in response to the current initiatives taken in this regard it will become almost thrice the current bandwidth available to the university, in the year 2010.

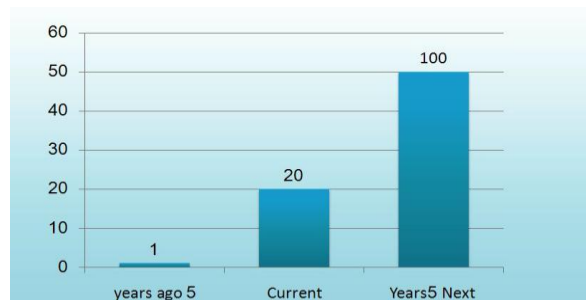


Fig. 2: Electronic Services 2005-2015

Figure 2, shows the advancements that have been made in the availability and usage of e-services over the past five years. It shows that the availability and usage of e-services has increased to 20 times as now as compared to that of 2005. The figure suggests that there was only 1 e-service available in 2005, while now in 2010, 20 e-services are available to be used. It is also likely that in response to the current initiatives taken in this regard it will become almost 5 times more in year 2015 as compared to the current number of e-services available for usage to the university, in the year 2010.

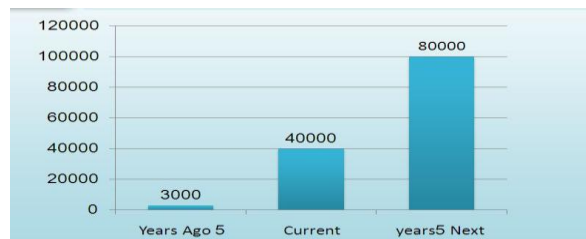


Fig. 3: Number of network nodes 2005-2015

Figure 3, shows the increases that have been made in the availability and usage of network nodes over the past five years. It shows that the availability of network nodes has increased to 13 times as now as compared to that of 2005. The figure suggests that there were only 3000 network nodes in year 2005, while now in 2010, 40000 network nodes are available to be used. It is also likely that in response to the current initiatives taken in this regard it will become almost twice more in year 2015 as compared to the current number of network nodes available for usage to the university, in the year 2010.

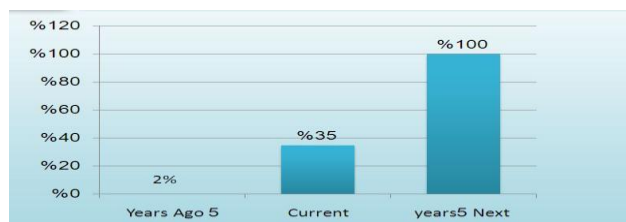


Fig. 4: %age of wireless coverage 2005-2015

Figure 4, shows the advancements that have been made in the wireless coverage over the past five years. It shows that in year 2005 only 2 of the each 100 users had the availability of the wireless coverage, which was just 2% of the total users. The figure suggests in 2010, the wireless coverage has increased to 35%, which is 17 times more than the coverage available in year 2005. It is also likely that in response to the current initiatives taken in this regard it will become almost 3 times more in year 2015 as compared to the current wireless coverage available for usage to the university, in the year 2010.

VI. EMERGING SERVICES

While comparing the technological advancements in terms of the network services it has been observed that in 2015, the e-services would be a leading factor and play a very vital role in implementing the KSU's strategic infrastructure. KSU's has not just focused on increasing the number of node, internet bandwidth and wireless coverage, but has also strongly emphasized to make itself as a technology-oriented university, table 1 shows a comparison of the services available in 2005, now and in 2015.

Services	2005	2010	2015
ICT Legacy System	√	x	x
E-Servicelessness	√	x	x
Restricted e-mail access	√	x	x
Client / Server Technology	x	√	√
Technology enabled campus	x	√	√
Distinguished portal	x	√	√
RFID	x	x	√
KSU Channel	x	x	√
Campus wide wireless network	x	x	√
Virtual Campus	x	x	√
LMS and E-Leaning	x	x	√

Table 1: e-services availability comparison

The table 1, elaborates the developments that have taken place in past five years and the expected developments in the year 2015. KSU started with the legacy systems and e-serviceless environment with the e-mail facility only for the faculty. The visionary leadership of the university very soon realized that the e-serviceless environment may increase the data duplication and inconsistent data to be available across the concerned departments. These legacy systems for record management are not being used anymore, and have been replaced by a state of the art enterprise system 'MADAR' which is responsible for the implementation of university-wide financial, managerial and strategic initiatives. KSU, currently enjoys the presence of client server technology to implement most of its procedural needs which is likely to be supported or replaced by the usage of RFID 2015. The distinguished portal of KSU is likely to improve even more in the 2015. Like never before, KSU is set to initiate KSU channel, completely wireless environment, virtual campus and LMS and E-Leaning in year 2015.

VII. CONCLUSION

It can be concluded that the King Saud University's (KSU) management has very timely identified the establishment and consistency of the e-services across the campus. For that purpose huge emphasis has being given to establish the e-services and enhance the already present services. The university providing suitable funding for that purpose, and as the result of initiatives the internet bandwidth, wireless coverage, e-services usage and network nodes all have grown exponentially to show that the funding is being made in the right direction, and at right time. With the current pace of technological advancement it really looks possible that the university can have its own channel, complete wireless network environment, virtual campus, LMS and E-leaning by year 2015, as decided in the university strategic plan. The deanship of e-transactions and communication is playing a vital role in implementing all such initiatives. It is important to describe that KSU is not only emphasizing in providing the excellent e-services but also has a strong reputation for the highest quality of academic disciplines, academic infrastructure and research attitude. This has been helped the university to be among the first choice of the reputed academicians across the globe. King Saud University has been recently ranked at 199th position among the 500 best universities in the world.

VIII. REFERENCES

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