A MODEL AND FRAMEWORK FOR ALUMNI TRACKING AND INFORMATION SYSTEM

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Abstract - Alumni are graduates of any higher education institution (HEI) that plays a vital role in the attainment of quality education. They are considered as the institution’s most valuable asset and serve as the role model to students and to the community. In Oman, HEIs are facing difficulty in establishing, managing and maintaining connections with alumni and other stakeholders. Hence, this paper aims to design a theoretical framework for an alumni tracking information system that would help in establishing an online communication between HEIs and their alumni. This project aims to design a web-based alumni tracking information system that is highly needed by institutions in Oman to meet the requirements of Standard 5 of the Oman Academic Accreditation Authority (OAAA) and stakeholders. This project is not only aligning an HEI’s strategic directions towards the improvement of the quality of programmes that an HEI is offering but also strengthening of placement and linkages where alumni are deemed as potential stakeholders and also to transform an HEI’s system into automation and paperless alumni related transactions.

Keywords - Alumni, higher education, information system, tracer study.

1. INTRODUCTION

Alumni plays a vital role in an HEI, it gives the HEI support in terms of giving feedback on the programmes of the university regarding the improvements of the programme, supporting the university in most of the activities that require alumni’s participation. One of the criteria in quality assurance for higher education is the connection of the HEI to its alumni and tracer study of its graduates once you have these data, you can manage and analyse these kinds of information and it will serve also as a very important parameters of improving the quality in higher education, specifically the programmes being offered by the HEI. In order to improve the quality of programmes, there should be continuous feedback from the alumni who are working particularly in the industry. Their feedback is very important inputs to the curriculum, activities, etc. of every HEI.

We are now in the world of IT but most of the HEI doesn’t have yet an ideal information system which may serve the alumni. Full automation of the system is needed in order to do a comprehensive analysis of alumni data.

In line with the mandate of Oman Academic Accreditation Authority (OAAA) in collaboration with the Ministry of Higher Education (MOHE) in Sultanate of Oman which requires all colleges and universities in the Sultanate to prepare their graduates to be competitive in job market and ready to compete; and to improve the quality of human resources the higher education sector is producing. With this idea, it is necessary for HEIs to collect relevant information from their graduates including their personal information, achievements, etc. Hence, developing a system for this purpose would help institutions to collect data easily and later on conduct tracer study. The quality of programmes in higher education institutions (HEIs) in Oman is essential in order to deliver quality education to students. The attainment of quality programmes is influenced by various factors such as curriculum design, curriculum review, work placement, human/material resources, and innovation. According to OAAA standards [1] set by quality assurance in higher education, improvement of programmes must have the involvement of relevant stakeholders such as employers, students, teaching staff, professional bodies, and alumni.

Based on OAAA Stage 2: Standard 2 Assessments outcomes, seven (7) out of twelve (12) colleges and universities assessed by OAAA got a score of one (1) which is “partially met” [1]. The system has many modules including tracer study that would possibly contribute to the improvement and innovation of quality programmes.

A. Problem Statement

Oman Academic Accreditation Authority (OAAA) set a standard specifically for alumni. Standard 5 of criterion 5 states that “The HEI implements systems and processes for managing and maintaining relationships with its alumni. Its engagement with this group ensures their input into a range of the HEI’s academic and community engagement activities” [1]. OAAA revealed during Stage 2: Standard Assessment outcomes that seven (7) out of twelve (12) colleges and universities they have assessed for the past years received a score of one (1) which is “partially met”. This is equivalent to fifty-eight percent (58.33%) of the total number of assessed HEIs. These HEIs have common concerns [1]: There is no information system wherein records of alumni are kept and maintained; Records of alumni are in Excel file; Difficult to identify and select outstanding alumni to
participate in various events of the institution such as programme review; Record of alumni participation is done manually; Tracer study becomes so challenging for an institution; Alumni records are not readily available, and processes are almost done manually.

B. Objectives
To design a framework for an Alumni Tracking Information System that would help HEIs improve the quality of their programmes through alumni related communications. Specifically, the system will: create an alumni database; create an individual alumnus profile; create employers’ profile; use important links to jobs that are available online; enable users to post announcements; alumni officers’ profile; maintain records of events conducted by the institution and alumni; generate reports based on comprehensive analysis; allow users to communicate with each other in the form of a forum or private messaging; and conduct a tracer study;

C. Significance of the Study
The project is purely intended for higher education institutions (HEIs) in the Sultanate of Oman. The system will cover two important functions:
Alumni Tracking Information System. The system would assist HEIs in the collection, maintenance, and retrieval of relevant alumni information. With the help of this system, the institution may choose best alumni to represent their institution for possible programme review or curriculum design; and

Tracer Study. Tracer study is a special kind of study wherein graduates are being traced based on the destination. This feature is in addition to the information system mentioned above. With the use of an information system, the system will easily generate reports about the destination of graduates.

II. REVIEW OF RELATED LITERATURE
Oman Academic Accreditation Authority (OAAA) was established in 2010 through a Royal Decree No. 54/2010 in replacement of the Oman Accreditation Council. It is a government entity that aims to provide Omani citizens with an assurance that the quality of higher education in the Sultanate meets the international standards. It encourages HEIs for continuous improvement in order to attain quality education (OAAA, 2019).

Currently, OAAA is focusing on Stage 2 of Institutional Accreditation – Standards Assessments which Standard 5 criterion 5 covers “Relationships with Alumni”. In addition, OAAA has already designed its conceptual framework in conducting “Programme Accreditation” which “relationships with alumni” belongs to Standard 4 criterion 3. The planned of programme accreditation is there, however, HEIs must be ready on this stage (OAAA, 2019).

OAAA focuses on the delivery of quality programmes in HEIs, hence, the quality of programmes offered by HEIs must be improved and monitored. To maintain the quality of programmes, curriculum review must be observed. In this activity, quality assurance highlights the importance of relevant stakeholders’ participation [2] in reviewing its content.

Academic institutions need to have an information system that would manage and maintain data of their graduates specifically in forming alumni organizations or associations. The main task is to maintain, manage, and retain a growing number of alumni records. With the use of an information system [3], all needed data of graduates are readily available and retrievable easily without problems.

The Sisters of Mary School Online Alumni System started in 2002 but was fully activated in 2008. The system contains relevant information of graduates where only alumni can access. In this system, the graduates can interact with other alumni by searching them using the directory tool [4].

Alumni Information System contributes a huge help to institutions and alumni that will allow them to reach out with each other. The system also facilitates active or ongoing activities and has very accurate communication. Once the system is implemented successfully, it would create a harmonious and meaningful relationship between the institution and the alumni.

MihirJayavant [5] stated in the study that Alumni Tracking System is an online-based application that helps to enhance the tracking of college graduates. The project emphasized the placement of current tracking procedure of college graduates and providing alumni data to college faculties. The real-time information of alumni is not present on any central platform. The developed application aided to keep all the college graduates in real-time. The created mobile application through which college graduates can update their current job status easily. The alumni information that stored in the database of the server was able to access through a web portal to the faculty in charge of the college. By considering it, faculties can search the alumni through their names, batch and job posts.

Nikita Mithapelli, et. al. [6] stated that the development of mobile internet technology and wide usage of Smart Phones is increasing rapidly, which have more focus and given to network access techniques and interactive applications through mobile phones. The Android is considered as an open-source platform which has become popular in smartphones and used more by people. The project developed an android application which was useful to
track all the alumni by their social media account information using web API. All this information stored in the database or server was visible to the admin or committee head. The track location of alumni by means of GPS (Global Positioning System), or if the Internet is not available the Location Based Services (LBS) is used and the location plotted on Google Maps. Alumni to alumni messaging facility (chatting module) are provided through GCM (Google Cloud Messaging) technology.

Gabriel ResendeGonç, et. al. [7] in gathering alumni information from a Web Social Network, the gathered data from program’s alumni and finding out what are their main areas of employment on the labour market or which are their main fields of research in the academy. The data obtained through available forms on the Web or forwarded by email. This novel method helped academic in charge of undergraduate programs to gather information on the desired population of alumni, semi-automatically, on the Web. Overall, by using a few alumni pages as an initial set of sample pages, the proposed method was capable of gathering information concerning a number of alumni twice as bigger than adopted conventional methods.

The studies conducted by the groups of MihirJayavant, Nikita Mithapelli, and Gabriel ResendeGonç are relevant and thus, correspond to the present study. This also deals with some applications that will make the Alumni Tracking Information System adept to the needs of higher education institutions at the present time.

Dai and Lan [8] conducted a research study on alumni information management model with web-based application. This new development of tracking graduates will pave the way of a traditional information management system. The innovation of the alumni management work gives a lucid overview of an identified framework by means of alumni social network, intelligent data acquisition and storage, data mining and decision-making support are essential nowadays. The study purported to build a social platform to establish industry alumni network using intelligent technology to gather and store huge alumni data and data-mining technology in order to improve the decision-making of concerned stakeholders and organizing committee. This also describes specifically the following aspects in terms of: the current situation and problems of alumni information management; the current situation of alumni information management model; the problems of alumni information management model; the construction of a new alumni information management model in "Internet+" era; the construction of intelligent data acquisition and storage platform; and the construction of data mining and auxiliary decision-making platform

The framework of the above-mentioned research work has significant similarity on the current research wherein the focus areas are the usability, comfortability and accessibility of users of the web interface.

Another article adopted for this study is the paper presented in the 4th World Conference on Educational Technology Researches, by Vittayas and Sukree [9] at Chulalongkorn University, Bangkok, Thailand. The writers developed innovative Alumni Management Framework (i-AMF) and the Structural Equation Model (SEM) to determine the relationship among the factors and its results are then carefully analyzed. It came out the relevance and its conclusion proves by its hypothesis which resulted to the following factors: 1) Alumni Demographics, 2) Communications, 3) Value Creation, 4) Awareness, 5) Motivation, 6) Collaboration, 7) Engagement, and 8) Alumni Satisfaction.

The research output primarily arrives at as clear dimensions and methods to address the present study: Better alumni engagement contributes to the sustainability of alumni association; Attractive key motivator for connection contributes to the sustainability of alumni association. Awareness contributes to the sustainability of alumni association; Alumni demographic contributes to the value-centric relationship creation; Products and Services quality contribute to the value-centric relationship creation; High-value centric relationship creation contributes to the sustainability of alumni association; Effective collaboration contributes to the sustainability of alumni association; High level of alumni satisfaction contributes to the sustainability of alumni association; Better alumni education program contributes to the sustainability of alumni association; and Institution branding contributes to the sustainability of alumni association.

The Innovative alumni relationship management system (i-ARMS) has been utilized to solve the following problem stated: Alumni members have fewer channels to interact with University or Alumni Association; University or College does not know alumni members’ needs; University or College is not able to offer products and services to suit the needs of Alumni’s segments; Alumni members do not engage with University or College; University or College do not participate well enough to the alumni members; Alumni members are not aware of the proper channel to contact the University; There is no proper matching between demand and supply; and University or College does not choose a proper channel to communicate to Alumni.

III. METHODOLOGY

Rapid Application Development (RAD) is the
software methodology model that will be used in developing the software. All the necessary steps in developing software will be done properly to attain a complete and working system. A newly developed alumni tracking information system will be the outcome of this project.

IV. FRAMEWORK

Figure 1 illustrates the framework for alumni tracking and information system. The users of the system are guest, alumnus, administrator, HEI management and quality assurance staff. The input will be an alumni database that is coming from the respective HEI. After comprehensive analysis with filters, the result will show in terms of specializations, industry category, year of graduation, location of workplace, job positions and employment rates.

V. SYSTEM OVERVIEW

The proposed system for tracking alumni is called ATIS (Alumni Tracking and Information System). ATIS is designed to track the alumni of a particular HEI and perform a comprehensive analysis based on by applying necessary filters such as specializations, industry category, year of graduation, location of workplace, job positions and employment rates. It will also perform basic features such as alumni search, alumni list and alumni profiles.

The alumni profiles will be imported from available records or database of a particular HEI where accurate information about the alumni are present including the graduates’ personal information and date of graduation. The import procedure will be done directly using the system. The alumni do not need to enter his or her personal information manually but only needs to activate his or her account by logging in to the system using his or her Google, LinkedIn or Microsoft account. Once logged in and the account is activated, the alumnus needs to update the necessary information such as the current and past employment.

Google Maps API will be used to determine the location of the residence and at the same time, the location of the workplace of the alumnus and is presented in the map. Other data that will be useful for generating and analysing of statistical reports will be needed for encoding such as industry category, type of employment, starting and end dates. Employment ratio is an important aspect of quality assurance which will be generated by the system.

To establish and maintain the connections to the alumni and employer, alumni employment data and alumni contact records will be stored in the system. The motivation of alumni in regularly updating their respective records in the system will be beneficial to both the HEI and the alumni. By regularly communicating with the alumni and their employers will bring a lot of benefits to the HEI including various mechanisms for acquiring valuable feedback in evaluating the quality of study programmes of a particular HEI. It includes but not limited to regular surveys, participation in the improvement of study programmes and attending important meetings.

VI. FEATURES OF THE SYSTEM

The objectives of ATIS are derived from the standards and criteria of OAAA in the improvement of the quality of programmes in Oman. The major function that will be implemented is to establish and maintain connections to alumni at their employers. Another important feature is the analysis part where the employment rate will be automatically calculated based on available alumni data. The graphical display of certain parameters such as the category of the industry where alumni are working will play an important factor in the system.

The basic features will not be neglected such as alumni list, search for alumnus, updating of alumnus’ personal records, etc. Another important feature is the ability of the system to display graphically the home and job address of the alumni. It will display also the alumni job positions and their respective employers. Another important feature is the ability of the system to integrate the existing data of the alumni that are present in the system of an HEI. This will resolve the issues in the accuracy of alumni data because we are now dealing with a unique source of data that is maintained by the HEI.

VII. CONCLUSION

This paper presents a solution to the alumni related problems that most HEIs are encountering in the Sultanate of Oman. The significance of this paper is
its benefits and practical usability for HEIs in Oman which is in the process of accreditation and is also in the process of the quality of their programme offerings. As mentioned already in this paper, most of the HEIs don’t have direct connections to alumni and their respective employers. Through ATIS, the connections could be efficiently and effectively established to meet the requirements, standards and criteria of OAAA related to alumni. Employment rates will be easily generated by the system through the information supplied by the alumni. This is an important factor in the analysis of the quality of the programmes of the HEI that justifies the existence of a particular programme.

The responsibility of maintaining and updating alumni data does not correspond to the alumni alone. The HEI will still play the major role in encouraging its alumni to update their personal data in the system and also provide some benefits to alumni to motivate them to do so such as providing usage of equipment and other related services.

Lastly, alumni information should be shown in the HEI’s website so as to inspire different stakeholders, this will be a good marketing tool also for future employers of graduated students and future students.

ACKNOWLEDGMENTS

This work was supported by The Research Council (TRC) of the Sultanate of Oman (Grant ID BFP/RGP/EHR/18/182).

REFERENCE


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