EXTRAPOLATING TOURIST INTEREST MODEL USING SOCIAL NETWORK SERVICES

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ABSTRACT

The recommendation systems are widely used by many systems in several business areas. The main advantage of the recommendation system is to offer some products that relevant to user interests. As a result, it is easier for a user to make a decision to buy that products and spend less time to find the desired products. For tourism sector, a major problem of none local tourists is to find the desire places that they should visit at destinations. They usually put a huge effort to collect information of those places from several websites that are distributed all over the Internet. Therefore, they need a system that can recommend some places that they might like to go at the destination. The purpose of this paper is to introduce a novel technique that utilizes information from social network (Facebook) to extrapolate user interests in order to recommend some attractions to tourists. The proposed system extracts check-in data of a user and analyses the user interest based on mathematic methods. The user preferences are obtain and store in a database model, so called a user model. Therefore, the system is able to recommend some places based on the constructed user model. The experiments show that data from social network enables the user interest finding and can be used to enhance the recommendation system efficiency. This can reduce the user task to answer some questions asking by the system used in the existing systems. The experimental results show that the system can offer information that relevance to user interests up to 82.34% of accuracy. This number indicates that check-in information from Facebook is useful for the recommendation system and can effectively apply for tourism business.

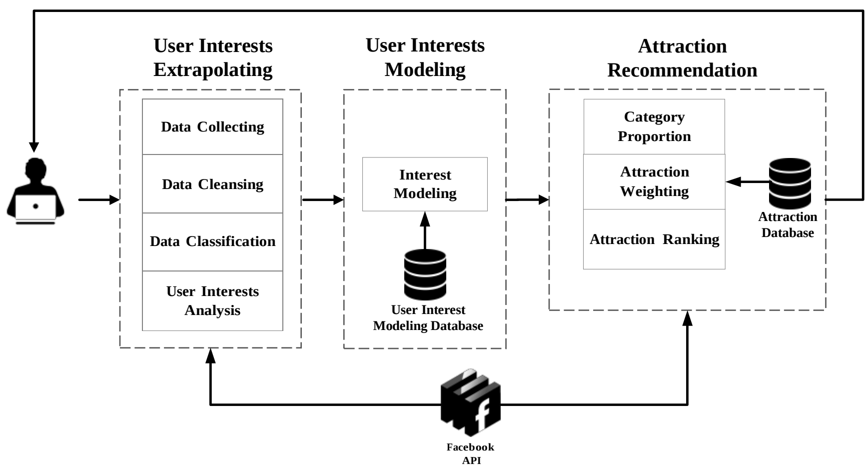
Keywords- User Interest, Social Network, Recommendation System, Tourism, Information Technology.

I. INTRODUCTION

Tourism industry becomes a popular business sector in Thailand because it playes a crucial role in the growth of economy of the country. According to [1], Thailand is the first target place of foreign tourists to visit in ASEAN and this accrued income from tourism contributes substantially to the Thai economy in 2011 which accounting for 8.2 percent of the country's GDP [2]. Therefore, Thailand is the high potential country that continuous developed the tourism industry by public and private sectors. Recently, the Internet has made a numbers of services and products appear online by tourism stakeholder about destinations, points of interest (POI) and transportation for travelers. This information available to aid travelers planning their itineraries and stakeholder advertise their products. However, a number of choices have increased rapidly that challenge for tourists to select the best options from a large number of travel information available online. As such, Personalized Tourism Recommendation System (PTRS) is a useful tool to allow user to retrieve desire tourism information and make easier decision to purchase services from stakeholder s. The numerous research efforts to develop such a system to support travelers e.g. itinerary planning [3], reserving and selling flights of the holidays [4], package and tours [5] in order to suggest services and products that relevance to the users' preferences and this can increase sell opportunities.

The emergence of social network technology becomes a crucial tool for information technology researchers to extract personal preferences of the tourists. The rapid growth of social network in the past decade has made large information available online such as chat data, shared data, photos, and comment. This information has spurred numerous research efforts to extract user content and individual interest topic, such as music recommendation using tag in social bookmarking service [6], news recommendation using Tweet text on Twitter (Twitter.com) [7]. The data of user's social network provides an opportunity to analyze user interest. However, social networks have a limitation on each type of data to be use for tourism aspect such as data of "tag" usually uses for emotional descriptions rather than traveling or attraction information. However, some useful information also exists via social network e.g. check-in. Check-in information provides personal interest on locations and this data could be useful to find where the user might be interested in. From our study, the most popular social network in Thailand reported on 2014 [8] is Facebook and 33% of posts from Facebook users reported their locations via check-in function. Therefore, this study proposes the personalized tourism recommendation system (PTRS) that presents tourism attractions based on user preference using "check-in" data from Facebook.

Figure 1
User interests model that reserve in relational database



II. LITERATURE & THEORY

The main advantage of social network for recommendation system is it could be infered the interest of user. In recent year, users typically shared photos and videos more than text messages. However, photo and video are always posted along with captions to provide particular detail of those multimedia. Twitter is a social network that allows users to share news or opinion using short message, called "tweet". Similar to Facebook, users can post messages, photos or video on own and friends' timeline. The main problem is text messages are usually ambiguous using personal words, phrases, and abbreviations. There are new terms introduced in almost every day. Several studies make an effort to solve such a problem. For example, Castillo et al. [9] separated 2 type of tweet: (1) news about a specific event (labeled as class NEWS) and (2) comments or conversation (labeled as class CHAT) for assessing the reliability of tweet. Abel et al.[7] identified topics and entities (e.g. persons, events, products) mentioned in tweets for news recommendation. Wasim et al. [10] and Lim and Datta [11] used Wordnet or Wikipedia to map entities to the interest categories that will define the topic profile. The other approaches use "tag" data such as Hashtag in Facebook and Twitter. Social bookmarking used opportunity of tag in bookmarks to group interested website of user. These bookmark tags refer to the personal interest of individual user. For example, Michlmayr et al. [12] proposed the Add-a-Tag to model user's preference using tag from social bookmarking as Delicious.com. Firan et al. [6] proposed the Tags-Based model extracting music interested tag from Last.fm.

Davoodi et al. [13] proposed webpage recommendation system that extract user preference from social bookmark. However, the limitation of tag in social bookmark is it does not provide useful information about tourism purposes. Therefore, we proposed to use other data from Facebook, check-in data, to be exploited for finding user interests and to recommend some attractions to tourists.

III. DATA & METHOD

The presented approach focuses on using check-in data from Facebook to extrapolate user interest for PTRS. Content-based filtering approach use for analyze user interest from history behavior of travel. The more visited places on check-in indicate the greater interest in category of place of a user. Based on this hypothesis, the researchers proposed the approach as follows framework in Fig.1.

3.1 User Interests Extrapolating

3.1.1 Data Collecting

The check-in data is retrieved through Facebook API in the form of JSON. However, the collected field that useful for user interest analysis including “id”, “created_time” and “category_list” and the meaning showed in Table 1.

Table 1
Check-in data of user from Facebook.

Data fields	Meaning of fields
{ "**id**": "196230743801741",	Identification number of place
"**name**": "WatPrasriRattanaMahathat",	Name of place
"**category_list**": [	Category list of place
{ "**id**": "197097220301977",	Identification number of Category
"**name**": " Historical Place "},	Name of Category
"**created_time**": "2013-04-13T09:21:03+0000"}	Date and time of check-in this place

3.1.2 Data Cleansing

Because not all check-in data can be used for the recommendation system, some check-in data e.g. supermarket, cinema, and house is eliminated. The place that user has checking-in more than one time per week is also excluded. Therefore, this can reduce duplication of place that user posted multiple check-in on the timeline.

3.1.3 Data Classification

The cleaned check-in data is classified automatically to the main category using category list database in tourism domain. The major categories of attractions are divided into 6 categories followed the guideline of Harfield [14] and TAT (www.tourismthailand.org) as shown below.

(1) Culture category includes the sights and attractions that showcase the artistic and cultural heritage

(2) Historical category refers to the historical sites and monuments that have a long and proud history.

(3) Entertainment category is the recreation places and entertainment venues for visitors.

(4) Nature category includes the natural resources, including a variety of fauna and flora and distinct ecological zones.

(5) Educational category means to the places that visit for educational experiences.

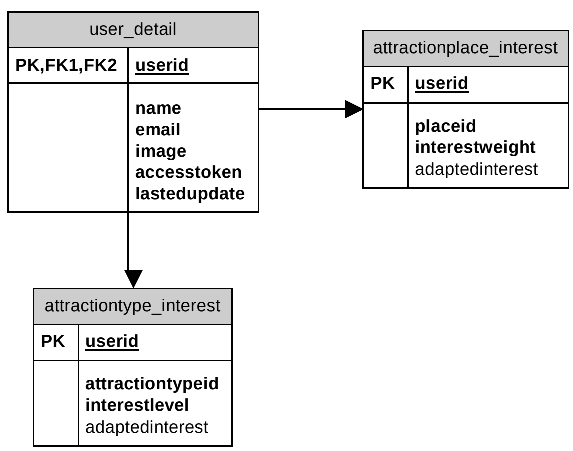
(6) Community-based category refers to the suburban neighborhoods where locals shop, eat, and celebrate in own unique way.

3.1.4 User Interests Analysis

The major advantage of this process is to analyze the user interest using previously visited (check-in) data. The frequency of visited place indicates interest level of user to each attraction category. Thus, the proposed system apply item frequency (IF) to measure the interest level (IL) as numeric value [15] from 0 to 1. 0 shows that user has not interest in the category and 1 shows that user has the most interest in the category. The interest level of category defines to $I(c)$ as Equation (1), n_c is check-in number of category-c and n_k is check-in number of all category (k).

$$I(c) = \frac{n_c}{\sum_{k=1}^{6} n_k}, \ 1 \le c \le 6 \tag{1}$$

Figure 2
User interests model that reserve in relational database



3.2 User Interests Modeling

User interest modeling is a main process that reserve personalized interest level of attraction category and user profiles in relational database. The relational database has several advantages to store data with relationships, easy to queries, support simply updates and more data security than other model like flat file or text file. The proposed user interest model of user is shown in Fig.2.

3.3 Attraction Recommendation

The recommendation process has employed to suggest the attractions to users using content-based filtering approach. Content-based filtering refers to recommend items or services based on analysis of the user's previous actions or purchase by matching the characteristics of the ite m or service with the characteristics of the user [16]. This process use to extrapolate user interest and recommendation which will be described in the next section.

3.3.1 Category Proportion

If the system considers what user like the most, it will recommend several places from only one category. In fact, a user is usually interested in several categories. Therefore, the problem is solved by category proportion with define $R(c)$ that ratio of place suggesting to user in each attraction category using interest level as $I(c)$ in Equation (2). In the proposed system, we show top-N attractions as N equal 10.

$$R(c) = \frac{I(c)}{\sum_{k=1}^{6} I(k)} \times N,\ 1 \le c \le 6 \qquad (2)$$

3.3.2 Attraction Weighting

This process weight places in each category for select the top $R(c)$ suitable places for user. The weigh has three variables:

(1) Popularity of place (P): the number visitor of that place. Higher visitors indicates more popularity
(2) Friends visited place (F): the tourist often visit place that friends have been visited, and
(3) Appropriate time (T): the appropriate time to visit that place.

The attraction weighting generate in Linear Regression Analysis to analyze the relationship between these variables that show in Equation (3). The weight of place is defined as $W(p)$ and $0<\alpha+\beta+\gamma<1$.

$$W(p) = [\alpha P(p) + \beta F(p) + \gamma T(p)] \qquad (3)$$

3.3.3 Attraction Ranking

Finally, all recommended attractions are ranked in order to select for the top ten places that matched the user interest based on Equation (2) and (3). The Attraction Ranking is measured by Equation (4) and defines as: if $Rank(p_1)$ more than $Rank(p_2)$, p_1 has higher order than p_2.

$$Rank(p) = \frac{R(c) \times W(p)}{N} \qquad (4)$$

Table 2
Preference ranking of attraction category between extrapolated ranking from system and actually ranking from one user

Attraction Category	Preference ranking		Accuracy of ranking
	Extrapolated ranking	Actual ranking	
Culture	5	4	✗
Historical	2	2	✓
Entertainment	3	3	✓
Nature	1	1	✓
Educational	4	6	✗
Community-based	5	5	✓

IV. EXPERIMENT RESULTS AND DISCUSSION

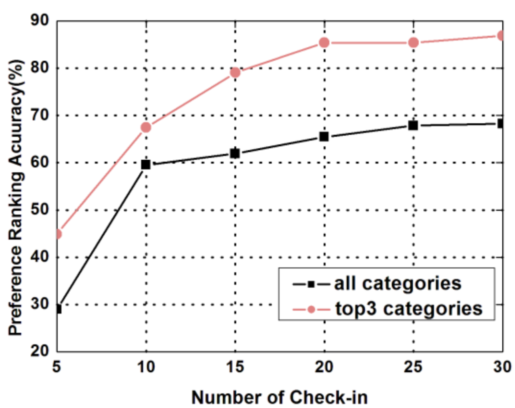
4.1 Sample data set

Experiments have been carried out using the dataset, generated by a survey of 100 volunteers who have Facebook account and create activity at least one per week. They also have check-in data for the past 6 months to be used to analyze what they are interested in.

4.2 Evaluation of the tourist interests extrapolating

In order to evaluate the effectiveness of the tourist interests extrapolating, we compare recommendation ranking generated by the system to the actual ranking made by Facebook users. Table 2 shows accuracy of all category ranking and the top three categories ranking (highlighted) of a user. Only two categories are ranked incorrectly out of six categories. In addition, if we consider only top three recommended categories, they are all correct order. This result illustrates the high performance of the recomme ndation system based on social network data. In addition, we examine the most suitable number of check-ins used for the user preference analysis. As shown in Fig.3, the ranking accuracy tends to obtains higher accurate when the number of check-in data increases. The average accuracy for top three category ranking is 86.91% when more than 20 check-ins are exploited whereas all categories obtain 67.25% ranking accuracy. To this end, we conclude that more check-in data are used, the higher recommendation performance is obtained. If we look closer to the result, the ranking performance of 25 and 30 check-ins are not significantly different and trends to steady after that. However, the system spends more time to acquire check-in data from Facebook when the number of check-ins increases. Thus, we need to study more that how many check-ins the system needs and spend not too long to collect check-in data.

Figure 3
The average accuracy for all and top three category ranking with difference number of check-ins



4.3 Evaluation of the attraction recommendation

In this experiment, we study the effectiveness of the attraction recommendation. In addition, we hypothesize that close friends are likely to have similar preference. Therefore, we extract the places that close friends of a user on Facebook have visited (checked-in) and deploy these data for analysis user interests. To evaluate this hypothesis, the precision@10 metrics have been used in this study. Precision is defined as the number of the top-10 recommended items that user is interested divided by the numbers all retrieved documents. We compare four methods as shown below:

(1) Popularity Weight (P):

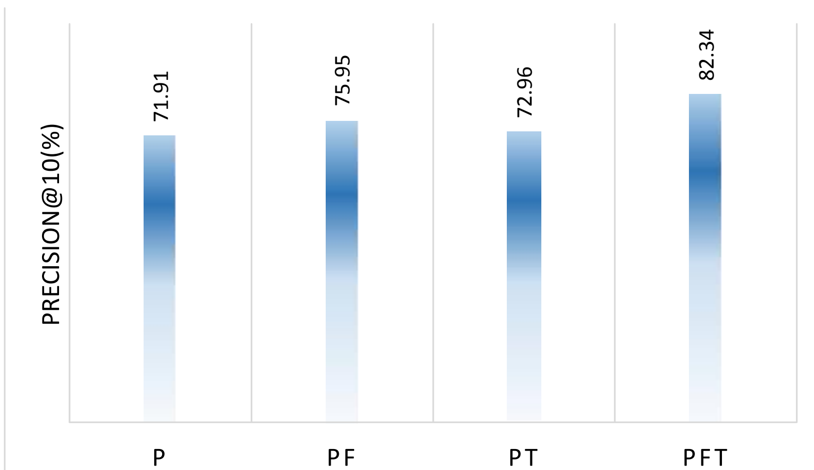
(2) Popularity and Friends Visited Weight (PF):

(3) Popularity and Time Weight (PT):

(4) Popularity, Friends Visited and Time Weight (PFT):

In Fig.4, the PFT weighting has the maximum average precision is about 82.34%, while that of PF weighting is 75.95%, and PT and P weighting obtain 72.96% and 71.91% respectively. The result illustrates the combination of visited place of friends and time to visit the place can enhance the prediction accuracy. In contrast, consider only popularity of attractions (P) and time (T) may not always the effective methods to recommend attractions to tourists.

Figure 4
The average Precision@10 for attraction recommendation



V. CONCLUSIONS AND FUTURE WORK

In this paper, we proposed the novel method for extrapolating of tourist interest using information from social network e.g. Facebook and recommend some attractions that relevant to user interests individually, so called "Personalized Tourism Recommendation System (PTRS)". As a result, users do not need to find information where they should visit from several websites. In addition, tour provider can use this tool for understanding and knowing what their customers likely to be interested and this can enhance selling or buying probabilities. Experimental results has demonstrated that our proposed method can predict preference ranking with great accuracy. The recommendation using friends visited and time weighting gained higher precision compared to using only the attraction popularity. In the future, the other variables in social network such as gender, age and hometown are considered could be used for user interest analysis.

REFERENCES

[1] A. Harun (2012), "Thailand Tourism Industry: The impact of Tourism Sector to Thai's Gross Domestic Product (GDP)," in *Proceedings of the 2nd International Conference on Business, Economics, Management and Behavioral Sciences*, Pp. 90–95.

[2] World Economic Forum (2012), "Fostering Prosperity and Regional Integration Through Travel and Tourism," *ASEAN Travel Tour. Compet. Rep.* Pp. 1–2.

[3] U. Rabanser and F. Ricci (2005), “Recommender Systems: Do They Have a Viable Business Model in e-Tourism?,” in *Information and Communication Technologies in Tourism 2005*, D. A. J. Frew, Ed. Springer Vienna, Pp. 160–171.

[4] L. Coyle and P. Cunningham (2003), “Exploiting Re-ranking Information in a Case-Based Personal Travel Assistent,” in *In Workshop on Mixed-Initiative Case-Based Reasoning at the 5th International Conference on Case-Based Reasoning*.

[5] S. Schiaffino and A. Amandi (2009), “Building an expert travel agent as a software agent,” *Expert Syst. Appl.*, vol. 36, no. 2, Part 1, Pp. 1291–1299.

[6] C. S. Firan, W. Nejdl, and R. Paiu (2007), “The Benefit of Using Tag-Based Profiles,” in *Proceedings of the 2007 Latin American Web Conference*, Washington, DC, USA, Pp. 32–41.

[7] F. Abel, Q. Gao, G.-J. Houben, and K. Tao (2011), “Analyzing User Modeling on Twitter for Personalized News Recommendations,” in *User Modeling, Adaption and Personalization*, J. A. Konstan, R. Conejo, J. L. Marzo, and N. Oliver, Eds. Springer Berlin Heidelberg, Pp. 1–12.

[8] Zocial inc. Online Analysis (2014), “Thailand Zocial Award 2014 Insightful information of Thai people on social media,” URL: *http://zocialinc.com*.

[9] C. Castillo, M. Mendoza, and B. Poblete (2011), “Information Credibility on Twitter,” in *Proceedings of the 20th International Conference on World Wide Web*, New York, NY, USA, Pp. 675–684.

[10] M. Wasim, I. Shahzadi, Q. Ahmad, and W. Mahmood (2011), “Extracting and modeling user interests based on social media,” in *Multitopic Conference (INMIC), 2011 IEEE 14th International*, Pp. 284–289.

[11] K. H. Lim and A. Datta (2011), “Interest Classification of Twitter Users Using Wikipedia,” in *Proceedings of the 9th International Symposium on Open Collaboration*, New York, NY, USA, Pp. 22:1–22:2.

[12] E. Michlmayr, S. Cayzer, and P. Shabajee (2007), “Add-A-Tag: Learning Adaptive User Profiles from Bookmark,” in *Collections International Conference on Weblogs and Social Media ICWSM’2007*, Pp. 1-2.

[13] F. G. Davoodi and O. Fatemi (2012), “Tag Based Recommender System for Social Bookmarking Sites,” in *2012 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM)*, Pp. 934–940.

[14] A. Harfield (2014), *Tourism Database for lower north of Thailand*.

[15] A. Moreno, A. Valls, D. Isern, L. Marin, and J. Borràs (2013), “SigTur/E-Destination: Ontology-based personalized recommendation of Tourism and Leisure Activities,” *Eng. Appl. Artif. Intell.*, vol. 26, no. 1, Pp. 633–651.

[16] K. Kabassi (2010), “Personalizing recommendations for tourists,” *Telemat. Inform.*, vol. 27, no. 1, Pp. 51–66.

[17] Gajus (2014), “ay-fb-friend-rank,” URL: https://github.com/gajus/facebook-friend-rank.

MEASUREMENT METHOD OF SERVICE QUALITY IN PUBLIC TRANSPORTATION; CASE OF ISTANBUL

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ABSTRACT

Product and service quality measurement issues have been the subject of several investigations in the literature because of the increasing importance. With the development of information technology many quality measurement methods has been demonstrated. To define the quality of products is easier to measure than service for its concreteness. To effectively measure the quality of services such as product quality there are variety of techniques within philosophy of 'if you can not measure, you can not manage'. In 2001, CEN (European Committee for Standardization) has set the framework for the EN 13816 quality of public transportation services. With three different modes 11.5 million passengers are carried by public transportation in a day in Istanbul. The aim of Istanbul is having EN 13816 standard for public transport. In this context, there are EN standards for rail system and there is an aim for road system which are 3.5 million passengers a day. Service quality measurement model for Istanbul road system is expressed with analytic hierarchy process methodology. İETT service quality model is stated and its results are shared. In addition, certification process of Tunnel and Nostalgic tramway is summarized.

Keywords; ahp method, İETT service quality measurement model, public transportation in İstanbul, service quality.

INTRODUCTION

Quality is defined several forms in literature. According to the American Society, quality can be defined in the following ways (TLFeBOOK, 2013):

- Based on customer's perceptions of a product/service's design and how well the design matches the original specifications.
- The ability of a product/service to satisfy stated or implied needs.
- Achieved by conforming to established requirements within an organization.

For sustainable quality, organizations have quality management systems (QMS). Today, it has become important to make competition. For this reason, many organizations established service quality management. There are lots of model for service quality such as technical and functional quality model, gap model, Attribute service quality model, synthesized model of service quality model, performance only model, etc (Deshmukh, N.S. & S.G, Vrat, P., 2004).

In this paper, service quality model is established for Istanbul public transportation with analytic hierarchy process method. Then, results are got for all service points. According to the results many improvements are applied.

Public Transport in İstanbul

There are three main transportation modes in Istanbul which are road, rail and sea systems. Daily 11.5 million passengers are carried by public transport. Passengers of road transportation is higher than the others. Percent of 84 of daily passengers consists of road transport which includes bus, minibus, taxi and private service. According to transport modes percent of daily passengers are showed in Figure 1.

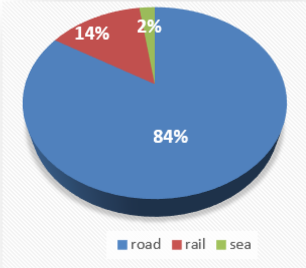

Figure 1. Percent of daily passengers for transport modes

There is an increase for rail system passenger due to Marmaray project. Marmaray project with 14 kilometer was open in 2013. It connects two continents which are Asia and Europe. Daily 150.000 passengers are carried by Marmaray. Rail system of Istanbul is introduced in Figure 2. Marmaray line is showed in gray line.

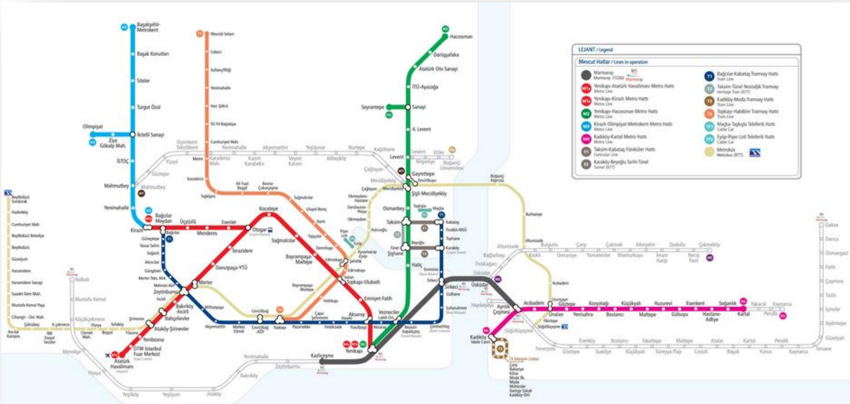

Figure 2. Rail system in İstanbul

(http://www.istanbul-ulasim.com.tr/media/24900/ag_2200px_1546px-01.jpg,)

Standard of EN 13816

En 13816 standard is formed in 2002 by European Committee for Standardization (CEN) to define quality criteria for public transportation. EN 13816 consists of fundamental eight criteria which are availability, accessibility, information, time, customer care, comfort, security and environmental impact. Criteria of En 13816 is summarized for two level in Table 1.

Table 1. Quality criteria (CEN, 2002)

Level 1	Level 2
1.Availability	1.1 Modes
	1.2 Network
	1.3 Operation
	1.4 Suitability
	1.5 Dependability
2.Acccessibility	2.1 External interface
	2.2 Internal interface
	2.3. Ticketing availability
3.Information	3.1 General information
	3.2 Travel information normal conditions
	3.3 Travel information abnormal conditions
4.Time	4.1 Length of trip time
	4.2 Adherence to schedule
5.Customer care	5.1 Commitment
	5.2 Customer interface
	5.3 Staff
	5.4 Assistance
	5.5 Ticketing options
6.Comfort	6.1 Usability of passenger facilities
	6.2 Seating and personal space
	6.3 Ride comfort
	6.4 Ambient conditions
	6.5 Complementary facilities
	6.6 Ergonomic
7.Security	7.1 Freedom from crime
	7.2 Freedom from accident
	7.3 Emergency management
	8.1 Pollution
	8.2 Natural resources
	8.3 Infrastructure

Organizations use quality loop to measure performance of service quality. The service quality loop bases on quality criteria. Quality loop is showed in Figure 3. There are two view such as customer and service provider. From customer side quality loop measures satisfaction of service. From provider side the loop evaluates performance of service.

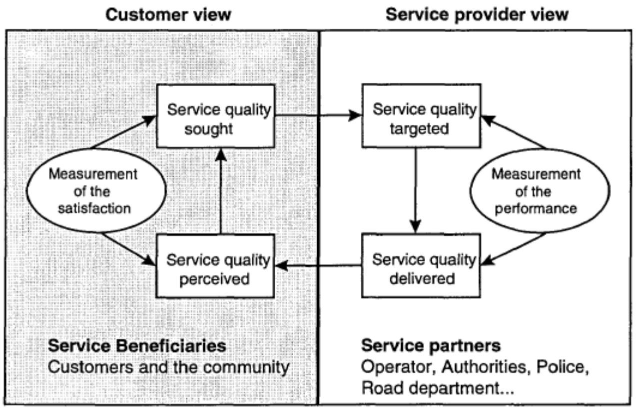

Figure 3. Service quality loop (CEN, 2002)

Analytic Hierarchy Process (AHP) Method

AHP was developed by Thomas L. Saaty in the 1970s and has been extensively uses for complex decisions since then. AHP has wide use such as government, business, industry, healthcare, education, etc. It helps to make correct decision under different constraints for organizations. Structure of AHP is illustrated in Figure 4.

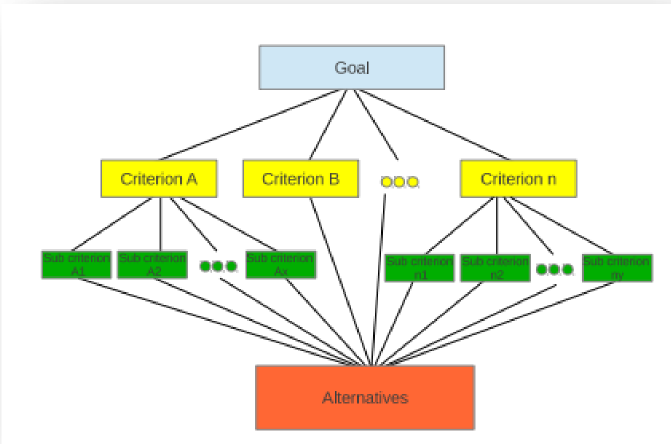

Figure 4. A generic hierarchy of AHP (Klutho, 2013)

Goal consists of different criteria and also criteria occurs different subcriteria. The important thing is know which criteria is more important than the others to achieve goal. At this point, AHP helps decision makers.

İETT Service Quality Model For Public Transport

İETT establishes measurement of service quality model which called as HKÖM. With HKÖM İETT manages all service point regard with EN 13816 standard. There are two types of check form. One of them is mystery check. Controller checks service points like a customer/passenger. The other is open control. Controller shows control card and then checks service points. Control reports get monthly. When one service point has low score, improvement plans are prepared for increasing its service quality score.

HKÖM is constructed with four fundamental elements which are open control, mystery control, software indicator and passenger satisfaction. Model structure is indicated in Figure 5.

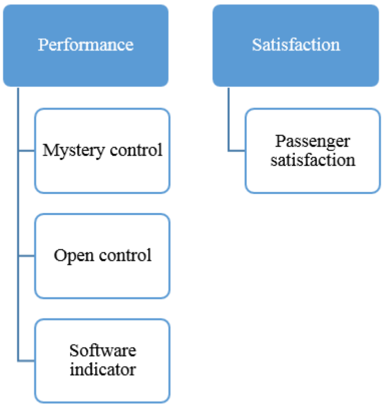

Figure 5. HKÖM structure (İETT, 2012)

All service points are weighted based on AHP. Normalized values are got for mystery and open control and showed in Table 2 and 3.

Table 2. Service points with normalized value for open control

Service points	Weights
Bus	20%
Bus stops	5,80%
Central platform	18,30%
Ticket sales	26,90%
Web site	4,20%
Tunnel	5,10%
Metrobus station	14,30%
Nostalgic tramway	3,60%
Lost and found	1,90%

The biggest weight belongs to ticket sales for Table 2.

Table 3. Service points with normalized value for mystery control

Service points	Weights
Metrobus system	23%
Bus system	17%
Central platform	17%
Nostalgic tramway	4%
Tunnel	5%
Ticket sales	10%
Call center	8%
Lost and found	2%
Request and complaint	7%
Passenger planner	7%

The biggest weight belongs to metrobus system which is Istanbul bus rapid transit from passenger perspective.

RESULTS

In 2012, the model was applied as a pilot case. When concrete results are get, it is decided to use model for 2013 and the other times. Quality score is showed for all service points. Open and mystery check is summarized in a separate chart which is Figure 6 and Figure 7.

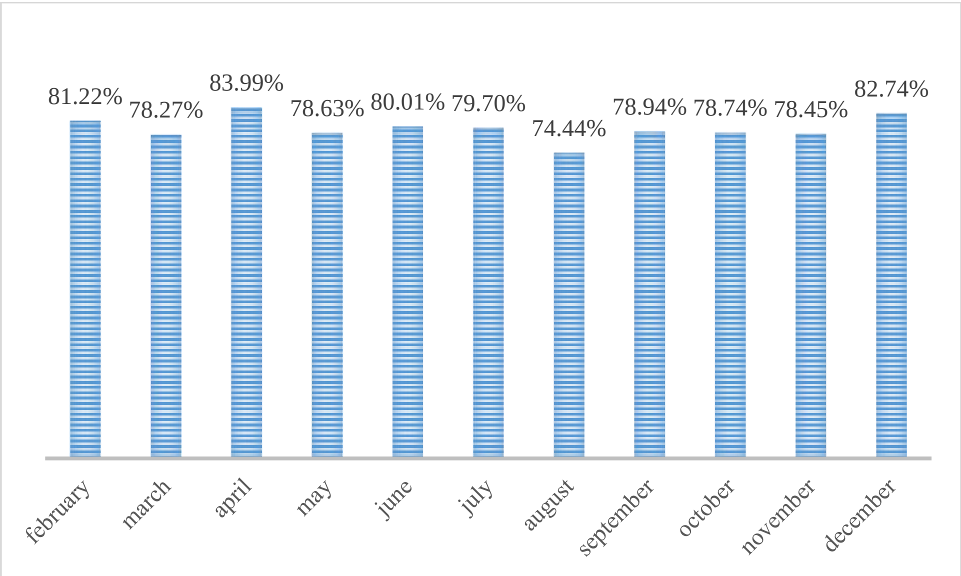

Figure 6. Results for open check

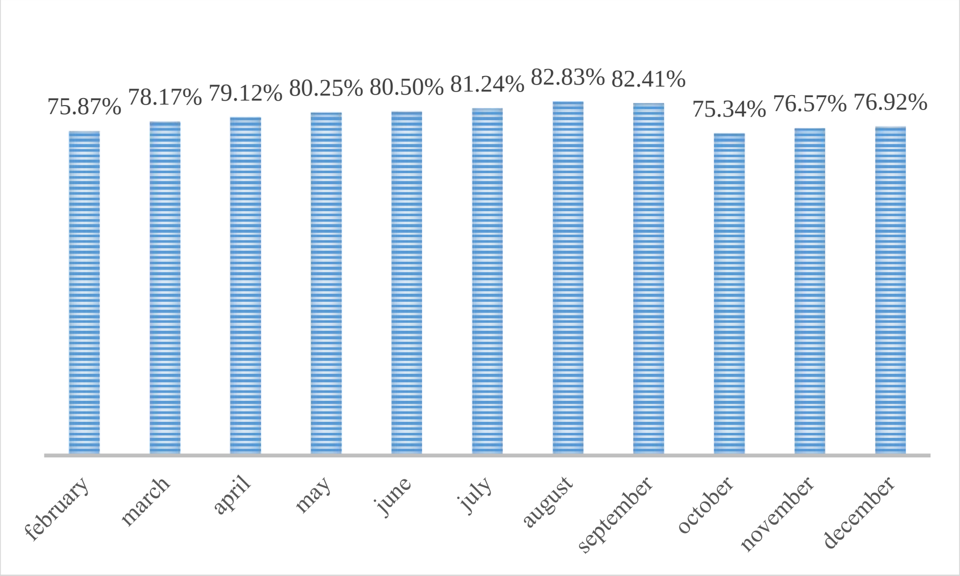

Figure 7. Results for mystery check

CONCLUSION AND FUTURE WORK

According to model results, the following improvements are actualized.

- Number of ticket sales points are increased.
- Private bus company control model is established.
- Transport planning software is developed which name is Mobiett.
- Fleet age is decreased from 14 to 5 with new buses.
- Istanbul metrobus (BRT) optimization model is developed for increasing comfort.
- Online assistance is established for customer relationship management.
- New web sites are developed for tunnel, nostalgic tramway and Istanbul metrobus (BRT).

For all transportation modes which are minibus, taxi, ferry and private motor will be checked according to EN 13816 standards. Integrated measurement of service quality model will be constructed for all transportation modes. For this reason the model will be improved for new criteria.

REFERENCES

[1] CEN. (2002). Transportation, Logistics and Services- Public Passenger Transport-Service Quality Definition, Targeting and Measurement, 12-16.

[2] Deshmukh, N.S. & S.G, Vrat, P. (2004). Service Quality Models: A review. 915-936.

[3] İETT. (2012). Service Quality Measurement Model, 24-38.

[4] Klutho, S. (2013). Mathematical Decision Making, 4-5.

[5] TLFeBOOK. (2013). Quality Management Systems. 14, 264-265.
URL: http://www.istanbul-ulasim.com.tr/media/24900/ag_2200px_1546px-01.jpg, accessed in 27 March 2015.

AN INVESTIGATION OF E-LEARNING WITHIN A GIRLS' PREPARATORY COLLEGE YEAR AT NAJRAN UNIVERSITY IN SAUDI ARABIA

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ABSTRACT

The use of the internet in the twenty-first century has led to a remarkable changes in several aspects of our daily lives. It has come to be an essential means of communication for both learners and educators. In Saudi Arabia, with a recent educational system, accessinge-learning in higher education is a challenge. E-learning in higher education, however, needs to be taken into consideration in order to increase the ability for understanding new methods of learning. This study investigated the number of students taking e-learning courses in the higher education sector and how they developed online course availability. To the knowledge of the researchers, no such surveys have investigated the perception of students about-learning; recent developments in using technology in the Saudi Arabia educational system has highlighted the importance of these issues. Semi-structured interviews were used to examine a number of issues by investigating the perception of students focusing on the use of technology by e-mails, university websites, and the facilities available in the preparatory year of college at Najran University. 10 female students in this college were asked for interviews. The findings indicated a lack of time investment and inadequate facilities which can lead to failure in practicing e-learning, especially in the absence of training; therefore, there are several concerning issues facing the e-learning services in the colleges in Saudi Arabia. After discussing the conclusions of the study, some recommendations are made for improving the quality of e-learning and the need for additional research is presented.

KEYWORDS: E-learning, higher education, technology, undergraduate

INTRODUCTION

The Saudi Arabian educational system has experienced major growth to meet the religious and economic needs of the country, as education receives 25% of total spending in the nation's budget, which is considered the highest in the world (Ministry of Higher Education, 2010).According to the mission statement of the Ministry of Higher Education, "e-learning is not just an 'added value' to facilitate and accelerate traditional education. E-learning does not only provide massive information 'vessels,' but it also stimulates in the learning mechanisms of information acquisition, it is processing, and sharing with others in its construction and conversation into interactive positive information" (Al Saif, 2005).The Saudi Arabian educational system has high demands to provide additional educational opportunities for the increasing population. In 2008, a national plan focused on adopting information technology across the country. The plan recommends implementation of e-learning and distance learning and their prospective application to higher education (Chanchary & Islam, 2011).The rapid growth of e-learning in Saudi Arabia seems to be affected by the demand for higher education with other crowding and insufficiency of facilities and human resources for the delivery of traditional-style education. Since Saudi Arabia is a large country geographically, e-learning provides the opportunity to deliver educational services locally, therefore reducing disparities across various regions and areas (Al Saif, 2005).Currently, learning resources were applied and a project was started by the Ministry of Higher Education which aimed to make a leap from a repository of information to a place to work, activity, and focus of study within the framework of a comprehensive system to provide a learning environment that may be able to accommodate technological development.

LITERATURE AND THEORY

E-learning has been defined in many different ways and the definition of e-learning, online learning, technology enhanced learning (TEL), and distance learning often overlap (Moore et al,2011). Khan (2005) also defines this term as "an innovative approach for delivering well-designed, learner-centered, interactive, and facilitated learning environment to anyone, anyplace, anytime by utilizing the attributes nod resources of various digital technologies along with other forms of learning materials suited for open, flexible, and distributed learning environment." Furthermore, Al-Harbi's (2011) investigated the concept of e-learning in Saudi tertiary education with challenges which showed that e-learning is influenced by different factors. A student's attitudes towards e-learning is the most important factor in determining a student's intention to use e-learning. A student’s decision to use e-learning is also determined by their subjective norms, such as the influence of the important people around them. These findings are supported by the seminal works in the area of technology acceptance; however, Bendania (2011) attempted to explore and investigate instructors' and learner' attitudes towards teaching and learning courses online with the use of Instructional communication and Technology (ICT) at King Fahad University of Petroleum and Minerals in Saudi Arabia.

Bendania’s (2011) study exploring learners’ and lecturers’ attitudes about teaching and learning online at KFUPM showed positive results towards the use of ICT mainly in experience, confidence, usefulness, and enjoyment. These findings were confirmed by Al-Dosari’s (2011) study that students’ perception of learning in the English department indicated that learning could be improved with a traditional approach, consistent with king Khalid’s study by Islam (2004) which showed enhancement towards the use of technology at the ministry of Higher Education and shift to an e-learning and modern models; therefore, based on the previous e- learning, he provided a definition of this term as "the use of new multimedia technologies and the internet to improve the quality of learning by facilities access to resources and services as well as remote exchanges and collaboration.” According to Alharbi (2011), e-learning has the potential to positively impact education, and it provides a great chances for both students and teachers to enrich the educational experience and skills with unfathomable amounts of information, independent of the pressure of time and the constraints of distance.

This paper is constructed as follows: first, it gives a brief introduction of e-learning; second, it provides a perception of students that examined the use of e-leaning internationally and regionally; third, it presents the research methodology. Finally, the findings are discussed in the light of previous research studies. The purpose of this study is was to investigate the factors that influence e-learning use and acceptance by the girls attending a preparatory year college at Najran University.

Finally, some implications are discussed:

-To investigate the perceptions of students regarding their own roles and function;

-To determine the views of using of multimedia (using e-mail and websites to follow their courses electronically);

-To identify obstacles faced by the students during their using of e-learning in order to make recommendations for further development of higher educational programs

METHODS

4.1 Participants

The study sample was drawn from students attending the preparatory college at Najran University. To achieve the study aim, students from each level of the college were interviewed to collect qualitative data on their thoughts, satisfaction, problems, and recommendations for e-learning.The students interviewed were between 20-23 years old. The interviewees were all seeking university preparation for undergraduate degrees.

4.2Measures

In-depth semi-structured interviews were developed for this study. The students were asked questions concerning the availability of e-learning and their perceptions of their own use of methods and techniques used in dealing with course planning and challenges they faced.

The questions developed for the students are as follows:

1) What is your perception of using e-mail to communicate with your lecturers on your course issues?
2) How you follow your courses electronically on the university website?
3) How do you follow and ensure your assessment and questions from your teachers?
4) What facilities are available at the college to provide you with opportunities to communicate with your lecturers?
5) How do you rate your satisfaction with your experience with e-learning at your college?

Information on the students’ age, interest, and satisfaction with using e-learning was recorded in written notes, which allowed for a full manual analysis. Interviews were conducted at the interviewees’ convenience at the college, after the purpose of the study was explained. When the questions had been answered, the interviewees were invited to add any comments or information they thought was important.

RESULTS

5.1 Students’ perceptions about using university e-mails to communicate with their teachers. Seven students were not able to contact their teachers by e-mail. Some teachers have prevented students from contacting them due to privacy, as one student stated, "some teachers do not want us to contact them by e-mails, they thought that these are private issues from letting us contacting them." Due to this issue, they did not communicate with their teacher through e-mail.

5.2 Receiving course files from teachers at the university websites.

Most students did not receive course files at the teachers’ website, as it is not accessible for most of them. Furthermore, students also were not be able to access these courses even when they were available, due to the lack of student training and skills on how to access these lectures electronically on the university portal sites. One students stated," I do not have an enough skills that abled me from accessing my courses on line via the university sites of academic staff. "Another student stated, "because of the heavy schedules I got especially in the last level, I do not have enough time to inter my course online that I took my lecture with enough information in the class." The areas they found most difficult were those that were time-consuming and skill-based.

5.3 Completing an assessment, activities, and problem solving with e-learning.

Seven of the students indicated that they encountered problems with activities and assessments. One student and some others agreed that "it is very difficult for us to solve out assignment and provides some activities on line that we do not have enough time because of the heavy courses loads we got every semester." All of the students mentioned that they were trained by their teachers on how to use the instructional technology but that they did not have enough time and easy access to the internet both in and outside their college.

5.4 The facilities used by the students provided by teachers.

All of the respondents indicated that they needed a computer lab inside the college as one student pointed out," we need these labs to give us a chance to communicate directly and easily without teachers and solve out assignment that teacher asked us about it. "They agreed that this method helped them discuss the questions asked. Eight students agreed with the same point. One student said, "If the computer labs provided, we will be able to discuss many concerned issues with my teachers and also with my colleagues." Due of the large numbers of students, individual work was limited to special training which required time and skill.

5.5 Are the students satisfied with using e-learning?

When the students were asked about their satisfaction with e-learning, the students agreed with the same response: "they did not get enough support with time and skills to practice this…we like using of e- learning, but the lack of time, training skills, and limited facilities provided, we are not able to work on it easily."

The most frequently used methods for collecting information was the interview: "the interview methods remains the only options". Nevertheless, some students still need more training on these areas: "we need more training programs specified a time for us to practice using of e-learning in front of the teachers to check our understanding of these concept, show us the users we could access to the courses by either new site on university websites." Students experienced previous support from self-learning at their high school: "I could access to e-learning easily because of my previous background during my study at the high school with some courses prepared me to the university study easily and comfortably.” Other students indicated that, "I had not experienced enough support from teachers especially those with low academic experiences and achievement". Therefore, all respondents pointed out that they did not have enough time for e-learning which they had to spend up to 40% of their time practicing. It was very difficult for them to contact their teachers by e-mail.

All respondents stated that they were happy to practice e-learning with the support of enough training and facilities with more time offered to them; however, some students claimed that there were few training courses which prevented them from participating in their courses. It is clear from these results that a number of problems exist regarding student satisfaction with e-learning.

These findings may be summarized as follows:

1) Students do not use e-mail with their teachers in order to contacting them with issues related to their courses;
2) Students do not follow their courses electronically on teachers’ websites at the university portals;
3) The students need more opportunities to access their course requirements with their teachers confidently when using e-learning;
4) Computer labs and facilities at colleges are lacking;
5) Students are no satisfied due to time constraints that prevented them from practicing E-learning.

DISCUSSION

It is clear from the findings of this study that most students did not have a satisfactory e-learning experience; for example, some e-learning knowledge and background is needed so that students can practice more easily. From the students’ perceptions, there is clearly some level of understanding of the importance of using of e-learning in the field of higher education directed by the ministry of higher education, whose emphasis is almost wholly on higher educational college for all majors which one considered to be important (Islam, 2014).Focusing on the advantages and benefits of using of e-learning at higher educational institutions, one goal is to assist the students in taking responsibility to increase their ability of understanding the use of technology in their daily life. In addition, it is important to assist the students in examining the personal issues of self-learning (Alshehry, 2009).

The students in this study indicated that providing them with a guide and enough time was necessary in order to assess their e-learning more accurately. This issue must be addressed in course planning from higher leadership, as well as showing the students how to achieve each task. Given limited skills and training, some of the students found that participation in technology and social media with their teachers was difficult, especially for following each assignment, course plan, and the timetable on the websites; therefore, it is not surprising that students with a limited background in e-learning found it difficult to conduct case studies, which was especially evident in understanding how to analyze results and find viable solutions.

Case studies require someone who is knowledgeable about the subject, able to investigate results, and also capable of finding the right solutions and suggestions. In this situation, unqualified, untrained students could not respond to e-learning problems which case studies require; the students may simply look for a quick solution in order to avoid the issues regarding the study. Whereas, the students interviewed extensively used certain methods, techniques, and approaches to learning which is usually more traditional than the new way of learning, only one student stated that she used instructional technology during her learning. However, determining the right methods to use for learning is an important step and should be based on the abilities of the students as well as the type of the problem. Interestingly, these findings contradict those of Moore et al (2011) and Khan (2005), who found that e-learning is an innovative technique with a well-designed approach and that interactive learning environments are suitable to be used every time at any place.

All respondents agreed that e-learning needed more attention and that it was important to resolve some of these issues with their teachers or academic directors at school, including a lack of computers labs and rooms for student groups discussion with available computers for each course to train their students using of Instructional Technology (IT). Among the techniques provided for collecting information on interviewees, teachers' records and observational approaches were neglected. The interview method was used as a means of collecting information from the students. The use of this method was likely restricted by the lack of time and instead was used as a quick, effective method for information. The college vision and attitudes towards e-learning clearly play an important role in enabling students to achieve their instructional communication and technology. Support and co-operation from the principals and teachers is crucial.

It was also discovered that course overload with lack of time is an obstacle for e-learning. Bendaria (2011) reported that the teachers with responsible leaders in their colleges have a major impact on the role of e-learning. From the results of this study, lack of time and background also seem to be critical problems; yet if teachers do not work hard, the success of the learning process and evaluation will be affected. Alharbi (2011) stressed the role of e-learning processes in higher educational related with other schools. She pointed out the importance of using of IT and the need for good communication. A possible explanation of the support and co-operation received from students might be that they understood the importance of using of e-learning at their college. Their familiarity with IT perhaps means that they could accept the guidance and enhancement extended to them in regards to their studies on their academic or practical futures after graduation. All students complained about the time constraint with course overloads each semester and more time in organizing IT; however, students need more comfortable time with activities that focus on e-learning outside college rather than inside.

All of the students interviewed explained that time constraints were major issues and impacted the quality of services offered. Aldosari (2011) found substantial evidence to support the positive assertions of using new learning methodology rather than traditional approaches. These problems could be partly attributed to the large numbers of students, although the situation may be further complicated for those with different levels of knowledge; moreover, not only are very few training courses available, but none that exist are based on lecturers without open discussion. As a result, these offerings little benefits and do not fulfill their requirements.

LIMITATIONS OF THE STUDY

Although this research was carefully structured, several limitations are apparent. First, there was not enough time for the interviews, which were conducted during the college hours. Each interview lasted between 20 and 30 minutes and had to be slotted into a busy day. The methods used, although considered appropriate for the present study, are not free of limitations, because of their interpersonal nature. Furthermore, the use of the Arabic language and the translation of the interviews raise issues of translational accuracy.

CONCLUSION AND FUTURE WORK

The quotes in the students' samples in this research demonstrate a lack of specific e-learning background and training based on their skills and understanding. From the results of this study, it can be concluded that there are several problems facing these students with e-learning services at this college. The Ministry of Higher Education is encouraging the use of e-learning into higher education but needs to focus on increasing training. Although the development units inside each college focus on these areas, there are no well-organized training or resources. Without a doubt, students need training in order to compete with in society. Solutions for these problems might involve, for example, high outcomes with alternative way of evaluating IT in order to increase the number of beneficial uses of new modern techniques of learning.

Another problem identified in the present results is the lack of understanding about the important of IT. Students themselves bear the main part of this responsibility. They should also maintain a high standard of capability and understanding, which is a fundamental principle of the profession, although exceptions may be made in certain circumstances.

Finally, all students should be required regular internal supervision to ensure the way that e-leaning is practiced in their college. The supervision process should enable students to think positively, such that they give the best possible understanding of applying the new issues of learning. Further research should be carried out to develop this aspect of the learning and educational process.

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REFERNCES

[1] Alshehry, A., T., (2009). Perceptions of Science Education for Girls in Saudi Arabia Higher Education: A Case Study of Female Biology Teachers. PhD Thesis, University of Nottingham, United Kingdom.

[2] Al saif, A. (2005).The motivating and inhibiting factors affecting the use of Web-Based Instruction at the University of Qassim in Saudi Arabia. ETD Collection for Wayne State University.

[3] Al-Dosari, H. (2011).Faculty members and students perceptions of e-learning in the English department: A project evaluation. *Journal of Social Science*.

[4] Al-Harbi, K., A., (2011). E-learning in the Saudi tertiary education: Potential and challenges. *Applied Computing and Information*, 9, pp. 31-46.

[5] Bendania, A., (2011).Teaching and learning online: King Fahad University if Petroleum and Minerals (KFUPM) Saudi Arabia, case study. *International Journal of Arts & Sciences*.

[6] Chanchary, F., & Islam, S., (2011). *Is Saudi Arabia ready for e-learning? academic study. Department of computer science*, Najran university, Najran, Saudi Arabia

[7] Islam, S. I. (2004). *Saudi women: their role in science education – presented to NISTADS conference,* New Delhi, India on March 8th.

[8] *Khan, B., (2005). Managing e-learning strategies: design, delivery, implementation and evaluation. Hershey, PA, USA.*

[9] Miller D. E. (2011). *Saudi Arabia opens world's largest women university*. Available at: www.jpost.com.Ministry of Higher Education in Saudi Arabia (2010).Available at: http://www.mohe.gov.sa/en/aboutus/institutions/Pages/Distance-Education.aspxMoore, L., J., Dickson

[11] Deane, C., Galyen (2011). *E-learning, online learning and distance learning environments: Are they the same*. The internet and Higher Education

The Internal Challenges Facing Islamic Finance Industry

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ABSTRACT

slamic finance is undoubtedly one of the fastest growing financial industries. Its total assets have exceeded two trillion dollars, and the number of Islamic financial institutions is approaching 600 around the globe. Nevertheless, Islamic finance is facing various challenges that are impeding its further growth. Some of these challenges are from outside the Islamic finance while others are internal and they cannot be attributed to external factors. The most serious internal challenges are the ones that relate to the lack of enforceable robust Shariah governance, which in turn has led to creating an avenue for fatwa (Shariah opinions given by Shariah scholars) shopping and invasion of controversial products endorsed by Shariah scholars who are starred on the basis of their 'convenient' fatwas. The internal challenges also relate to the methodology used in Islamic banks in structuring their financing products. The existing product development methodology has yielded a number of products borrowing their Shariah legitimacy from the mere adherence to certain useless and perplexing technicalities. The paper comes to highlight these challenges and outline the prospectus of what constitutes a sound Islamic banking product in terms of both its Shariah control and products development methodology.

INTRODUCTION

Since its start, Islamic finance industry has been facing various challenges. Some of these challenges are external and are of legal nature, and they result from not recognizing the special nature of Islamic banking and finance as an industry that cannot sell cash but rather assets and services. For example, some jurisdictions do not allow Islamic banks to trade in assets, while other laws allow Islamic banks to own assets but impose some taxes upon every transfer of asset title, which makes some banks tend to avoid payment of taxes by reducing some necessary contractual steps, which in turn may raise some Shariah concerns. Laws may also prohibit banks from leasing assets to clients and therefore Islamic banks are left with no choice but to dodge and execute Ijarah (lease) in the form of sale. Besides, the market of a vital Islamic capital market tool like sukuk is not yet regularized to the full extent due to various legal constraints. Furthermore, many courts do not recognize Islamic law (Shariah) while dealing with disputes relating to Islamic finance. Notwithstanding the seriousness of the above-mentioned legal challenges, Islamic finance is also facing internal challenges that may put at stake its credibility and pose a more serious threat to its long-term success and its very survival. These challenges come from inside the industry and cannot be attributed to external factors. They include ones pertaining to the lack of enforceable robust Shariah governance, creating thus an avenue for fatwa (Shariah opinions given by Shariah scholars) shopping and invasion of controversial products endorsed by Shariah scholars starred on the basis of their 'convenient' fatwas. In addition, they also relate to the methodology used in Islamic banks in structuring their financing products since this methodology has yielded a number of products borrowing their legitimacy from the mere adherence to certain useless and perplexing technicalities, only to make them look different from their conventional counterparts. Such challenges, until addressed on organizational level, necessitate a diligent approach to Shariah endorsement of products and transactions, especially with the growing Shariah awareness of the average client and the existence of unprecedented court cases of Shariah-compliance nature. The following discussions address these internal challenges by highlighting first the deficiencies in the existing Shariah supervisory work then the deficiencies in the product-development methodology followed in Islamic banks.

LITERATURE REVIEW

The absence of a proper Shariah governance

It is no secret that Islamic finance is facing challenges related to lack of proper and effective Shariah governance and that the industry of Islamic banking and finance has been regulating itself since its start, without the supervision or intervention of genuinely independent authorities. AAOIFI (Auditing and Accounting for Islamic

Financial Institutions) is a regulatory authority from within the industry, and it has introduced a standard for *Tawarruq*[1] though this product has been ruled as categorically unlawful by the Fiqh Academy; the largest representative of the cotemporary Shariah scholars! IFSB (Islamic Financial Service Board), another regulatory authority from within the industry, has dodged the issue of setting governance rules for Shariah boards to weed out the unqualified Shariah supervisory board members (Aljarhi, 2009). This shows that the self-regulation of this industry has been unpractical and unreliable. The intervention of central banks has also proved unsuccessful, because the core problem Islamic banking is facing relates to the credibility of its products and their resemblance to the conventional banking products. Naturally, central banks will not be pleased with Islamic banks offering genuinely Islamic products, because these products will then inherently carry various business risks. Therefore, a balanced Shariah regulation is required, and the full independence of any potential Shariah regulatory authority from the Islamic financial institutions is a must.

The basic elements of Shariah governance

Shariah governance involves a variety of issues; the focus in this paper will be on two basic elements: Islamic banking products and Shariah control.

1. Islamic banking products and transactions

What necessitates subjecting Islamic banking and finance products to Shariah governance is the invasion of many controversial products as well as the unjustified conflict in endorsing the products. The same Islamic banking or financial product could be deemed lawful and permissible in one bank but unlawful and as conducive to Riba (usury/interest) in another! This is simply due to having differences in the views of each bank's Shariah board. It is true that the traditional Fiqh (Islamic law) schools had differed in many areas of Islamic law, but never had their differences reached this level of clash and conflict, especially in the Riba related matters. Schools of Islamic law did differ in validating certain Riba-related transactions to the extent of the ability of such transactions to produce its legal consequences, but they never differed in deeming the permissibility (non-sinfulness) of the contract conditional on the essence of the contract or the intention of the contractors.[2]

Furthermore, some of what was perceived in the early stage of Islamic finance as ‘*unIslamiseable’* due to its essence being in blatant conflict with the principles of the Shariah entered latter the sphere of Islamic finance and received Shariah endorsement in some institutions. Examples can be found in the many financial derivatives that attracted the attention of many Shariah advisory firms to turn them into allegedly Shariah compliant speculating instruments! [3]

[1] Tawarruq is basically a sale used as a legal device to indirectly deal in Riba (usury/interest).
[2] For more details on this issue and the difference between a valid contract and a permissible contract see "Contemporary Islamic Financing Modes between Contracts Technicalities and Shariah Objectives", Journal of Islamic Economics Studies, Islamic Research and Training Institute, Islamic Development Bank, Volume 17, No2. Jan, 2010.
[3] For examples about the attempts to Islamize derivatives, refer to “Shariah Analysis of Financial Derivatives”. Islamic Economic Research Journal, Volume 27, No 3, 2014.

Besides introducing products that were unperceivable Shariah-wise before, some Islamic financial institutions have loosen up rules they set before. For example, the 5% benchmark set for tolerating the unlawful income in stock trading or REITs has been increased to 10%. Similarly, the 30% benchmark set for the assets composition ratio of the tradable assets to the total assets, in order for Sukuk (Islamic Bonds) or stocks to be tradable, has been reduced in more recent standards to 10%! (Abozaid, 2012). This subjective and unjustifiable leniency towards Islamic finance rules has raised more doubts as it became evident to the public that such rules were groundless and lacked textual evidences.

Hence, the volatility and conflict in fatwas pertaining to Islamic banking and finance products have created confusion in the minds of the public and triggered some suspicions over their legitimacy. Based on recent surveys, a wide spectrum of Muslims refrain from dealing with Islamic banks altogether or avoid some of their services for the said reasons. Other Muslims deal with Islamic banks not out of confidence in them but rather as a commission of the lesser of the two evils, the other evil being dealing with conventional banks.[4]

In fact, the intellectual discourse on Islamic banking reflects a deep disappointment, concern and in increasing resentment. A lot of the writings on Islamic banking and finance critically address issues like the ethics and morality of Islamic banking. Several academic institutions have introduced courses on Islamic finance and the general *Maqasid* (objectives) of the Shariah to critically review the performance of Islamic finance in light of the established objectives and philosophy of Islamic law.

The said resentment and concern over the ethical performance of Islamic banking and finance is more evidently manifested in the recent themes of the academic conferences on Islamic banking and finance. Among these themes is a one like “The Social Responsibility of Islamic Banking & Finance”, which indicates a huge perplexity among the educated class that if Islamic banking products could have been somehow technically labeled Shariah compliant, then there is something beyond the Shariah technical requirements in finance; it is the essence and spirit of this finance which until now has been far from achieving the social justice believed to be imbedded in the Islamic economics system.

In conclusion, it can be said that with the increasing contrast and conflict in endorsing Islamic financial products from one side, and with the increasing resentment of the public towards such disorder, standardization of Islamic banking products has become critical to restore and maintain the credibility of Islamic banking and finance. However, the standardization has to be limited to the products only and it cannot be extended to the daily transactions of the Islamic financial institutions, because most of these transactions are tailored according to the requirements of the clients and in consideration of the special conditions governing these transactions. Nevertheless, certain contracts may be fundamentally ruled as unlawful to be used as underlying contract in

[4] Surveys conducted in different countries have shown that Islamic banks' customers and people in general have many doubts over what is marketed to them as Shariah compliant products. See for example, Rahman (2012) (Survey done in UK).

structuring any transaction. These include the contracts that are commonly used as subterfuge to Riba, like *eina* or *tawarruq*.[5]

Finally, standardizing products can be handled by some existing regulatory authorities like Fiqh Academy or by AAOIFI after restructuring these authorities in a way that ensures professionalism, scholarship, integrity and full independence. Then, some mechanism needs to be worked out to get the Islamic banks and financial institutions to abide by the standardized products, preferably by the force of law; but if not feasible then by blacklisting the non-abiding banks.

2. Shariah control and supervision

Logically, Shariah control over Islamic financial institutions is supposed to be a legal requirement in every institution to ensure compliance of the institution's activities with the rules of Shariah. However, Shariah control in many countries has been left to the discretion of the Islamic financial institutions, and the interference of the higher authorities has been technical and superficial, which means that the Islamic financial institutions have been effectively self-regulated in terms of Shariah control.

Being self-regulated, Islamic financial institutions have exercised self-Shariah control only to the extent that would enable them to market themselves as institutions complying with Shariah rules. This requested banks to hire some people known to be Shariah specialists to execute some Shariah supervision and audit. Those Shariah controllers would be requested to basically review the products and activities of the financial institutions and supervise the right implementation of their fatwas and pronouncements.

However, although the above arrangement seems to be fine and acceptable, it harbors in fact a lot of avenues to manipulation and deviousness to realize the self-interest of these institutions. This starts from the selection of the Shariah supervisory board members when banks *naturally* tend to hire those who are known in the market to be lenient, influential but not necessarily competent. Then it is the same banking institution that is effectively capable of dismissing or replacing a Shariah board member in accordance with its own convenience. Besides, all internal Shariah auditors or compliance officers effectively report to the management of the bank. These practices combined would create conflicts of interest and render Shariah control work neither independent nor transparent, and it would open the door to the manipulation of the Shariah control work to realize the self-interests of the banks.

This in fact explains why Shariah supervisory boards are dominated by a very limited number of Shariah specialists despite the existence of huge number of highly-qualified Shariah scholars and specialists worldwide.

[5] Eina is a sale that is mostly resorted to for the purpose of circumventing the prohibition of *riba* by selling a commodity to the person seeking financing at a deferred price then instantly buying it back at a lesser spot price. *Tawarruq* is to purchase a commodity from one party on credit then sell it immediately to another for cash. Thus, *tawarruq* shares the same objective of *eina* as both are meant for extending cash money. However, *Tawarruq* remains technically distinguished from *eina* as in the later the commodity is resold to its original seller, while in *tawarruq* it is sold to a third party.

Therefore, in order to tackle this problem it is necessary to break the bond of interest or the marriage of convenience between bankers and Shariah scholars and to also ensure the genuine independence of the Shariah control personnel. Doing so would put things in perspective and make Shariah control work in line with general norms of Shariah. In fact, it is unprecedented in Islam that one whose job is to pronounce binding Shariah rules is selected and paid by the same entity bound by those rules.[6] The judge in Islam, for example, can never be selected by those who are bound by his judgments nor can he be paid or even gifted by them. Obviously, Islamic financial institutions are bound by the pronouncement of their Shariah boards but oddly they are the ones who select them, dismiss them and pay them salaries, and it is very wrong to consider these pronounces as merely Shariah advises or even fatwas,[7] because unlike the advice or the fatwa, these pronouncement bind the institutions. Besides, Islam does not attach infallibility to anyone but to prophets, so no Shariah scholar is immune against the temptation of wealth or other worldly gains, especially if the temptation presents itself in the form of multi-million dollars annual income! [8]

Some proposed governance rules:

To help solve the above Shariah governance deficiencies, the following can be suggested:

a) Accreditation of Shariah board members

Shariah boards should have only accredited Shariah scholars so that not any holder of some Shariah or Islamic studies degree can jump in and pose as a Shariah board member. As a prerequisite, a Shariah board member should have an MA or Ph.D. in Islamic financial law, in addition to some basic knowledge in banking and finance. He or she must also be accredited by an institution, which must be set up for this purpose, through passing some exams and taking some intensive courses if necessary. It is true that there exist in the world many learnt Shariah scholars who have no academic degrees in Shariah, but we still need to demand a high university degree in all Shariah board members in order to protect this industry from intruders, especially that many Muslims still fail to realize that a preacher is not necessarily a Shariah scholar, and that Islamic law is of different branches the most sophisticated of which is the Islamic law of transactions.

b) Independence of Shariah boards and internal Shariah controllers

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[6] The relative silence of Muslim about this unprecedented existing practice can be attributed to a variety of reasons; most importantly, the fact that Muslims pegged a big hope on Islamic banks when they were first established, for they represented to them a glimpse of hope after decades of economic and cultural deterioration and therefore, they were not willing to criticize the initiative by any means. However, recently there have been an increasing criticism and objection to this practice in the wake of the controversial fatwas sweeping the industry.

[7] Fatwa refers to the Shariah opinion given by a Shariah specialist over something. Unlike the judgment given in the court of law, it is non-binding and so it is left to the one who seeks it to apply it, ignore it or seek for a different fatwa from a different Shariah scholar.

[8] The annual income a Shariah scholar can make from sitting on scores of financial institutions may reach a couple of millions of dollars knowing that the average salary he gets from sitting on one board is around 25-30 thousand dollars. Some scholars have been reported to have been sitting on around 100 boards!

As pointed out earlier, the independence of Shariah boards and all Shariah controllers is vital and indispensible for the integrity and credibility of their work. To ensure independence and avoid conflict of interest, they must be selected, appointed and possibly dismissed by an independent third party, like the central bank or by an international institution like CIBAFI (Council for Islamic Banking and Financial Institutions) for example. This step is extremely important especially to ensure the integrity of Shariah boards, because if the Shariah board member finds himself appointed by the bank, paid by the bank and possibly dismissed by the bank he is giving fatwa to, then his human nature will drag him towards taking a lenient approach in fatwas in order to maintain his position and attract other Islamic banks to him.

c) Adding to Shariah boards financial and legal experts

Shariah boards should also include financial and legal expert with no voting right to advise the Shariah scholars and brief them on the financial and the legal concerns as well as the possible implications of any Shariah resolutions. This step is particularly important when the Shariah board members do not have adequate legal, finance or market experience, so they need to consult trustworthy and independent experts before they can make a decision. In point of fact, a wrong fatwa in many cases could be a result of a misrepresentation by the bankers or a misunderstanding by the Shariah board members.

d) Limiting the number of Shariah boards on person may join:

It is commonly observed that a few Shariah scholars are monopolizing Shariah boards. This is due to various reasons, but primarily because of the proven convenience of their fatwas and the fact that newly-opened institutions usually ask existing ones to recommend scholars for their Shariah governance boards – a practice that ends up with the same scholars working for a number of institutions. This phenomenon is far from professional as it carries the seeds of many negative implications on the industry; being some of them the subjection of the whole industry to the views of limited dominating figures, and the incapability of them to efficiently and fully discharge their responsibilities. Therefore, the number of boards one person may join must be limited to a reasonable number, in order to also give the chance to other brains to join and benefit the industry.

e) Setting an international Shariah supervisory board

To help solve the problem of conflicts in Islamic products universally, an international Shariah supervisory board needs to be established. Its responsibility shall then be to endorse products only, since it would not be feasible for it to look into the daily customized transactions of the operating Islamic banks. It should have a specific number of the most credible, experienced and qualified Shariah scholars from various jurisdictions and school of thoughts. They must be fully independent and not sitting on any individual Shariah board. Such a committee could also be made affiliated to the OIC (Organization of Islamic Cooperation) and also paid by the OIC. Its resolution should be binding on the individual Islamic banks, and in case of a proven infringement by one of these banks it should have an authority to declare the violating bank as non-operating according to Shariah rules. Individual Shariah boards should also be empowered to report to this international board any infringement by their respective banks. Even if this board is not given the legal power to withdraw the license of the non-compliant bank or cause it to be withdrawn, it will still have a great influence over the banks and their Shariah boards when it declares a particular bank as one not complying with Shariah; because both the bank and its Shariah board will then lose credibility in the eyes of the public. To ensure compliance with its regulations, this board should have its audit arm to carry out unannounced inspecting visits to the banks to scrutinize their products and report any infringement.

METHODOLOGY

I. The methodology used for product development in Islamic Finance

Another challenge facing Islamic banking and finance industry is the methodology used for product development in this industry. While Shariah enjoins that its rules must be observed in contracts, some of these rules are not genuinely observed in product development.

To elaborate, Sharia dictates that in any structure, the underlying contract must fulfill the Sharia requirements in contracts. Some of these requirements relate to the contractors, like being eligible to initiate agreements and possessors of the necessary legal capacity. Others relate to the contract itself being independent and absolute; unconditional on the occurrence of any event. The subject matter of the contract needs also to be in line with the Shariah, most importantly being permissible itself and meant for permissible use. Having fulfilled all the structural requirements, the contract must also harmonize itself to meet, or at least not to be in conflict with, the general objectives of Sharia since an apparently valid contract may be misused to reach an evil end, or its implementation may result in causing serious harms and negative impacts. Therefore, it is indispensable to distinguish in Sharia validation of contracts between two elements, the form of the contract and the substance of the contract. The first relates to the structure of the contract, and the second relates to the essence, spirit and implications of the contract. Both are equally important and essential in product development; however, this equation has not been fully observed in many of the developed products.

In fact, the current methodology of product development in Islamic finance in general is commonly criticized for not looking beyond the product formal and structural conditions. Although maintaining a proper form is a *Shariah* requirement, but it is also a *Shariah* requirement to maintain a proper substance. A careful review of the literature of Islamic law leads to unveiling the fact that in contracts the form is meant to protect the substance. In many *Fiqh* applications, it is noticeable that the schools of Islamic law have somehow compromised some aspects of the contract’s form but never compromised the contract’s essence or spirit. (Abozaid, 2004: 367). This implies that jurists viewed form as something not meant for itself but rather to help protect the essence of contracts and agreements. Some modern practices of Islamic financing product development have implied the opposite; taking care of the form and neglecting the substance of the contracts.

The negligence of contract substance is manifested in different practices as in the following:

1. Negligence of the contract substance by deactivation of some contract rules

No doubt that any Shariah contract rules and conditions are meant to enable the contract to serve its purpose in fulfilling the contractors’ needs in a just, positive and productive manner. This explains why contractors in *Shariah* are not allowed to make personal stipulations that may annul the contract rules (Ibn Qudamah, n.d.: 4/167). Naturally, a contractor, when given an absolute right in making stipulations, inclines to tilt the scale to his favor, probably at the expense of the other contractor. However, we find in some cases, especially in *uqud al-ez'an* (contracts of subjection) where only one party of the contract formulates the contract, that some contracts rules are indirectly neutralized by means of adjusting some clauses or incorporating new ones as in the following example.

Example: *Ijarah Muntahia Bittamlik*[9]

Being basically a contract of lease, *Ijarah Muntahia Bittamlik* in the Islamic banking application is supposed to fulfill the following basic *Shariah* structural conditions:

- The leased asset requested for financing is valuable from *Shariah* perspective and not declared by the client to be used for Haram (unlawful) purposes. This would exclude for example financing clients in acquiring machineries that process tobacco products.

- The leased asset is clearly identified by the parties, and the rent is specified in the contract. If there is any *gharar* (uncertainty) involved with respect to the asset or the rent payment, then it shall not be excessive, for Shariah tolerates minor *gharar* only.

- The leased property remains in the ownership of the lessor for the duration of the *Ijarah* period, and then it is transferred to the lessee by virtue of a completely independent contract, like sale or gift.

- The bank, as lessor, bears all liabilities related to ownership, like property taxes and major maintenance required for keeping the asset valid for usage by the client.

- The lease period commences from the date on which the leased asset has been delivered to the lessee.[10]

These are the basic rules of *Ijarah Muntahia Bittamlik*, and a general investigation of any of its contracts in Islamic banks will prove consistency and full abidance. However, some apparently-valid clauses are added to this contract, leading to the deactivation of some of these basic rules and thus to the negligence and distortion of the *Ijarah* essence. One clause relates to the division of lease rental into three elements: fixed, variable and complementary. The problem, however, lies with the complementary rent and to a certain extent with the variable rent. The complementary rent represents any cost the bank as owner has incurred in the past *Ijarah* period. The cost includes taxes, insurance and major maintenance expenses. Although these are supposedly the responsibility of the bank as the owner of the leased asset, the bank after paying them reclaims the same from the client by adding it up to the next *Ijarah* rental under this clause.

[9] This type of Ijarah (lease) is not found in classical books of *Fiqh*. It comprises two different contracts: contract of leasing (*ijarah*), and contract of sale. (*bay'*). Bank promises the client that upon the successful completion of *the* Ijarah, bank will sell the asset to the client at a nominal price or will gift it to him.

[10] -These detailed *Shariah* rules can be soursed from main *Fiqh* books like Al-Shafi'i. *Al-Um*, 3/14; Ibn Abedeen. *Hashiyat (Rad al-Mukhtar ala al-Dur al-Mukhtar*) 4/88; Al-Kasani. *Badai' Al-Sanai'* 5/67; 6/71; Al-Bahuti. *Kashaf Al-Qina'*, 3/53; Al-Dasuqi, *Hashiyah* 3/143.

Obviously this paralyzes and renders ineffective the basic contract *Shariah* rules pertaining to the liability of the owner in *Ijarah* for the property risks. In fact, this practice of effectively shifting property risks to the lessee is especially critical in the application of *Ijarah Muntahia Bittamlik* since it brings this financing instrument closer to conventional financing after removing the justification for profiting, which is based on the notion of "*al-Kharaj bid Daman*"[11] (liability justifies the gain). The core difference between *Riba* and trade remains risk taking which is normally embedded in trade. This risk taking is totally eliminated when the bank indirectly shifts the leased property liabilities to the client, and even in case of property partial or total damage, it is the client who bears the damage as he is the one who effectively pays the insurance premiums.

On the other hand, the problem with the variable element of *Ijarah* rental relates to the uncertainty this practice involves. Banks tie this element to an interest rate benchmark like LIBOR. The problem starts when the Islamic banks tend to cap only one end of this excessively volatile benchmark, i.e. its floor. However, a ceiling needs also to be set and capped at a certain figure in order to minimize the *gharar* (uncertainty) then involved in order to maintain the validity of the contract. Nevertheless, banks tend to only protect themselves from the undesirable movements of the interest rate benchmark by capping the minimum amounts payable by their clients, and they have no desire to cap the maximum amounts payable by their clients. This practice creates excessive *gharar* and leads to breaching the *Shariah* requirement of determining the lease rental beforehand in any *Ijarah* contract, not to mention the injustice involved therein.

Moreover, the above deviation *from Ijarah Muntahia Bittamlik* rules manifests itself more blatantly in cases where the asset leased in *Ijarah Muntahia Bittamlik* has been originated from the same client. A client who needs cash or refinancing will be instructed by the bank to sell to it an asset or a common share thereof, then to lease it back from the bank through *Ijarah Muntahia Bittamlik*. The bank frees itself from all the asset liability in the manner described above, and the client repays with a mark-up the financed amount in form of rentals. This transaction has been widely used recently to enable banks to restructure non-performing debts in the wake of the financial crisis.

Thus, we see how the same clause in one contract can be neutralized by another, leading eventually to the distortion of the contract substance and thus to stripping the contract of its *Shariah* spirit and objective. Although Islamic finance has developed *Ijarah* contract into a new model and helped maintain most *Ijarah* rules in this innovative instrument, it has however left a room for the Islamic banks to twist the substance of the contract and deprive it of its nature as lease.

2. Negligence of the contract substance by attaching another contract

Contracts of financial transactions in the *Shariah* are meant to fulfill the various needs of contractors, like acquiring an asset, acquiring an asset's usufruct, investment of capital and delegation of authority. However, it can be observed that some of these contracts are driven totally out of their objectives when they are prearranged to be followed by other reversing contracts.

[11] "*Al-Kharaj bid Daman"* is originally a *Hadith* narrated from the prophet (peace be upon him); however, it was recorded as a *Fiqh* maxim by Al-Soyoti in his "*Al-Ashbah Wal Naza'ir*", p 154.

Murabaha[12], which is a sale contract originally designed in its banking application to finance clients in their acquisition of assets, is used sometimes for a different objective altogether. It is used to provide clients with cash money through a stratagem to sell them assets on *Murabaha* basis in order to immediately sell the same assets on their behalf in the market for cash price. Clients get the desired cash and remain indebted to the bank for the *Murabaha* deferred price. Herein we have two independent sale contracts each of them is lawful in itself but the end result of executing them consecutively is a cash financing technique which is effectively no different from conventional cash financing. Obviously, the result of this transaction is against the objective and essence of *Murabaha* sale contract. *Murabaha* in this transaction does not lead to real holding of asset ownership by the client. This is a deviation from the objective and substance of *Murabaha*, which is a commodity financing instrument that helps clients own their desired assets.

3. Negligence of the contract substance by the misapplication of the contract

Contemporary collective fatwas have helped structure many products that are essential for the operations of Islamic financial institutions. However, the application of some of these products may have deviated from what they were originally designed for. A good example would be in using for speculation what was designed for hedging.

Islamic finance has developed certain tools to hedge against some inevitable excessive market risks. These tools include unilateral binding promises and tools whose underlying contracts are *Salam*[13] contract and *Urbun*[14] sale. Now, a part from the *Shariah* debate over the validity of these tools to be used as hedging instruments in contemporary Islamic finance or Islamic capital market, some of these tools have been misapplied and used for speculation as well, although speculation is considered an invalid domain in what is known as “Islamic derivatives”.

Recently one Islamic financial institution has offered a product whose structure is basically as follows: The client opens a designated investment account with the bank. The bank operates the designated account in its capacity as investment manager. The investment manager then uses the amount deposited in the said account to purchase *Shariah* compliant assets at some prevailing market prices. In most cases the assets will be shares selected from an Islamic stock index.

The client gives a unilateral promise to the bank to sell the shares at a predefined price called the “Settlement Price”. The bank in return gives a unilateral promise to the client to buy the shares at the Settlement Price.

The settlement price relates to the performance of some specified underlying reference asset (the “Reference Asset”, which could be an index) rather than the performance of the Shares in the Islamic Account. Thus, two scenarios can be perceived:

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[12] *Murabaha* in the banking application refers to a sale contract preceded by an agreement with client to buy the desired commodity from its supplier then to sell it to the client at the cost plus a markup (*Ribh*).
[13] *Salam* is the sale of future delivered goods against upfront paid price.
[14] *Urbun* is a sale with the condition that buyer has the right to revoke the agreement in return of forfeiting the advanced down payment, which is called *urbun*. If, however, the sale is concluded, then the *urbun* advanced is deemed as part of the price.

Scenario I: The value of the relevant shares goes up more than the performance of the Reference Asset. In this case, the bank can purchase the relevant Shares from the client at a price lower than the market value for such shares at that time. Thus, the bank would hold the client to his promise, while the client would not be interested in holding the bank to its promise as selling the shares at a value which is lower than the market value at that time would incur a loss.

Scenario II: The value of the relevant shares goes less than the performance of the Reference Asset. In this case, the bank can purchase the relevant shares from the client at a price higher than the market value for such shares at that time. Naturally, the bank in this case would not be interested in holding the client to his promise, while the later would hold the bank to its promise as he can then sell the relevant shares at a value higher than the market value for such shares at that time.

Therefore, in both scenarios noted above the client will sell the relevant shares to the bank for the settlement price as agreed on the basis of the performance of the reference asset. This sale is certain as it will serve the interest of either the bank or the client. The certainty of this sale makes the mutual promises to execute the sale biding on both parties and thus such promises tantamount to a forward sale contract, which is a breach of *Shariah* laws of sale contract.

Obviously, the substance of this transaction is hardly distinguishable from that of any conventional derivative with the speculation element embedded therein; both contractors are speculating on the movement of the value of the reference asset, which is mostly an index. It is very likely that such a structure may even develop to involve financing the client to purchase the shares, then settling the deal by paying the price difference by the losing party to the other.

In conclusion, this transaction involves a misapplication of the promise which can originally function as a hedging tool for risk mitigation

Reasons for neglecting the contract's substance in some Islamic financing products

A direct examination of the Islamic banking market conditions, challenges and products identifies the following reasons for any deviation from the true rules of Sharia.

a. The desire to offer the same financing facilities of conventional banks

Conventional banks treat money as commodity, therefore they have no problem in providing cash financing with profit to clients. This cash financing can take the form of personal loans, over draft facility or refinancing, all through interest-bearing loans. However, since lending money on interest is unlawful in Islam, the Islamic banks willing to offer these profitable financing facilities had to design certain products that would serve the same purposes. Logically, the designed products would necessarily lose *Shariah* spirit and breach contracts essence, because they are basically meant to fulfill unlawful objectives, i.e. profiting from providing cash to clients. The structured products relied on bogus operations of selling and buying commodities, using mostly the highly controversial *eina* and *tawarruq* sales as their underlying contracts. (Abozaid, 2004)[15.] In fact, sale contract is designed to help people acquire commodities for their own use or to resell them and make profit thereof, and it is not designed to justify unlawful dealing in cash by buying then selling simultaneously as is the case in *eina* or *tawarruq* sales. This is a deviation from the very rationale of the sale contract and a defeat of the purpose behind *Riba* prohibition. If engaging in cash financing with a mark-up through the technicalities of sale contracts like *eina* or *tawarruq* is halal, then the whole purpose behind *Riba* prohibition will be defeated. Any two willing to deal in loans with a return would simply do so through *eina* or *tawarruq*-like sale contract, the end result being exactly the same.

b. The unwillingness to bear genuine property/contracts risks

Being commercial financial institutions, Islamic banks tend to avoid as much as possible the risk that is normally embedded in the *Shariah* contracts used in products structuring. This avoidance of risk may lead to depriving contracts of their *Shariah* identity and rendering them spiritless. The application of *Ijarah Muntahia Bittamlik* in the manner described earlier is an example. Therein, the liability risk related to the ownership of the leased asset is effectively transferred from the bank to the client and thus the essence of the lease contract is distorted. *Murabaha* is another example when the bank frees itself from the *Murabaha* commodity liabilities. Neglecting the sale essence in *Murabaha* product is at its peak when the *Murabaha* client is appointed as the bank's agent to buy the commodity from its supplier, then to take delivery and deliver to himself, without the bank being responsible for even the commodity defects. In this scenario the bank's role is limited to only advance of money to the property supplier, mimicking thus the limited role of conventional banks.

c. Legal constraints facing the right application of Shariah rules in products

In some countries the legal system stands as a stumbling block to the proper application of *Shariah* rules required in product structuring in Islamic finance. Some Islamic banks for example find it inescapable to make the purchase of commodities appear in the client's name rather than the bank's name, because according to some laws, banks are not allowed to trade in assets. Others are prohibited from leasing assets to clients and therefore they are left with no choice but to dodge and execute *Ijarah* in the form of sale. Imposing high taxes on registration of assets purchased is also a legal constraint as it eventually leads to increasing costs on clients when banks are commanded by law to register in their names what they buy before they sell to clients. Some banks tend to avoid payment of high taxes by reducing some necessary contractual steps or faking some contracts

CONCLUSION

[15] For details on these sales see Abozaid, Abdulazeem. (2004). "*Contemporary Eina is it a sale or usury"* a book published in Arabic by Dar Al-Multaqa, Aleppo, Syria; Abozaid, Abdulazeem. (2008). *"Contemporary Islamic Financing Modes between Contracts Technicalities and Shari'ah Objectives"*, Eighth Harvard University Forum on Islamic Finance, Harvard Law School – Austin Hall, April 19-20, Boston, USA.

From the past discussions it can be concluded that Islamic banking and finance is facing some internal challenges which require immediate action. While facing the external challenges may be beyond the capacity of the industry players, Islamic banks have no excuse to overlook or turn a blind eye to their internal challenges which can be faced by enacting Shariah governance for both products and Shariah control. Reform of the methodology of product development is also within the capability of Islamic banks, and most of the burden falls on the shoulders of the Shariah boards for they have to ensure before endorsing a product that it passes in essence and implication the Shariah core requirements. If the existing challenges remain untackled, it is feared that a day may come when people would totally lose confidence in Islamic finance, and then Islamic banks and financial institutions would lose their biggest asset; i.e. the Islamic identity, which gave them a firm foothold in the global financial industry.

In final analysis, having the industry players realize and appreciate the necessity for urgent Shariah governance and product methodology reform is the real challenge, while working out a solution mechanism is easy, because even though it does not take a genius to assess the problem, there is no genuine will by market players to change the status quo for the said reasons.

REFERENCE

[1] Abozaid Abdulazeem, *Contemporary 'Eina is it a sale or usury*. Dar al-Multaqa, Aleppo, 2004.
[2] Abozaid Abdulazeem, Fiqh Al-Riba, Al-Risalah, Beirut, 2004.
[3] Abozaid Abdulazeem. *Contemporary Islamic Financing Modes between Contracts Technicalities and Shari'ah Objectives*. Eighth Harvard University Forum on Islamic Finance, Harvard Law School – Austin Hall, USA, April 19-20, 2008. Published by Journal of Islamic Economics Studies, Islamic Research and Training Institute, Islamic Development Bank, Vol 17, No2. Jan, 2010.
[4] Abozaid.A, "Examining the Shariah Parameters Set for Tolerating the Haram if Mixed with the Halal", Al-Tajdeed IIUM, volume 15, No 31 2012.
[5] Abozaid.A, "Shariah Analysis of Financial Derivatives". Islamic Economic Research Journal, Volume 27, No 3, 2014.
[6] Al-Dasuqi. *Hashiyah*, Dar Ihia'a al-Kutub al-Arabiyyah, Beirut. (undated)
[7] Al-Jarhi, Mabid. Interview by Emirates24/7, Doctors of law needed to take Islamic finance forward, Published on Sunday, June 21, 2009. http://www.emirates247.com/eb247/banking-finance/islamic-finance/doctors-of-law-needed-to-take-islamic-finance-forward-2009-06-21-1.34117
[8] Al-Kasani. Bada' *al-Sanai'* , Dar al-Kitab al-Arabi, Beirut, 1982.
[9] Al-Shafie. *Al-Um*, Dar al-Ma'rifah, Beirut, 1393 A.H.
[10] Al-Suyoti, Jalaulddin, *Al-Ashbah Wal Naza'ir*, Dar al-Fikr. (undated)
[11] Ibn Abdeen. *Hashiyat (Rad al-Mukhtar ala al-Dur al-Mukhtar*), Dar Ihiya' al-Turath al-Arabi, Beirut, 1987.\
[12] Ibn Qudamah. *Al-Mughni*, Dar al-Fikr, Beirut, 1404 A.H.

INTEGRATING SERVICE LEARNING INTO COLLEGE E-COMMERCE COURSE: A CASE STUDY IN TAIWAN

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ABSTRACT

Since 2009, under the funding of the Ministry of Education in Taiwan that aimed to incorporate service learning into college courses, the researcher began to integrate service learning along with cooperative learning and situated learning into an elected e-commerce course. The objectives of integrating service learning into the course are (1) students can apply the professional knowledge and skills learned in the classroom to the real-world scenarios, and (2) through the real serving experience, interaction with the people being served, and critical self-reflection, students can develop better understanding and deeper relation with the local communities. In the past 6 years, the course has received positive feedback and this report describes the development and implementation of the course and the impacts of the service learning on the students. With the real-life serving experience, that is, to help various groups of socially disadvantaged people, students' self-reflections indicated positive impacts on their learning motivation, communication skills, problem solving strategies, and self-confidence. In addition, service learning cultivated the social awareness and respect to the disadvantaged groups and encouraged further engagement in volunteer service. This report aims to shed light on the pedagogical design of courses that incorporate service learning.

Keyword: cooperative learning, e-commerce, service learning, situated learning

INTRODUCTION

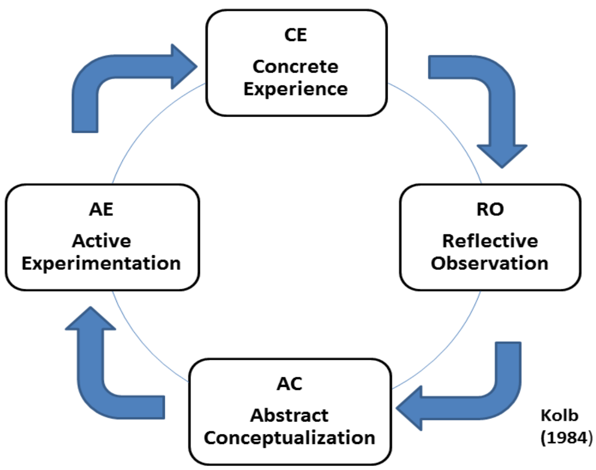
Since the Volunteer Service Act was passed in 2001, schools and non-profit organizations have been actively involved in promoting various volunteer services. The combination of community service and learning has also become a requirement in colleges, including the school this project takes place. Since spring semester in 2009, the researcher started to incorporate service learning into a professional elected course, Management of E-Commerce. The theoretical framework of the course is three-fold: (1) service learning, (2) cooperative learning, and (3) situated learning. Each of the fundamental principles that undergird the curriculum design is reviewed in the following section.

LITERATURE REVIEW

I. Service Learning

Service learning, the combination of service and learning, refers to learning through the process of providing service, which corresponds to Kolb's experiential learning theory. In Kolb's (1984) learning cycle of experiential learning, four steps were involved: (1) concrete experience, (2) reflective observation, (3) abstract conceptualization, and (4) active experimentation. As John Dewey (1938) pointed out, "we learn from reflecting on experience," service learning is deeply rooted in the learning progress centered on reflection. In short, learners observe and reflect on concrete experience and internalize the learning into abstract concept, which then will be applied in the next experience.

Figure 1 Kolb's Experiential Learning Cycle



A mutually beneficial service learning course should incorporate five core elements (Huang, 2001):

(1) Cooperative Efforts: the goal of service is set through cooperative efforts among the community being served, the course providing school and the service providing students to satisfy the interests, needs, and expectations of all parties.

(2) Mutual Empowerment: the service providers assist the service receivers to face and solve the problem, while the service receivers open up the windows for service providers to understand the real-world situations and problems.

(3) Concrete Learning Goals: concrete learning goals should be set up and be reached through the cycle of experiential learning suggested by Kolb (1984).

(4) Diversity: both the service providers and receivers would have opportunities to contact with people from diverse background, challenge their stereotype, and learn to respect differences among them.

(5) Social Justice: the service providers' awareness of their own capacities and social problems should be enhanced to pursue a greater goal-changing the social problems and working on social justice.

The last two are particularly relevant to the social identity development. According to Jackson & Hardiman (1997), the stages of social identity development are: (1) naïve/no social consciousness, (2) acceptance, (3), resistance, (4) redefinition, and (5) internalization. In the broader context of the service learning experience followed with self-reflection, students have a chance to gain awareness of their underlying beliefs, to challenge and refine their value systems, and to internalize their newly developed consciousness. For students from the minority background, they could eventually develop enhanced self-esteem and self-concept. For the students from the dominating cultural background, they could acknowledge the existent privilege and possible prejudice and are more likely to have empathy for people from other social groups.

II. Cooperative Learning

Cooperative learning approach usually involves teamwork of 3 to 5 students in a structural learning activity. The two essential elements for a successful cooperative learning that reaches the intended learning effects are (Slavin, 1988): (1) the team should have clear common goals, and (2) each team member should take equal share of responsibility. To reach the common goal, they need to communicate, negotiate, and help each other to learn and grow. Therefore, students learn to develop interpersonal skills, leadership skill, and conflict management skills (Dallmann-Jones, 1994). Comparing to lecturing course, students learn from the social interaction with their peers and develop higher level reasoning and decision making.

III. Situated Learning

Situated learning emphasizes learning in a real context to accomplish a real task (Winn, 1993). The transformation of skills and knowledge is enhanced through the dynamic interaction between the individual and the surrounding context (The Cognition and Technology Group at Vanderbilt, 1993). The main goal of situated learning is to provide a complex context for students to observe, explore, and to develop problem solving strategies through the followings (Collins, 1994):

(1) Authenticity of the context so that students can apply the knowledge and skills in real-life situation.

(2) Connectivity of the problem so that students can be engaged in deeper reflection of what has been learned in class and what can be applied to the new situation.

(3) Reflection on learning progress so that students can acknowledge their own progress as well as the team as a whole to self-evaluate their learning effectiveness.

(4) Cycle of experiential learning so that students can be engaged in series of planning, execution, reflection, and refinement and be able to advance from beginners to experts.

According to Choi and Hannafin (1995), the four critical characteristics of situated learning are:

(1) Situated learning focuses on higher level thinking instead of factual memorization. Through authentic tasks, students need to come up with solutions for complex real-life problems.

(2) Instructors are no longer the transmitter of knowledge but the coach who inspires the players to reach their potentials.

(3) Situated learning emphasizes cognitive growth. Students need to explore and construct their perceptions to the problem (Winn, 1993); furthermore, they need to develop multiple perspectives instead of simply one.

(4) The assessment is no longer standardized test but the progress of students' cognitive growth and whether they could apply the newly acquired knowledge and skills to different situations and problems.

METHODOLOGY

Yin (2003) categorized 6 different data sources that are commonly used in case studies: documents, archival records, interviews, direct observation, participant observation, and physical artifacts. To understand the impact of the integration of service learning into the course, multiple data sources were used in this case study, which included documents of each student's reflective journals, direct observation and participant observation, and records of the school-wide and national-wide awards.

Development and Implementation of the Service Learning E-Commerce Course

According to the definition in the book, *Electronic Commerce: A Manager's Guide*, by Kalakota and Whinston (1997), e-commerce refers to trading products or services through computer network. The benefits include lowering the cost, shortening the product's life cycle, attaining immediate customer response, and improving service quality. Up till now, the term, e-commerce, still contains the same core concept—the process of trading, selling, transporting products or services through computer network (Turban, et al., 2010).

The objectives of this e-commerce course were three-fold:

(1) Students would understand the current development and future trend of e-commerce.

(2) Students would cultivate critical thinking and creativity toward this type of business.

(3) Students would utilize software to build and manage the online store.

This service learning e-commerce course was executed in the following four stages suggested by Fertman, White and White (1996):

1. Preparation: Week 1-11
   - Instructor teaches the theoretical and practical foundations of e-commerce through lecture, case study, and discussion.
   - Students develop the necessary planning, building and managing skills of online store through small group (4-5 students per group) project.
   - Instructor explains the basics of service learning and sharing the experience.
   - Students work in groups and start discussing and planning for the service learning assignment.
2. Service: Week 12-17
   - Students execute the plan
   - After each service, students are required to meet up with the instructor to review and reflect on the experience, and to write a reflective learning journal
3. Reflection: Week 14
   - Instructor checks each group's progress and discusses the problems they encounter
   - Brainstorm the possible reasons of the problems, seek potential solutions, and adjust as needed
4. Celebration: Week 18
   - Group presentation of their service learning performance
   - Feedback from the service receivers and peers

The partners for service learning from 2009 to 2014 for this course were:

- 2009 – 2013 New Hope Foundation: socioeconomically disadvantaged families rehabilitated offenders
- 2011 Farmers in Hualien County
- 2012 – 2013 Farmers in Taitung County
- 2014 Taipei Mental Rehabilitation Association

Starting at the spring semester in 2009, service learning was integrated into this elected e-commerce course. Each year, there were about 30 to 35 students who participated in the course. From 2009 to 2014, people from diverse backgrounds were served, which included single moms, foreign brides from southeastern Asia, rehabilitated offenders, and families of children with rare disease. Students would start by learning about the non-profit organizations, meeting with the shop owners, helping with web design, content renewal, or product photos, and even proposing and implementing online marketing strategies. The type of products included clothing, daily commodities, cleaning supplies, sports supplies, agricultural produce and food.

Impacts of Service Learning

I. Students' Reflection on Service Learning

According to Wade (1997), reflection is the introspective process on the fundamental nature, purpose, and essence of an experience, perspective, or issue, which could result in cognitive growth and influence future action. The more time and effort an individual put into, the better learning and awareness occur. In the process of this service learning course, the role of reflection was critical. In the beginning period, the focus of reflection was on connectivity; that is the connection between the service providers and receivers. In the middle of service learning process, the focus was development of belief. At the latter period, the focus was commitment—the determination and action to continue and complete the mission assigned.

Students' reflective journals provided an insightful way to see the positive impacts of service learning on the students' learning motivation, team building, decision making abilities, and communication skills, which are valuable assets for future careers. In the process of helping others, students were encouraged to face their own difficulties with determination and perseverance. In addition, through the contact and interaction with the socioeconomically disadvantaged or the cultural minority groups, students' perceptions toward these people were gradually changed, which further influenced their future actions.

Learning Motivation:

- *When we started the project, I realized my incompetence. In order to help them, we need to learn more actively and acquire more skills to enhance our competency.*
- *I deeply realized that only when we keep enhancing our abilities could we help more people who are in need.*

Teamwork and Decision Making:

- *I understand the importance of teamwork and team spirit; what I felt right might not always be right, instead, discussion is a must.*
- *I started to learn to think from different angles and directions.*
- *I will consider the pros and cons before making any decision*

Communication Skills:

- *I shouldn't base on my preference to design the website; instead, collecting customers' preferences from all kinds of sources is far more important.*
- *I learned to listen to the shop owners' thoughts and to find out what they need.*
- *I learned how to contact them and communicate with them.*

Determination and Perseverance:

- *If I was setting a website for my own, I might give up when I was stuck. However, because we were helping needed people, we were more motivated to keep pushing ourselves. We kept facing different problems and kept trying to find the solutions until we accomplished the project. This experience made us realized that we should not give up or give in when we encounter difficulties.*
- *Seeing the struggles and efforts of those moms, I am encouraged to bravely face the difficulties in school and overcome them.*
- *I will remember their efforts and persistence; they are our role models.*
- *After listening to the sharing of the offenders, I do believe with determination, one can definitely change any bad habits. In the future, I will encourage myself to be committed to anything I have determined to accomplish.*

Changed Perception:

- *I was very afraid of rehabilitated drug addicts, probably because I doubt the rehabilitation process and effects. But now I can see not everyone is hopeless. I am really impressed with these people who successfully quit drug addiction.*
- *These offenders might have a terrible past, but they are trying so hard to step out of it. With their efforts and the help from this organization and the church, they should be able to integrate into the society and to have a normal life.*
- *I felt terrible about my past attitude toward the offenders. The sharing of this person changed my perception, and now I am more likely to accept them and believe that they can be changed.*

- *My mom had told me a similar story, but I didn't felt it that relevant to my life. Hearing this rehabilitated offender' life-story deeply touched me.*
- *I can see from their facial expression that they are working whole-heartedly and they do cherish this rare opportunity.*

Future Actions:

- *I will cherish what I own.*
- *I will cherish my life and make my life more wonderful.*
- *I will shop on their website to encourage them.*
- *I tried to do my best and will give what I have to others.*
- *I will give more concern and encouragement to those who really work hard to change their life, so that they can have a wonderful life, too.*
- *In the future, when I see someone mean or hear horrible things about someone, I will try to understand this person from a different angle; maybe he or she just needs someone's care.*

II. Extended Effects onto Extracurricular E-Service Volunteer Team Project

Each year, around one-sixth of students who took the service learning e-commerce course joined the e-service volunteer team also lead by the instructor. This extracurricular volunteer team focuses on reducing the digital divide in rural areas of Taitung County. The e-service provided by the volunteer team included (1) offering winter and summer digital camps for elementary and junior high school pupils, (2) providing digital training courses for local residents, and (3) promoting the local indigenous cultures, agricultural produce and tourism through the Internet. Despite the distance and the 6-hour transit time to reach the service sites, this team has continued the challenging task for six years and has served about 100 local people – of which two-third were pupils and one-third were adults.

From 2009 to 2014, five students, who joined the team after taking the service learning course, received the national recognition as outstanding volunteers. One of the students, Yang, was the first to make the commitment to join at recruiting stage. She was the coordinator of the first two 5-day camps. At the first camp, she needed the instructor's step-by-step commands to accomplish the mission. In contrast, for the second camp, she was capable of independently leading the team to plan and run the camp. Her growth on communication, coordination, and problem solving abilities could be obviously seen. In addition, she managed to maintain telephone and internet contact with the elementary pupils throughout the school years. In her second and third year in the team, she actively helped other teammates to attain personal growth attitude-wise and skill-wise. In her three-year-long commitment to this team, her devotion to serve others had always been the role model of many teammates.

The second exemplary student, Liu, was devoted to the online marketing of the agricultural produce in the Taimali region. She put into lots of efforts to create the website (http://4plus.dptmall.com/), starting from knowing very little about Taimali's produce to creating rich information and multimedia for it. Meanwhile, she was in charge of the team's blog (http://sunnydocteam.blogspot.com/), keeping and managing the records of volunteer service this team had engaged in. Her positive attitude, passion, patience, persistence, and responsibility were always the example of her teammates.

The third extraordinary role model, Chuan, joined the team since her junior year and committed herself till her graduation. She always regretted for not joining the team while she was a freshman. In her senior year, she served as the assistant coordinator because of her diligence, sense of responsibility, politeness, and passion, which were also the impression she left on her friends and her internship manager. When she first joined the team, she was a little timid and would hold back when she encountered difficulties. However, after participating in a couple of missions, she gradually grew out of her shyness and could increasingly make positive impacts on others. Her reflected journals also documented her growth on her personality, self-confidence, and her gratitude of having supportive teammates who would head for the common goal with perseverance.

In 2012, during the service learning course, Chuan needed to contact the farmers and farmers' union located over 300 kilometers away. She wrote, "I started out not daring to call the farmers nor the union, and ended up being able to converse freely with them; I thought my brain wasn't sharp enough to handle money and account keeping, and ended up clearly listed the income and even transferred the money to Taimali; I started not daring to sell anything, and ended up thanking and smiling to the person who rejected me; I started with no artistic talents to creating this fundraising poster." She also noticed that, "it has helped me cultivate the courage to face rejection and the abilities to handle problems." After Chuan joined the e-service volunteer team, she once wrote, "although it seems to be me serving the rural kids, I am in fact the one who benefits the most from it. I've received far more than I've given." "I truly appreciate the chance that they have given me to serve; they help me regain self-confidence and know that I am capable of helping others." Her self-identity was transformed: "from being timid to establishing confidence, from being alone to having teammates all around, from living a boring life to having so many marvelous experiences – I am so grateful of making the decision [to join the team]and taking the action, otherwise, I wouldn't have such an enriched university life with many stories and memory.” “I will pack up what I’ve learned in the team and carry that same attitude to my next journey.”

CONCLUSION

Liu, Qiu, and Hu (2006) pointed out in one of the survey, a more competitive graduate for the job market should possess eight core workplace competencies: good working attitude, stability and resistance, expressive and communicative skills, professional knowledge and techniques, learning motivation, cooperation and teamwork, basic computer skills, and problem solving abilities. In the research by Wu, Huang, and Yang (2010), it was found that in term of caring, activeness, teamwork, expressive skills, resistance, and planning abilities, the students who have participated in volunteer service performed better than those who haven’t. In this longitudinal research, students’ self-reflection and the instructor’s observation have provided qualitative evidence of students’ growth in these core workplace competencies. In the process of the service learning, most students indicated that the real-world scenarios had broaden their views and helped them gaining more in terms of communication skills, cooperation abilities, and problem solving strategies. Because the real-world problems are far more complex than classroom simulated projects, the knowledge and skills required could be beyond what are taught in the classroom (Butterfield & Nelson, 1989). A lot of students also realized this and were motivated to enhance their abilities. When they did make such attempt and their service did bring better sales figures, this type of authentic experience was invaluable to them.

In addition, as Wu (2009) observed in an integrated online marketing course that served a non-profit organization for people with mental disabilities, participating students not only gained valuable real-world marketing experiences but also learned to respect the disadvantaged group and cultivated civic responsibility. In this service learning course and the following volunteer service, students also learned to respect diverse cultures and would carry on the caring attitude. In the process, students’ contribution mutually benefited the people they served and themselves (Huang, 2009). In sum, the combination of service learning and the professional skill-development course offers more than transmitting knowledge and training skills, it cultivates better learning attitude, builds cooperation abilities, develops communication skills, nourishes stability and resistance while facing conflicts, and fosters the problems solving strategies in complex real-world scenarios. In addition to students’ personal growth on these core workplace competencies, it also enhances self-efficacy, raises social awareness, and encourages further commitment to volunteer service.

REFERENCE

[1] Butterfield, E. C. & Nelson, G. D. (1989). Theory and practice of teaching for transfer. Educational Technology Research and Development. 37(3), 5-38.

[2] Choi, J. & Hannafin, M. (1995) Situated cognition and learning environments: Roles, structures, and implications for design, Educational Technology Research and Design, 43(2), 53-69.

[3] Cognition and Technology Group at Vanderbilt. (1993). Anchored instruction and situated cognition revisited. Educational Technology. 33 (3), 52-70.

[4] Collins, A. (1994). Goal-Based Scenarios and the Problem of Situated Learning: A Commentary on Andersen Consulting's Design of Goal-Based Scenarios. Educational Technology, 34(9), 30-32.

[5] Dallmann-Jones, A. S. (1994). The Expert Educator: A Reference Manual of Teaching Strategies for Quality Education. Fond du Lac, WI: Three Blue Herons Pub., Inc.

[6] Dewey, J. (1938). Experience and Education. Kappa Delta, then Collier, New York.

[7] Fertman, C. I., White, G. P., & White, L. J. (1996). Service learning in the middle school: Building a culture of service (pp. 27-39). Columbus, OH: National Middle School Association.

[8] Hardiman, R., & Jackson, B. W. (1997). Conceptual foundations for social justice courses, In M. Adams, L. Bell, & P. Griffin (Eds.), Teaching for diversity and social justice: A sourcebook, 16-29, New York & London: Routledge.

[9] Kalakota, R. & Whinston, A. (1997). Electronic Commerce: A Manager's Guide. London: Addison-Wesley.

[10] Kolb, D. A. (1984). Experiential Learning: Experience as the source of learning and development. New Jersey: Prentice Hall.

[11] Slavin, R. E. (1988). Cooperative Learning and Student Achievement. Educational Leadership, 46(2), 31-33.

[12] Turban, E., King, D., & Lang, J. (2010). Introduction to electronic commerce (3rd ed.). New York, NY: Prentice Hall, NY.

[13] Wade,R.C. (1997). Reflection. In Wade, R.C.(Eds.)., *Community Service-Learning：A Guild to Including Service in the Public School Curriculum*（pp.94-112）. Albany, New York：State University of New York Press.

[14] Winn, W. (1993). Instructional Design and Situated Learning: Paradox or Partnership? Educational Technology, 33 (3), 16-21.

[15] Yin, R. K. (2003). Case Study Research: Design and Methods, 3rd ed., CA: Sage Publications, Inc.

FFECTS OF MOBILE APPLICATION TO THE PUBLIC TRANSPORTATION AND FUTURE EDITING: ISTANBUL CASE

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ABSTRACT

It has been possible to see effects of vertiginous enhancements in every sector by the side of technologic developments. Especially in communication sector, these development have seen in the form of paradigms. Wrapping of fibber optic network cables around the world quickly , increasing number of communication satellites, becoming of internet a normal part of life have been made easier peoples communications. However, developments in communication tools have fostered to change not only human behaviours but also organisation business processes. Organizations had begun to change their organizational structure very fast synchronously with these developments from approach of total quality, strategic planning to customer centric approach. Nowadays thanks to smart mobile phones, organisations can get in touch with their customers more easily than ever, they can understand customer's needs, even needs that have not emerged yet, and in the direction of these needs they carry out R&D processes and new product development processes. Technologic developments in communication sector had changed not only customer centric business processes but also internal transactions of organizations, had ensured serious increase in productivity. In this paper, development of Technologies have been evaluated and have been examined in the dimension of public transportation planning and clues have been searched for question of how will be future by giving a place to IETTs studies in these fields.

Keywords: IETT, Public transportation planning, Smart application, Smart phone, Analytics, Web

INTRODUCTION

The rapid development and use of communication technologies and, at the same rate, involvement in between people, easy accessibility to these instruments, especially vertiginous enhancements in web application have fostered big change in the dimension of organisation business processes last three decade. Not only integrated innovative leaps in web and communication technologies have generated new products as smart mobile phones, social media platforms that people get connected easily but also these improvements have generated big data that bring complexity for analysing of these huge amount of data and converting them into information.

The evolution of production-oriented organizations is reserved briefly three periods. First one was production oriented period before 1970's. Demand was high but due to lack of producers supply was low. Customers had to buy what producers offer them. Second one was quality product oriented period in between 1970 and 1990. In that period number of producers has been increased and effect of customers has also increased. Organisations had to produce more quality products to ensure loyalty of customers. Third one was customer oriented period after 1990's. It was not enough to produce quality product for customers. Customers have the power of choosing any product in a large scale of product supply. Even power of making organisation to produce customize product as customer wish. Last period has forced organisations not only to understand customer needs, but also seek the way to reach customers. Transparent approach for customization (Yüksel, B. 1990) is an approach envisages understanding the client without asking again and again, but still examining the needs of the client to interact and produce appropriate solutions to customers. However, for this approach to determine the client's needs in the 90s was very difficult because of more limited data generated than the present. With the rapid development in Information and Communication Technology (ICT) , many interactions, especially people's shopping habits, methods of communication began to change. Public and private organizations are increasing their investment in Information and Communication Technology (ICT). Information and Communication Technology (ICT) has become the main element of public or private status of all business activities [1].

In this paper, information and communication developments in the field of web and smart phone technology and how to use it and work with these developments for public transportation planning and future vision for the IETT studies will be explained.

LITERATURE REVIEW

1 Customer Behaviour

The theories, both Justified Action Theory and the Theory of Planned Behaviour [2][3], has been developed and widely accepted among researchers in order to explain the behaviour in perspective of social psychology. In psychology, the theory of planned behaviour (abbreviated TPB) is a theory which links beliefs and behaviour. It has been applied to studies of the relations among beliefs, attitudes, behavioural intentions and behaviours in various fields such as advertising, public relations, advertising campaigns and healthcare. With this perspective organizations realized marketing activities switching to customers centralized approach, understanding the customer, listening even planning production processes with customers to produce and worked on customer satisfaction for performing the highest level with the help of Information and Communication Technology.

Development of Information and Communication Technologies has facilitated the ease of gathering customer data. With the help of such systems on the internet as Online Customer Tracking(OCT), Organisations are able to make sense of this client data on an individual basis by following the customer communication with any online device, and present suitable offers for customers with this evaluated information.

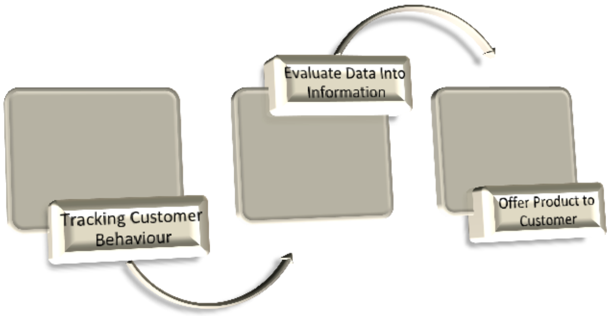

Figure 1: Marketing Strategy Based On Customer Tracking.

2 Development Of Web Version

In between 1989-1999 years, with Web 1.0 people just can not unilaterally made no interaction. It was an environment where the user is in a passive state by searching on the internet. In the years 1999-2009, people started interacting. People can share their thoughts on the site, and have developed their own sites and blogs with Web 2.0. These activities have led to the increasing emergence of social media which is quite common nowadays.

Social online platforms, in any focused topic, have endorsed saying “*All the people, when they combined, they know more than a few people who specialize in that area regarding any issues*”.[5]

When surfing on the internet with this interaction people have to leave their own distinctive digital footprints. This digital tracks, relevant with the people themselves, almost including some in the details as time and logical attitude to their emotional state, including venue information, entertainment understanding to the political approach and a lot more constructs "Individuals Digital Information Map".

3 Development Of Smart Phone Technology

Smart phone, a product of the world's PDA (Personal Digital Assistant) is an advanced mobile communication features of the device being designed as a pocket computer with the addition of classic features provided by the mobile phone. Smart phones are equipped with mobile operating systems. In this way, they can be used in a more active way for many different purposes and applications can be found for almost every need.

This situation has resulted in the formation of an information and communication platform that is more sophisticated and generating more data and individuals with the rapid increase of mobile phones development and the dizzying advances in smartphone penetration and usage. Smart phone usage rates in the world are shown in Table 1.

Table 1: World Smart Phone Usage Rate (population-based)

Country Rank	Usage Rate	Population
1.Hong Kong	236,8	7,219,700
2.Panama	202,5	3,405,813
3. Saudi Arabia	169,5	27,137,000
4. Lithuanian	167,1	2,955,986
5. Estonia	159,9	1,294,486
6. Russia	155,5	142,905,200
7. Singapore	151,8	5,312,400
8.Italy	147,4	60,090,400
9. Malaysia	143,8	28,250,000
10. Argentina	141,34	40,134,425
11. Bulgaria	140,2	7,600,000
12. United Arab Emirates	139,6	8,264,070
13.Brasil	136,45	201,032,714
14. Australia	133	22,700,000
15.Germany	130,1	81,882,342
50.Turkey	**89.9**	**75,627,384**

Our Mobile Planet Turkey's study shows that which venue smartphones actively used in Turkey.[6] As can be seen in the graph the user uses the smart phone in any environment. There is an increased smartphone utilization rates in locations where user's mobility duration are stable. In Figure 2, the use of smart phones venues are summarized.

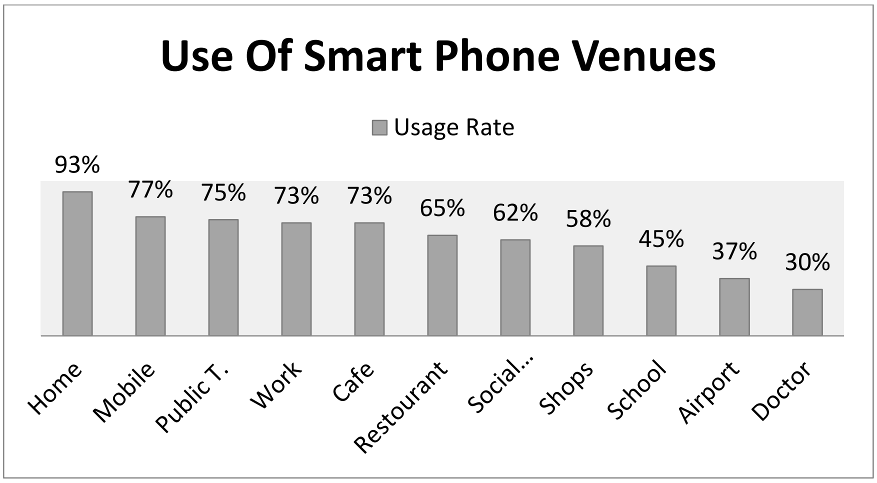

Figure 2: Use of Smart Phone Venues

4 Public Transportation Perspective

Every year seven cities are added, the equivalent to New York, in world. Becoming the cities as centre of attraction has increased the gravity force from country to cities and has led to overcrowding of the urban population. Today, serious transportation problems have manifested in the big cities because of increasing urban population. The transportation problems delay or make an unattainable goal of the cities and the countries sustainable economic development.

These dizzying advances in Information and Communication Technologies have contributed to public transportation, which is a chronic problem with increasing urban population and private car ownership. The most innovative example is the electronic cards that are used for public transportation payment systems by many cities and countries in the world. Electronic cards have reduced the loss of revenue as well as passenger waiting time. Also it provided making the public transport operators planning models and analysis more quickly with the passenger boarding data.

In Figure 2 the statistical research, that indicates that seventy-five per cent of the users use smart phones during on public transport, should be underlined. Ensuring users to conduct the relocation process except their own mechanical activity reveals an interesting situation. Public transport users uses smart phones for variety of social media, game or entertainment applications when they are on the move in public transportation vehicles. This situation has led to the orientation of the public transport authorities to mobile applications. Mobiett is one of the most potent example of these application [7].

All public transport authorities use data that obtained from past electronic cards data for assessment of basic planning principles, to make operational tactical and strategic plans in the world.

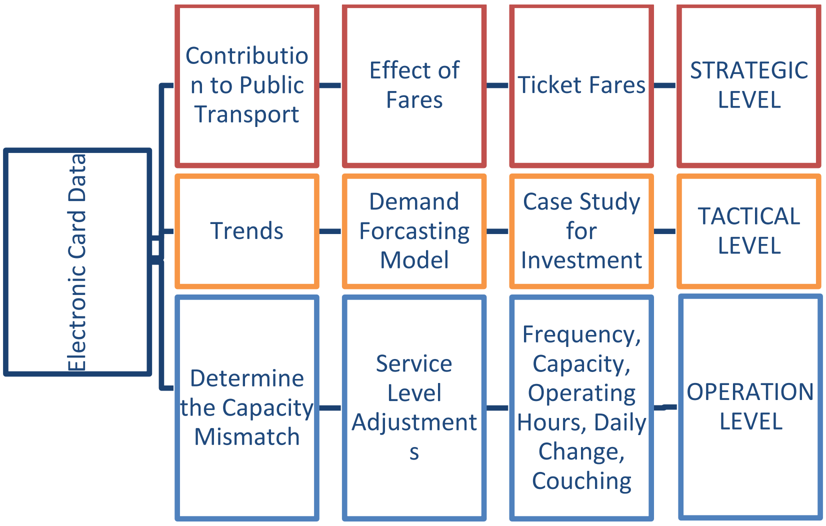

Figure 3 Three-Level Planning Made with Electronic Card Trip Data

With rapidly increasing use of smart phones, internet users has left digital trail in the virtual environments that are began to be matched with real spatial points. Mobility of people have become well monitored together with the use of social media and Geographic Information System (Forsquar etc.). Mobility in these researches is emerging to be specific to each person. This technological integration with public transport is seen as closely related with the three perspectives [7].

1. Map, place and route location
2. Navigation, mobility, relocation
3. Behaviour, reason of mobility, mode of mobility

In Public Transportation planning's the first two perspectives are often used in from the perspective of planning. But the third perspective is not used. Instead of that past trend are used for public transportation planning's.

IETT (Istanbul Electricity, Tunnel and Tramway , Istanbul Public Transportation Authority) has started "*Public Transportation Navigation Project*". With this project IETT aims to track passengers in the route by using Geographic Information Technology, Mobile application and Web online site for "*Public Transportation Coaching*".[8] This *Public Transportation Coaching* is not limited with journey planner or any common passenger information systems. Passengers will be able to ask for their optimum journey plans according to constraints (comfort, travel time, cost...) that are determined by themselves. Main objective of this project is to ensure active contribution of passengers in public transportation planning processes. IETT will be able to direct and plan its passenger in the public transportation infrastructure.

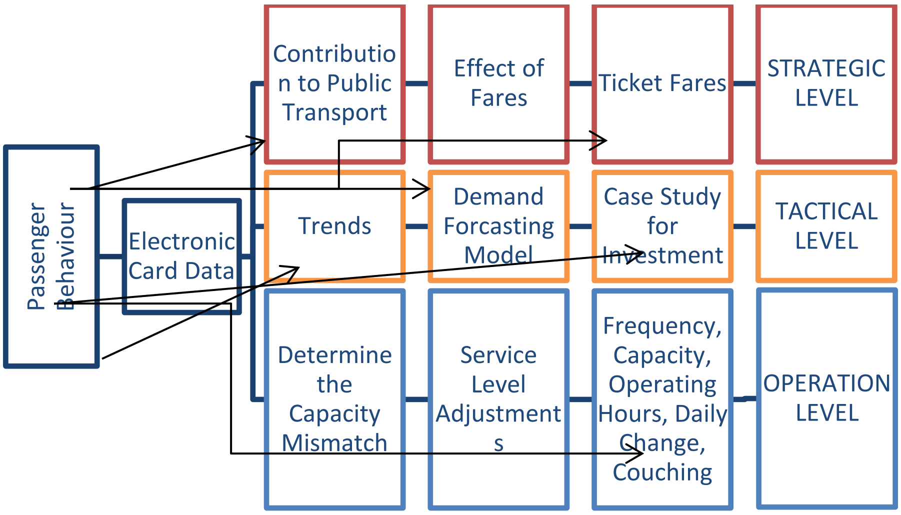

Figure 4 Three-Level Planning Made with Electronic Card Trip Data and Passenger Behaviour

CONCLUSION AND RECOMMENDATION

Operational sense, Public Transportation Couching service will direct passengers to compatible modes of public transportation.

Tactical sense; attraction centres will emerge with passenger data to be obtained easily.

Strategic sense, ticket prices can removed from the fixed price to flexible pricing system with dynamic pricing for each individual passenger needs.

Results of "*Public Transportation Navigation Project"* will be shared in the future paper.

REFERENCE

[1] Hu, P.J., Chau, P.Y., Hu Sheng, O.R., Tam, K.Y., 1999, 'Examining The Technology Acceptance Model Using Physician Acceptance Of Telemedicine Technology', Journal Of Management Information Systems, pp. 91-112.

[2] Ajzen, I., 1985, 'From Intentions to Actions: A Theory of Planned Behavior', In J. Kuhl & J. Beckman (Eds.), Action Control, From Cognition to Behaviour, Springer-Verlag Berlin Heidelberg, 11-39. Ajzen, I., (1991), "The Theory of Planned Behaviour", Organization Behaviour and Human Decision Process, 50, pp.179-211.

[3] Fishbein, M., Ajzen, I., 1975, 'Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research', Reading, MA: Addison-Wesley.

[4] http://think.withgoogle.com/mobileplanet/tr

[5] Nash, A., 2009, 'Web 2.0 Applications For Improving Public Participation in Transport Planning'.

[6] Michael F. Goodchild., 2000, 'GIS And Transportation: Status And Challenges. – GeoInformatica'.

[7] http://www.iett.gov.tr/tr/main/news/mobiett-ile-artik-her-durak-akilli/1397

[8] Bektaş, İ.,2014, TRANSIST 2014 Papers, p. 252-258.

Knowledge Management and Learning Culture in Higher Education

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ABSTRACT

This study concentrates on finding the relationship between organizational learning culture and knowledge management in order to introduce a model of knowledge management with regard to the effect of organizational learning culture. The seven hypotheses of this study tested 42 relationships between organizational learning culture dimensions and knowledge management dimensions. Sixteen branches of Islamic Azad universities in Esfahan, Iran, were selected for data gathering. These universities have 1562 faculty members. Based on Kukran formula, the designed sample size was 226 persons. Data analysis was done using Structural Equation Modelling. Following confirmatory factor analyzing), and modifications made in the model, hypothesis testing was done. Based on seven hypotheses, 19 out of 42 relationships were supported and others were not supported in the place of study. The findings showed that creating an opportunity for continuous learning had an effect on knowledge identification, utilization and knowledge sharing. Developing the culture of inquiry and dialogue had an effect on knowledge creation and knowledge storage. Encouraging team learning had an effect on knowledge identification, creation, utilization and knowledge storage. Empowering others had an effect only on knowledge identification. Developing a systematic training had an effect on knowledge identification and creation. Developing a systematic communication had an effect on knowledge creation, utilization and knowledge sharing. Strategic leadership had an effect on knowledge utilization and knowledge creation. A model of the relationship between organizational learning culture and knowledge management was developed which can be utilized by universities in order to increase their knowledge management system by paying more attention to organizational learning culture.

INTRODUCTION

In this era which has been called the era of knowledge, knowledge and knowledge management are introduced as the strategic sources for every organization, especially for universities. On the other hand, many researchers are of this belief that one of the important factors in knowledge management development is organizational culture (Lee & Lee, 2007; Zaim, Taoglu, & Zaim, 2007). In addition, having a good learning culture that can support the knowledge management is quite necessary in an organization.
While there are many researches about the relationship between organizational culture and organizational learning with knowledge management, there is a lack of study about the relationship between organizational learning culture and knowledge management.

In this study, after reviewing several researches on knowledge management and organizational learning culture, the influence of organizational learning culture in knowledge management is investigated in Azad Universities in Esfahan. Esfahan is the second largest city in Iran. This study can help the universities' executives to recognize the organizational learning culture factors which influence the knowledge management process. Therefore, it can help them reach the best strategies for their knowledge management plans.

Organizational Learning Culture (OLC) and Knowledge Management (KM)
Knowledge management is one of the important factors in competitive advantages. In fact, many opportunities for developing human resource performance and competitive advantages are created by knowledge management. Pauleen and Manson's research showed that the most important barrier for knowledge management implementation in organizations is cultural and managerial factors (Pauleen & Manson, 2002). In addition, Monavarian (2006) in his research on the knowledge management illustrated that cultural factors are important parameters in knowledge management implementation. He also introduced organizational culture, information technology, human resources and training as the factors which have a positive effect on knowledge management.
Nemati (2006) explained that the biggest challenge of knowledge management in Iran's higher education is a cultural one. Many higher education professionals believe that universities are the main organization for promoting the learning process in the society. They must transform the society to a learning society, create the culture of knowledge sharing, and utilize knowledge management strategy efficiently.

Organizational Learning Culture and Knowledge Management In Universities

Through a successful implementation of knowledge management and use of its potentials, acquiring competitive advantage and knowledge development capabilities would be easier for universities. While there are many researches on knowledge management and its operative factors, the effect of OLC dimensions of knowledge management is an area which has received less attention. Nevertheless, reviewing the researches related to knowledge management and/or organizational learning culture, particularly the ones focusing on universities, would be useful for the current study.

Mosavi Khatir et al. (2009) investigated in their research the factors affecting the success of knowledge management in several Iranian universities. They concluded that universities use factors such as culture, leadership, technology, process, training, learning and structure at less than average rate. Another study at some large universities in Iran (including University of Tehran, University of Esfahan, Tarbiyat Moddares University, Alzahra University, University of Mazandaran, University of Gilan, University of Yazd, University of Arak, and Razi University) showed that these universities are not in good condition with regards to the level of knowledge management indicators (Madhooshi & Niyazi, 2011). In fact, most research about the relationship between organizational culture, organizational learning and knowledge management, were done in the industrial arena. Therefore, a study of the important process of knowledge management in universities, and finding these relationships within universities seem to be of vital importance (Gholtash, Salehi, Javdani, & Sina, 2011).Holowzki (2002), in his research, investigated the organizational culture and knowledge management in Oregon University. He concluded that as knowledge management can be a competitive advantage, organizational culture also determines the corporate strategy. He also explained that focus on organizational culture is a key concept of knowledge management (Holowzki, 2002). Furthermore, the research results of Kantrobanda (2004) showed that the most essential factors influencing knowledge management processes are empowering human resource and organizational learning. Pajohan (2009), investigated the relationship between organizational culture and knowledge management implementation in Islamic Azad University of Tehran, Iran. The result of his research indicated that there is a significant relationship between organizational culture and knowledge management implementation.

Parham (2010), in his research at Shahid Chamran University in Ahvaz, Iran investigated the with regard to of this university for implementation of knowledge management models regarding the seven factors, including: internal processes, technology, culture, measurement, human resources and leadership. The results indicated that none of the key factors for knowledge management implementation were at a satisfactory level.

The results of a research done by Abdullah (2008) in a number of higher education organization in Malaysia showed that users' knowledge of implementation and usage of knowledge management system was not acceptable. The fundamental constructs for knowledge management in Tabriz University, Iran have been studied by Adineh Ghahremani et al. (2011). They concluded that use of four constructs, including organizational culture, organizational structure, process, and financial support was not at a satisfactory level, while use of human resource and technology seemed to be in a better condition. Gholtash et al. (2011), found a strong relationship between organizational culture, organizational learning and knowledge management in Islamic Azad University of Marvdasht, Iran. In addition, King (2009) concluded in his research that organizational learning is a complementary element of knowledge management.

In a research in several public and private (Azad) universities in Iran, Doaee and Dehghani (2011) showed that in public universities, knowledge management is highly considered by managers and planners while in private (Azad) universities, knowledge management dimensions are not at the desirable level. He also noticed that there is a gap between employees' expectations and perceptions.

Organizational Learning Culture Dimensions

While organizational learning culture facilitates efficient adaptations to challenging environments, it also extensively helps in the ongoing development of an organization (Cunningham & Gerrard, 2000). This learning ability has to be the continuing and driving force for all organizations in order to adjust to any unexpected changes in the environment. There is a link between organizational learning culture and employee and organizational performance, and also psychological and economic outcomes (Pantouvakis & Bouranta, 2013).

Watkins and Marsick (2003) stated that organizational learning culture is more associated to the learning organization's concept. They proposed an integrated model and specified seven dimensions of a learning organization culture which are: Continuous learning, Inquiry and dialogue, Team learning, Embedded system, Empowerment, System connection (in this study it is called "systematic communication"), and Strategic leadership.

Knowledge Management Dimensions

Knowledge management is illustrated as a multidimensional construct with a great quantity of interrelated characteristic (Darroch, 2003). In fact, the definition of knowledge management changes from organization to organization, even from program to program (Call, 2005). For the purposes of this paper, knowledge management process is defined as "the procedures that identify, create, and organize the necessary knowledge; that will storage and share the knowledge, and finally apply or utilize knowledge in the organizations." This study used following dimensions of knowledge management: Knowledge identification, Knowledge creation, Knowledge organization, Knowledge storage, Knowledge sharing, Knowledge utilization (Probst, 1999).

Hypotheses

The main hypothesis of this research is: "Organizational learning culture has a positive effect on knowledge management". To test this main hypothesis, 7 sub-hypotheses were posed as follows:

H1: Creating an opportunity for continuous learning has a positive effect on knowledge identification, creation, organizing, storage, sharing, and utilization, respectively.

H2: Developing the culture of inquiry and dialogue has a positive effect on knowledge identification, creation, organizing, storage, sharing, and utilization, respectively.

H3: Encouraging team learning has a positive effect on knowledge identification, creation, organizing, storage, sharing, and utilization, respectively.

H4: Empowering others has a positive effect on knowledge identification, creation, organizing, storage, sharing, and utilization, respectively.

H5: Developing a systematic training has a positive effect on knowledge identification, creation, organizing, storage, sharing, and utilization, respectively.

H6: Developing a systematic communication has a positive effect on knowledge identification, creation, organizing, storage, sharing, and utilization, respectively.

H7: Developing the strategic leadership has a positive effect on knowledge identification, creation, organizing, storage, sharing, and utilization, respectively.

METHODOLOGY

This study was done in 16 Islamic Azad universities in Esfahan, Iran. Esfahan is one of the largest cities in Iran, with 23 branches and 6 centers of Islamic Azad University. The sixteen branches chosen for data gathering are ranked as comprehensive, very large, large and medium sized branches, and others are small sized. These universities have 1562 faculty members. In order to calculate the sample size, this study used a pilot study. For the pilot study, 30 questionnaires were distributed in some related universities. Therefore, the adequate sample size calculated by the Kukran formula was 226 people.

To get the proper number of respondents, 250 questionnaires were distributed in selected universities. 142 questionnaires were returned after approximately two months. From this amount, 11 questionnaires were incomplete. In addition, since no major changes were made to the questionnaire following the pilot survey, these questionnaires (30) were also included in the final total of the collected questionnaires. Therefore, the usable questionnaires for analysis were 161 which represent a response rate of 71 percent.

The questionnaire's items were adapted from previous studies and modified for use in this study. Organizational learning culture was assessed by the 21 items of the questionnaire from research by Watkins and Marsick (2003). Knowledge management items were derived from the knowledge management assessment instrument by Liebowitz (2004) and knowledge sharing practice questionnaire by De Vries et al. (2006).

RESULTS AND DISCUSSION

Ahead of the gathering of the data, a reliability test was done using Cronbach's alpha value. The test showed the over level of 0.7 for each contract which indicated that the questionnaire was reliable. Structural equation modeling was used to analyze the model. First, the measurement model was examined in order to instrument validation, followed by an analysis of the structural model for testing association's hypotheses. The measurement models with all thirteen constructs were evaluated using confirmatory factor analysis. While testing each variable separately showed a good model fit, evaluating the total measurement model showed that CIMIN/df is the only indicator with an acceptable value (less than 3), and other indicators did not have acceptable values as is illustrated in Figure 1 (AGFI = 0.640, GFI = 0.695, CFI=0.641, TLI= 594, and RMSEA = 0.084). Therefore, the model needed modification.

As the estimates showed, the correlation between KO and ID was more than 1. Therefore, one of them must be dropped from the model. As the main focus of this study is on organizational learning culture, it would be better not to drop the pertinent construct. Therefore, KO was the construct which was decided to be dropped. The results of the model estimate, after dropping the KO, did not show good model fit indicators. Therefore, more modification was needed. The results of item correlation showed that there were high correlations between some items. As a result, some of these items, including the first item of inquiry and dialogue (ID1), the third item of team learning, the first item of systematic communication (SC1), the third item of knowledge storage (KS3), the third item of team learning (TL3), and the first item of knowledge creation (KC1), were deleted from the model, step by step. Apart from the AGFI, which is a little less than 0.8, the model showed the best fit indices.

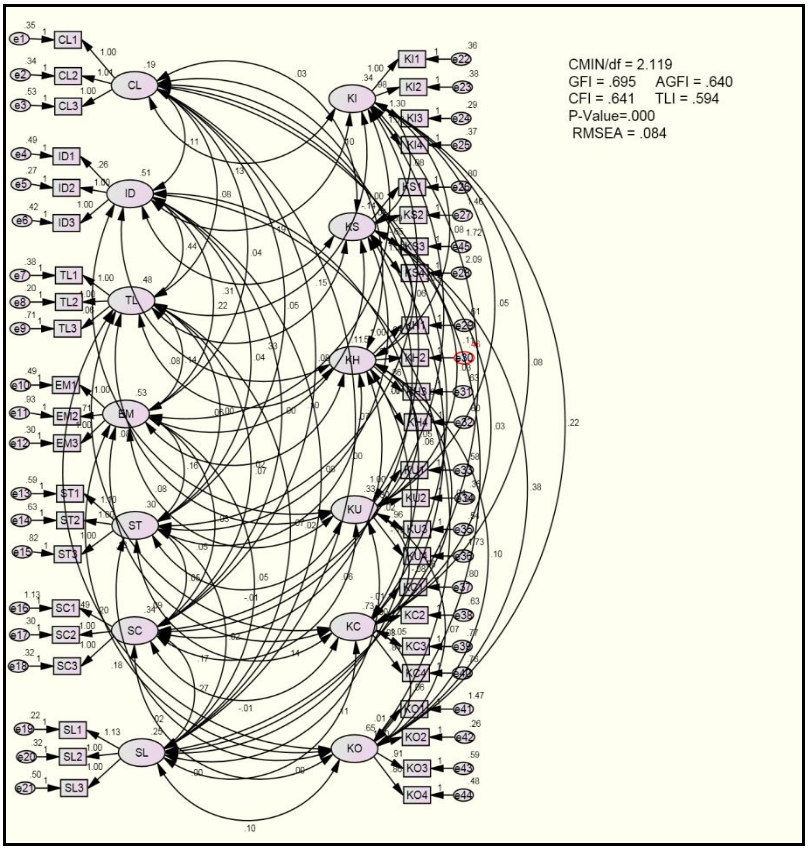

Figure 1. Measurement model

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Ahead of dropping one construct (KO) and five items (ID1,SC1,KC1,KS3, TL3), the model was fitted and the structural model was developed to test the hypotheses (Figure 2). Since one of the constructs (KO) was deleted from the model, the hypotheses also decreased to 6.

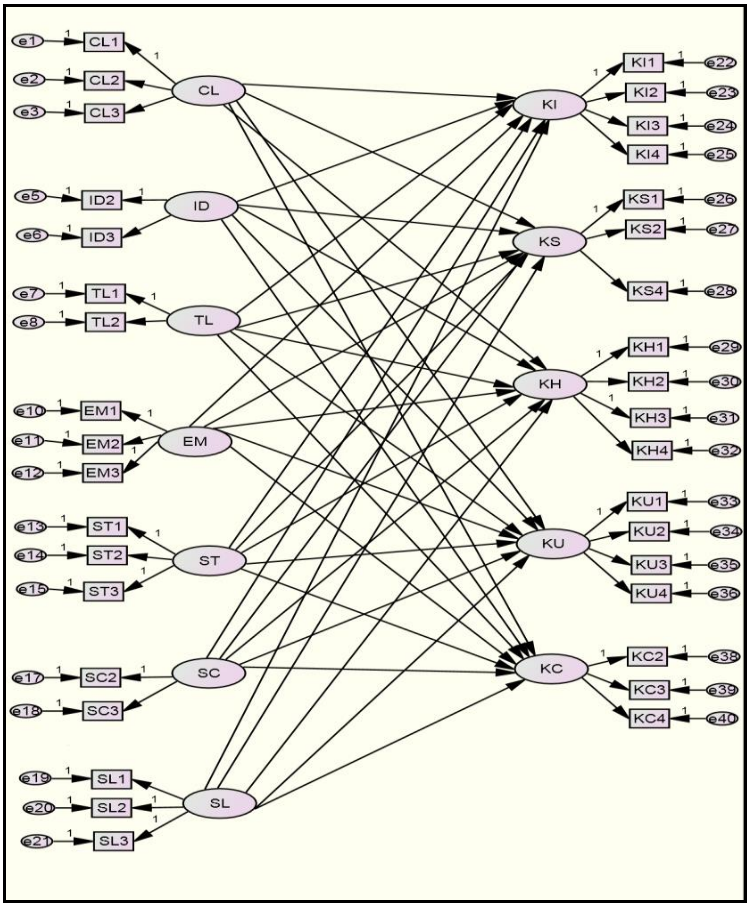

Figure 2. Structural model

Multiple regression analysis was applied to examine the significance of each hypothesis. The results of regression analysis are represented in Table 3. This table shows that some of relationships have a P-value more than 0.05, as highlighted in grey. Relations with values more than 0.05 are not significant, and must be deleted from the model. Therefore, these relations need to be deleted from the model. It would be better to leave out the parameters step by step. By following such a method, one of the variables may remain in the model.

To have the significant regression weights the relations with a P-value more than 0.5, 0.2 and 0.07 were deleted in three steps. These relations were included KS-ST, KS-EM, KC-CL, KC-EM, KU-ST, KH-SL, KS-ST, KS-EM, KC-CL, KC-EM, KU-ST, KH-SL. Final structural model is illustrated in figure 3.

Table 2. Regression weights for the structural model

			Estimate	S.E.	P
KS	<---	TL	.899	.081	<0.001
KS	<---	EM	.036	.070	.605
KS	<---	ST	.090	.150	.549
KS	<---	SC	.154	.140	.270
KH	<---	SC	.184	.101	.068
KH	<---	ST	.122	.085	.149
KH	<---	EM	.051	.037	.172
KH	<---	TL	.022	.031	.478
KH	<---	CL	.363	.183	.048
KI	<---	CL	1.282	.303	<0.001

			Estimate	S.E.	P
KS	<---	CL	.351	.181	.052
KU	<---	CL	.956	.280	<0.001
KC	<---	CL	.126	.280	.653
KI	<---	ID	.058	.067	.386
KS	<---	ID	.258	.075	<0.001
KH	<---	ID	.031	.034	.360
KU	<---	ID	.077	.080	.335
KC	<---	ID	.586	.120	<0.001
KI	<---	TL	.131	.064	.042
KU	<---	TL	.157	.077	.043
KC	<---	TL	.680	.115	<0.001
KI	<---	EM	.136	.064	.036
KU	<---	EM	.067	.076	.377
KC	<---	EM	.007	.105	.945
KI	<---	ST	.323	.156	.039
KU	<---	ST	.035	.172	.840
KC	<---	ST	1.627	.357	<0.001
KU	<---	SC	1.263	.237	<0.001
KC	<---	SC	1.139	.261	<0.001
KH	<---	SL	.002	.045	.957
KS	<---	SL	.111	.106	.293
KU	<---	SL	.208	.117	.075
KC	<---	SL	.500	.166	.003
KI	<---	SC	.756	.168	<0.001
KI	<---	SL	.532	.113	<0.001

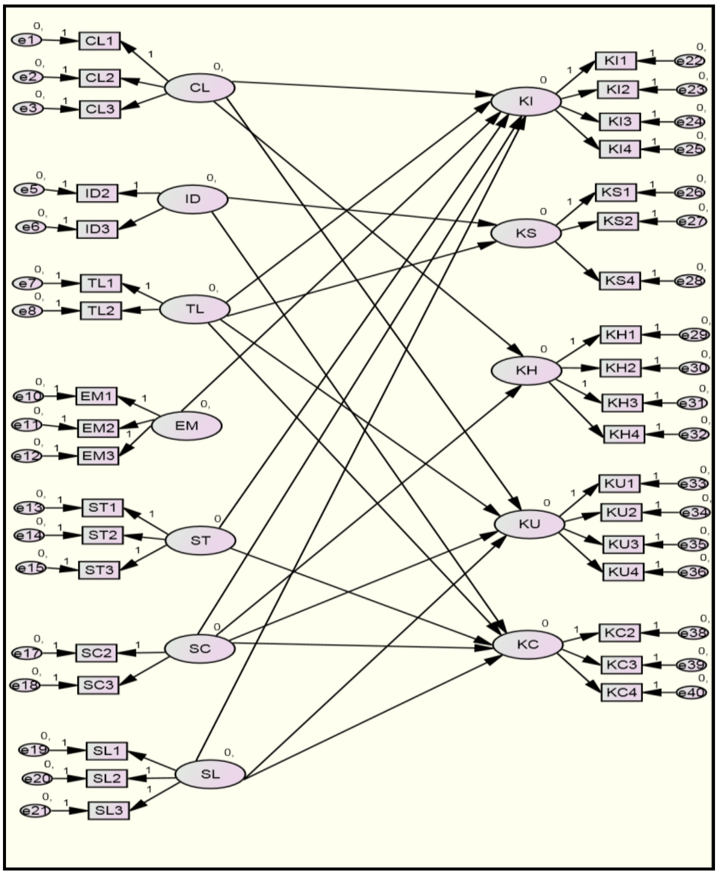

Figure 3. Final structural model

9. Conclusion and Recommendation

The findings show that creating an opportunity for continuous learning have an effect on knowledge identification, utilization, and sharing. Developing the culture of inquiry and dialogue has an effect on knowledge creation and knowledge storage. Encouraging team learning has an effect on knowledge identification, creation, utilization, and knowledge storage. Empowering others has an effect only on knowledge identification. Developing a systematic training has an effect on knowledge identification and creation. Developing a systematic communication has an effect on knowledge creation, utilization and knowledge sharing. Strategic leadership has an effect on knowledge utilization and knowledge creation.

Therefore, 19 relationships were supported and 16 relationships were not supported in the places of the study. The final accepted model of this study is shown in Figure 4. Although, theoretically, this study proposed a research model for empirical studies on linking organizational learning culture with knowledge management, the most important advantages rendered by this study come from a practical perspective. From a practical perspective, the model of this study shows how universities' managers can increase the knowledge management through developing organizational learning culture dimensions. The reason for the rejected relationships can be investigated by other researchers. In addition, the research model can be tested further by using samples from other countries or organizations. Future studies can also gather longitudinal data to examine the relationship between variables.

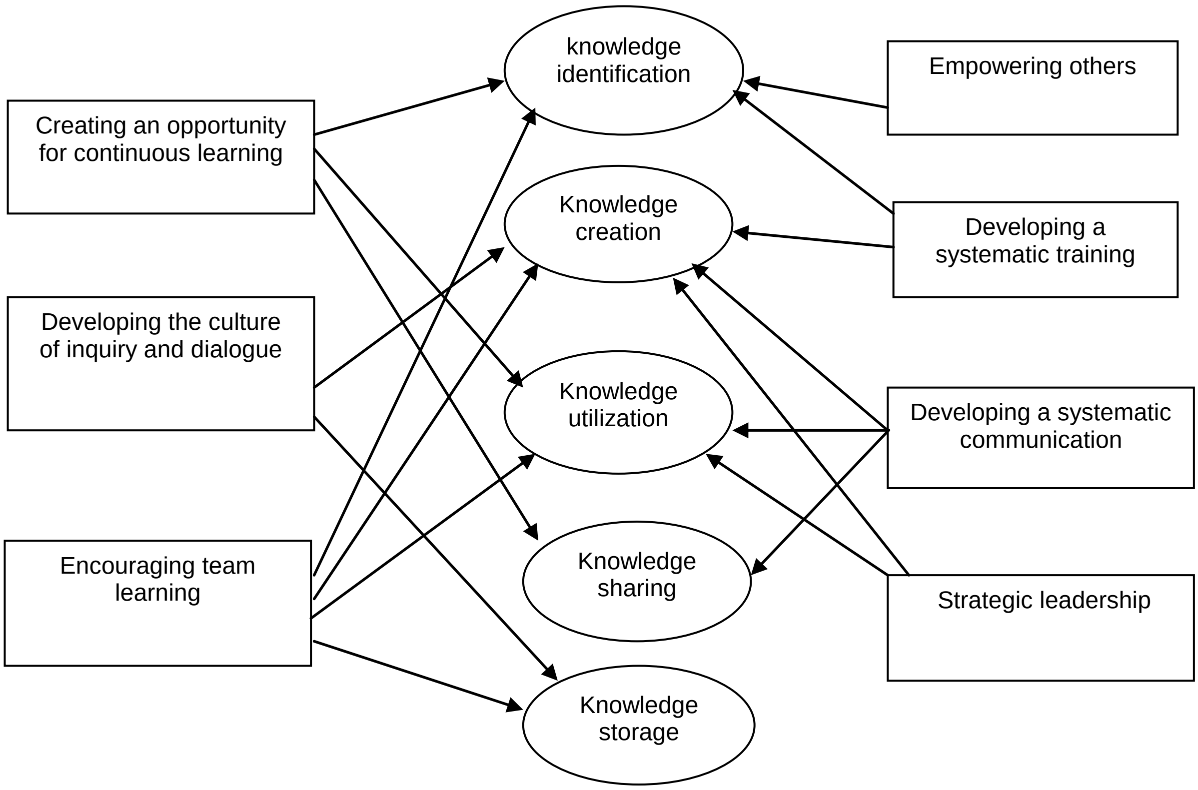

Figure 4. A Model of organizational learning culture and knowledge management

REFERENCE

[1] Abdullah, R. (2008). An empirical study of knowledge management system: Implementation in Public Higher Learning Institution. *International Journal of Computer Science and Network Security (IJCSNS), 8*(1), 281-290.

[2] Adineh ghahremani, A., Hashem poor, L., & Atapoor, H. (2011). Knowledge management infrastructure at Tabriz University from the perspective of its faculty members. *Journal of Academic Library and Information Studies, 57*(45), 63-85.

[3] Call, D. (2005). Knowledge management- not rocket science. *Journal of Knowledge management, 9*(2), 19-30.

[4] Cunningham, J. B., & Gerrard, P. (2000). Characteristics of well-performing organizations in Singapore. *Singapore Management Review, 22*(1), 35-64.

[5] Darroch, J. (2003). Developing a measure of knowledge management behaviors and practices. *7*(5), 41-54.

[6] De Vries, R. E., Van den Hoff, B., & De Ridder, J. A., 33 (2), 115-135. (2006). Explaining knowledge sharing: The role of team communication styles, job satisfaction, and performance beliefs. *Communication Research, 33*(2), 115 - 135.

[7] Doaee, H., & Dehghani, J. (2011). Evaluation of the knowledge management dimentions. *Journal of Higher Education, 93*, 23.

[8] Gholtash, A., Salehi, M., Javdani, M., & Sina, H. (2011). The relationship between organizational culture and organizational learning with knowledge management. *Journal of New Ideas in Education Science, 71*.

[9] Hair, J. F., Black, W. C., Babin, J., & Anderson, E. (2010). *Multivariate Data Analysis: A Global Perspective*. London: Pearson.

[10] Holowzki, A. (2002). The relationship between knowledge management and organizational culture. *Applied information management program, University of Oregon*.

[11] Lee, Y. C., & Lee, S. K. (2007). Capabilities processes and performance of knowledge management: A structural approach. *Human Factors and Ergonomics in Manufacturing, 171*, 21-41.

[12] Liebowitz, J. (2004). *Addressing the human capital crisis in the federal government: A knowledge management perspective*. New York: Butterworth-Heinemann.

[13] Madhooshi, M., & Niyazi, E. (2011). Evaluation the knowledge management in selected universities. *Research Journal of Transforming Management, 36*.

[14] Marsick, V., & Watkins, K. (2003). Demonstrating the value of an organization's learning culture: the dimensions

of the learning organization questionnaire. *Advances in Developing Human Resources, 5*(2), 132.
[15] Monavarian, A. (2006). *Knowledge-based economy and management, series of economic and administrative discussions*. Tehran, Iran: Institute of Education and Research Management and Planning.
[16] Mosavi khatir, S. J., Behrangi, M. R., & Arasteh, H. R. (2009). *The factors influence the success of knowledge management in Iran's Universities: The Analysis of current situation*. Paper presented at the The Second National Conference of Knowledge Management, Tehran.
[17] Nemati, M. L. (2006). Knowledge managemnt, cluture, and higher education. *Information growth, 27*, 28-35.
[18] Pajohan, A. (2009). *Investigating the relationship between organizational culture and knowledge management in Islamic Azad University of Tehran.* Master, Islamic Azad University of Tehran (Central branch), Tehran, Iran.
[19] Pantouvakis, A., & Bouranta, N. (2013). The link between organizational learning culture and customer satisfaction. *The Learning Organization, 20*(1), 48-64.
[20] Parham, S. (2010). *Explaining the implementation challenges of knowledge management and presents a model for the its implementation in Shahid Chamran University.* Master, Shahid Chamran University, Ahvaz, Iran.
[21] Pauleen, D., & Manson, D. (2002). Newzealand knowledge management: Bariers and drivers of knowledge \ management. *Journal Of Knowledge Management, 8*(5), 23-54.
[22] Probst, G. J. B. (1999). Practical Knowledge Management: A Model That Works *Managing Knowledge: Building Block for Success* (pp. 17-29): WILEY.
[23] Zaim, H., Taoglu, E., & Zaim, S. (2007). Performance of knowledge management practices: A causal analysis. *Journal of Knowledge Management, 116*(54-67).

Appendix

AGFI - Adjusted Goodness-of-Fit Index
AMOS - Analysis of Moment Structure
CFA - Confirmatory Factor Analysis
CFI - Comparative Fit Index
CL - Continuous Learning
Df - Degree of freedom
EM - Empowering Others
GFI - Goodness-of-Fit Index
ID - Inquiry and Dialogue
KC - Knowledge Creation
KI - Knowledge Identification
KO - Knowledge Organizing
KH - Knowledge Sharing
KS - Knowledge Storage
KU - Knowledge Utilization
RMSEA - Root Mean Square Error of Approximation
SEM - Structural Equation Modelling
SC - System Communication
SL - Strategic Leadership
SPSS - Statistical Package for the Social Sciences
ST - Systematic Training
TL - Team Learning
TLI - Tucker Lewis Index