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Gauging Industry's Perspectives on Soft Skills of Graduate Architects: Importance vs Satisfaction

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Abstract
The roles of architects today are becoming more diverse and demanding. Given the higher market expectation and broad job roles, architects need diverse qualities ranging from technical expertise to soft skills. To meet with these escalating requirements in the workplace, architectural firms nowadays demand for graduate architects that are appropriately equipped with relevant skills. This study focused on identifying the soft skills of graduate architects deemed important by the industry and to gauge their satisfaction with the level of skills possessed by the graduates. The results of a survey of professional/senior architects from 65 architectural firms suggested that proficiencies in English language (in terms of oral, written, oral presentation and written presentation) were rated as most important skills for graduate architects. Other highly valued soft skills include time management, listening, teamwork, problem solving, leadership, and decision makings. The findings further revealed that the employers were least satisfied with the graduates' English languages abilities in terms of written presentation, written communication and oral presentation. In addition, negotiation skills and analytical & critical thinking were also rated low in terms of satisfaction. The findings were useful in recognizing employers' expectations of soft skills and identifying gaps that exist in the quality of soft skills among graduate architects. Implications of the findings are discussed and recommendations for future research are put forward.

Keywords: Graduate architects, Soft-skills, Industry requirements

INTRODUCTION

Architecture is a discipline that requires an integration of multidisciplinary knowledge including arts, sciences, environmental awareness and technology. According to Australian Institute of Architects (AIA) (2014), the practice of architecture involves many different stages such as planning, project organization, designing and modelling of building design and construction, documentation, contract administration and many others. To accomplish these diverse tasks, architects need to deal and work with many parties including clients,

project managers, surveyors, engineers, graphic designers, interior designers, contractors, and product suppliers. Architects are often required to lead a team of professionals, discuss and negotiate with contractors/clients and constantly solve issues and problems related to a project. As key player in the building industry, architecture is a field that requires one to be involved in multidisciplinary roles and expectations by different parties involved in the industry (Salleh, Yusoff, Amat, Noor, & Suredah, 2013).

Given the diverse job roles, there is a high need for architects today to be equipped with a broad range of skills set. According to the Board of Architect Malaysia or "Lembaga Arkitek Malaysia" (LAM), this include sketching and design skills, communication, managing relationships with various parties, negotiating, problem solving and ability to work both individually and with others. For new architecture graduates entering the industry, high expectation of the employers brings a challenge to these graduate architects. They need to aptly adapt to the high expectation of the job nature, as mistakes and incompetency can lead to damaging impact to firms' performance, productivity and competitiveness.

In Malaysia, architecture graduates will only be eligible to register as 'professional architects' upon passing their LAM Part 3 examination (Board of Architects Malaysia, n.d). Graduates with Part I and Part 2 qualifications are appropriately labelled as graduate architects. According to Harvey (2001), graduates' attributes were the determinant of their success at work apart from the specific degree they have acquired. In response to the industry's requirements of graduate architects, employees are expected to be competent in a wider spectrum of skills. The emphasis now focuses not only on technical know-how but also on the soft skills. In preparing graduates for employment, they need to be well equipped with the soft skills deemed essential by the industry (Yusoff et al., 2008).

This paper reports part of the findings of a larger study that examined the competencies of architecture graduates from Malaysian architectural employers' perspective. Specifically, this paper focuses on the architecture graduates' soft skills aspects. From the review of literature, it is apparent that studies in the architectural field have given more emphasis on the technical and technology aspect. Minimal studies have been found on the human and "soft" aspects of the field, particularly in the Malaysian context. This paper aims to gauge the industry's views and satisfaction of graduate architects upon entering their employment. Specifically, the aims are 1) to identify important soft skills of graduate architects and 2) to gauge employers' satisfaction with the soft skills possessed by the graduates. The feedback would be useful in recognizing employers' expectations of soft skills and identifying gaps (if any) that exist in the quality of soft skills among graduate architects. The following sections will discuss the literature review, methodology, results and discussion of this study.

LITERATURE REVIEW

In general, employers' need graduates to be able to function in the workplace, be confident communicators, good team players, critical thinkers, problem solvers and to be adaptive and adaptable to new challenges and workplace changes (Harvey, Locke, & Morey, 2002). Graduates' technical know-how is already a by default factor that enable them to be employed. However, non-technical skills–soft skills are equally important for graduates to use their technical skills more effectively (Nasir, Ali, Noordin, & Nordin, 2011).

In Malaysia, there have been concerns that graduates' lack of competency for employment (Singh & Singh, 2008). According to Juhdi, Jauhariah, and Yunus (2007), although graduates are well equipped with technical skills, they are quite lacking in soft skills. Similarly, Yuzainee, Omar, and Zaharim (2010) argued that soft skills of Malaysian graduates are still under satisfactory. Soft skills have often been seen as less important in

many technical disciplines including architecture. Research on hard or technical skills of architects has been conducted more often than those focuses on soft skills. However, in today's fast-paced global marketplace, soft skills are placed as more important than before in the field of architecture (Shafie & Nayan, 2010; Shannon & Swift, 2010).

The findings of an empirical investigation on Architecture Engineering contractors in Singapore revealed that soft skills, especially problem solving skills are important in predicting employees' performance (Ling, 2002). In addition, Farooqui, Ahmed, and Saqib (2010) have also found that soft-skills are essential for construction management graduates. Their study indicated that among other skills, time management is the key attribute to manage projects effectively. Another survey conducted on architecture graduates in Iowa State University, recommended that the college place more emphasis on soft skill aspects such as presentation skills, critical thinking, problem solving, human behavior and work ethics. Apart from the above studies, a content analysis study (Salleh et al., 2013) of job advertisements in Malaysia found that communication is the most highly demanded skill by employers. The findings also showed that the industry put high emphasis on good presentation skills and interpersonal skills in their recruitment effort. The studies above provided an avenue for this paper to undertake the objectives that have been set forth.

METHODOLOGY

A questionnaire was used to collect data for the study. In total, 21 soft skills items were used to measure the soft skills of graduate architects. These items were compiled based on the soft skills found in previous research findings (Salleh et al., 2013). The respondents were asked to rate the importance and their satisfaction of each skill on a 5-point Likert scale.

The data were analyzed using Statistical Package for Social Sciences (SPSS) version 21. Cronbach alpha coefficients were calculated to examine the reliability of the scale used. With alpha coefficients of 0.89 for importance and 0.97 for satisfaction were found indicating the scale can be regarded as highly reliable to represent soft skills of graduate architects (Foster, 2001; Hair, Black, Babin, Anderson, & Tatham, 2006). Mean scores and standard deviations were used to analyze the data of the study. In interpreting the mean scores, the following were used: 4.21-5.00 "highly important/highly satisfied"; 3.41-4.20 "important/satisfied"; 2.61-3.40 "moderately important/ moderately satisfied"; 1.81-2.60 "not important/not satisfied" and 1.00-1.80 "not important at all/not satisfied at all" (Salleh et al., 2013).

The questionnaires were mailed to 250 architectural firms located in various states in Malaysia. The companies were randomly selected from the Board of Architects Malaysia or LAM list of architectural firms in Malaysia, obtained from its website. A cover letter that explained the intention of the survey and to ensure respondents of the confidentiality of the information given was affixed together with the questionnaire. To encourage participation, a self-addressed stamped envelope was enclosed. Within a month, 70 questionnaires were returned. Of these, 65 were usable giving a response rate of 26%. Although the percentage is below 30% of the generally accepted rate of response, this is considered exceptional for architectural industry as they are well known for their tight and hectic work schedule.

The employers who took part in the survey represented a range of age groups and levels of experience. They mostly held positions as Partners, Directors or Architects, working in smaller architectural practices.

RESULTS AND DISCUSSION

Important Soft Skills from Employers' perspective

Table 1 presents results of important soft skills from employers' perspective. Overall, with mean scores of more than 4.0, the results showed that all the 20 listed soft skills were considered as important and highly important to the employers.

Table 1: Soft Skills (Importance)

Items	Mean score	SD	Degree of importance
Oral communication in English	4.64	0.54	HI
Oral presentation in English	4.57	0.77	HI
Written presentation(in English	4.57	0.75	HI
Written communication in English	4.51	0.79	HI
Time management skills	4.51	0.83	HI
Listening skills	4.51	0.81	HI
Teamwork	4.46	0.97	HI
Problem solving skills	4.45	0.68	HI
Leadership skills	4.38	0.68	HI
Decision making skills	4.32	0.87	HI
Analytical & critical thinking	4.31	1.01	HI
Oral/Verbal communication in BM	4.29	0.93	HI
Oral presentation in BM	4.25	0.89	HI
Interpersonal skills	4.23	0.83	HI
Written presentation in BM	4.22	0.79	HI
Written communication in BM	4.22	0.84	HI
Locating & organizing information	4.20	1.00	I
Meeting (conducting/participating)	4.14	0.75	I
Resolving conflicts	4.09	1.06	I
Negotiation skills	4.03	0.83	I

Note: HI - Highly important, I - Important

As shown, top on the list were communication and presentation skills in English (mean scores of 4.51 and 4.64). This clearly highlighted that the ability to communicate effectively and proficiency in English language i.e. oral, written, oral presentation and written presentation were highly demanded by employers in the architectural firms today. This is an expected outcome English language is often used as the medium of communication particularly in dealing with projects. In addition, graduate architects may need to conduct discussions with various parties such as clients, suppliers, builders to ensure the smooth running of a particular project. Being able to convey ideas verbally and through sketches to others are also vital part of an architect's job. Thus, as indicated in the findings, good oral and written presentation skills are highly sought after by the employers. The findings also rated that time management and listening skills (mean of 4.51 respectively), teamwork (mean 4.46), problem solving (mean 4.45), leadership (mean 4.38), decision making (mean 4.32), analytical & critical thinking (mean 4.31) as highly important in the role of a graduate architect. Verbal communication in Bahasa Malaysia (mean 4.29), oral presentation in Bahasa Malaysia (mean 4.25), interpersonal skill (mean 4.23), written presentation in Bahasa Malaysia (mean 4.22) and written communication in

Bahasa Malaysia (mean 4.22) were also rated as the soft skills very important and valued in an architectural role. Four skills rated as important were as follows (from highest to lowest): locating & organizing information (mean 4.20), conducting and participating in meetings (mean 4.14), resolving conflicts (mean 4.09) and negotiation skills (mean 4.03).
The requirements for effective time management are expected considering graduate architects are often required to ensure timely completion of projects within a limited time. Time management was rated highly important by the employers because in the construction industry, time means money. As such, working to meet very tight deadlines and continuously prepared to put the effort to meet scheduled timeline to complete a project are common in the architectural work. Architects are largely required to listen to others. Mainly because they serve to the needs of clients thus as expected listening skills, which are often seen as part of communicative ability are highly important. At the same time, leadership skills are also critical as graduate architects may have to work within limited supervision. Leadership skills is about exerting influence on others and increasing the chance that people will follow ones' ideas and decisions. An architect has to continuously solve problem and translate ideas into working code. The demand for interpersonal skills indicated that employers are placing a high value on the ability of graduate architects to work well with others and in groups. Overall, the findings highlighted on the need for architecture graduates to possess the industrial required soft skills in order for them to perform at work.

Employers' satisfaction with soft skills of current graduate architects
The mean scores for the employers' satisfaction on the graduate architects were tabulated in Table II. The findings revealed that the employers were satisfied with the graduate architects' teamwork skills, and communication skills in Bahasa Malaysia. However, generally they were only moderately satisfied with all other listed skills.
The findings interestingly showed that the employers were least satisfied with the graduates' English languages abilities in terms of written presentation, written communication and oral presentation. In addition, negotiation skills and analytical & critical thinking were also low on the list in terms of satisfaction. These findings contradict with the important skills required by the employers as discussed in the preceding section.

Table 2: Employers' satisfaction with soft skills

Items	Mean score	SD	Degree of satisfaction
Teamwork	3.70	0.74	S
Written communication in BM	3.62	0.98	S
Oral/Verbal communication in BM	3.58	0.99	S
Oral presentation in BM	3.48	1.02	S
Written presentation in BM	3.45	0.98	S
Interpersonal skills	3.37	0.98	MS
Locating & organizing information	3.33	0.91	MS
Listening skills	3.29	1.04	MS
Resolving conflicts	3.21	0.84	MS
Meeting (conducting/participating)	3.16	0.92	MS
Leadership skills	3.12	0.94	MS
Problem solving skills	3.06	0.99	MS
Decision making skills	3.03	0.93	MS

Time management skills	3.02	1.02	MS
Oral communication in English	2.98	1.24	MS
Analytical & critical thinking	2.98	0.96	MS
Negotiation skills	2.95	0.94	MS
Oral presentation in English	2.95	1.27	MS
Written communication in English	2.92	1.23	MS
Written presentation in English	2.82	1.26	MS

Note: S - Satisfied, MS – Moderately satisfied

RESEARCH IMPLICATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

Overall, the findings of this study affirm the importance of soft skills and the level of satisfaction of employers on graduate architects. The findings indicated that there is no question that graduate architects would benefit from having good soft skills such as communication skills, teamwork, time management, leadership and problem skills. All these skills require them to be able to effectively communicate, interact, present and lead projects as it is the nature of their job. The architect's role goes well beyond the technical skills. The findings of this study are useful to highlight that some of the softer skills that are required for an architect to be successful.

Although it is rather too idealistic to expect universities to be able to produce architectural graduates with all the soft skills perceived important by employers, efforts need to be done towards providing the right learning experiences to the architecture students. It is important for architectural education to find ways of developing and strengthening soft skills among their graduates. This will ensure that graduate architects will be highly equipped with the relevant soft skills that will meet the industry demands. For example, soft skills activities can be further integrated into technical courses architectural field.

This study has enlightened that Malaysian graduate architects are lacking in the soft skills sought by employers. Somehow, this led to a mismatch between the employers' expectations and the skills graduates possessed. Thus, university and employers must work together to find ways to reduce these gaps. Future research is highly recommended to further examined this issue and develop interventions that may be able to bridge the industry requirements and university's preparation of architectural graduates.

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