

EMPLOYERS' PERCEPTIONS TOWARDS SOCIAL COMPETENCIES OF (ISLAMIC UNIVERSITY'S) ENGINEER

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Abstract

This paper reports on a study of employers' perceptions of industrial engineering graduates' in workplace. The employers were asked to rate the performance of a selection of graduate social competencies using a five-point Likert scale. The initial object of this study is Industrial Engineering graduates' students until April 2012. Questionnaires were distributed on July 2012 to 30 employers as respondent in which the response rate was only 40%. The results of this study show that the lowest performance of graduates was in English knowledge (2,3), and the highest was in Concern to other (4,23). Overall, the findings of the study could be used to assist universities, graduates, employers, and career advisers in applying strategic decisions in managing curricula and graduates' careers.

Keywords: *Employers, Engineer, Graduates, Social Competencie.*

I. INTRODUCTION

The prime function of cooperative education programs worldwide is to prepare students for the workplace by developing a number of generic and specific competencies that are believed among educators to be useful to employers (Hodges, et al, 2003). However, what do we really know about employers' views on graduate competencies? What competencies do employers view as important, and how competent are our graduates when they first enter the workplace?

Individual work performance is a relevant outcome measure of studies in an occupational setting. However, despite its importance, no comprehensive conceptual framework of individual work performance exists. It has typically been assumed that what constitutes individual work performance differs from job to job (Koopmans, et al, 2011). There is an increasing evidence for the need for information about graduates' transition to work, particularly in the crucial period shortly after graduation, and graduates' early careers (Wickramasinghe, et al. 2010). It, however, is very difficult to find both empirical studies that investigate social competencies that employers expect when graduates are applying for entry-level graduate jobs, studies that compare the skills level possessed by graduates when firstly applying for their first job (graduate responses) and the skills level expected by employers when selecting for entry-level graduate jobs (employer responses). The literature in cooperative education has focused largely on the views of academia with few reports of research into employers' views (Hodges, et al., 2003). Hence, there is a clear need for such studies. The present study makes an attempt to fill this gap. This study was conducted on industrial engineering graduates. To the best of my knowledge, prior research studies on industrial engineering graduates' in any context, especially from Islamic University are rarely found.

In the above context, this exploratory study was conducted to expand the understanding of social competencies of industrial engineering graduates' from UIN Sunan Kalijaga Yogyakarta by exploring the perceptions of employers. The specific aims of the paper include:

1. to find employers' perception of Islamic engineers' social competencies
2. to identify the main social competencies that Islamic engineers need to improve in the future.

Studies Of Competencies

Joseph and Joseph (in Hodges, et al., 2003) in a survey of 280 New Zealand graduate employers found the top ranked competencies in a descending order including willingness to learn; having a positive attitude; being motivated; having good communication skills; and, possessing the

ability to work independently. They reported that employers believe that educational institutions provide a relevant employment experience for their business students, but remarkably, ascribe generic competencies to a low level of importance. However, the level of competency expected from graduates by these employers, fell below their perceived level of importance, suggesting that employers expected that these competencies would be developed elsewhere in the curriculum and not necessarily through industry involvement.

Ivanova (2012) identified a number of main social competencies that future engineers need to be recognized as professionals. In her paper, it is said that the key competencies for contemporary engineers are examined and the focus is given on the importance of social competencies for professional development. A competency research model has been developed regarding the current research published in scientific papers, gathered from the opinion of students from Technical University of Sofia and early-aged operating engineers.

The received results of this research after detailed analysis of university students' vote and opinion of the operating young engineers about what kind of social abilities are important for a reliable and effective engineering practice point to social competencies such as communication, teamwork, networking and adaptability are among the competencies with highest priority. These competencies are pointed out by engineers from Philips ETG as very important for a successful social behavior. Self-management of social activities according to the students' ratings is one of the highest scored abilities. It then indicates their willingness to know how to manage their behavior and what kind of tools is used to be the successful persons in their career development. The performed investigation about the key competencies for engineers results in a social competency research model that could support the building of a reliable engineering profile together with the required specific technical competencies.

Hodges (2003) research findings showed that employers want 'work-ready' graduates with prior work experience. Thus, the competencies demanded of business graduates. As the focus shifts from 'employment' to 'employability', today's graduates will need to understand that their attitude to work is as important as the work itself. Furthermore, their ability and willingness to undertake professional development and training throughout their working life are not only expected but also will be a pre-requisite for lifelong work.

2. THEORETICAL BACKGROUND

Competencies definition

Competencies are defined as a combination of knowledge, skills and attitudes appropriate to a given context. Key competences are considered those which "all individuals need for personal fulfillment and development, active citizenship, social inclusion and employment" (Ivanova, 2012). A competency is defined in Synergetics as any kind of qualification or ability, both formal and informal, a person should have to fulfill a particular task or job (Synergetics, 2007). The term competence is related to what people need to be capable of performing a job well and the term competency is defined as the behavior(s) supporting an area of work (Moore, R., et al., 2002).

A competency is an underlying characteristic of an individual that is causally related to criterion-referenced effective and/or superior performance in a job or situation (Spencer and Spencer, 1993). They also state that competency is a fundamental characteristic that affects the individual's way of thinking and acting, as well as facing all situations encountered, and surviving in the long phase in life as human beings. In a workplace context, competency is a combination of cognitive skills (technical knowledge, expertise and abilities), and personal or behavioral characteristics (principles, attitudes, values and motives), as the function of an individual's personality (Hodges, et.al, 2003).

Another author said that competence is viewed as an integrative concept, which refers broadly to an *ability to generate and coordinate flexible, adaptive responses to demands and to generate and capitalize on opportunities in the environment (i.e., effectiveness)* (Waters, et.al, 1983). As such, this would elude at least the following points: (a) the individual's own contribution to situation or opportunity for response, (b) recognition of opportunity or demand for response, (c) prior acquisition of response alternatives, (d) selection from among response alternatives, (e)

motivation to respond, persist or change the response as required, and (g) modulation tuning or response.

According to Spencer (in Winanti, 2009), individual competency can be divided into three categories:

1. Intellectual Competency
2. Emotional Competency and
3. Social Competency

Belongs to Spencer and Spencer there are 20 competencies (Spencer and Spencer, 1993):

- | | |
|---------------------------------|-------------------------------|
| 1. Achievement Orientation | 11. Directiveness |
| 2. Concern for order | 12. Teamwork |
| 3. Initiative | 13. Team Leadership |
| 4. Information Seeking | 14. Analytical Thinking |
| 5. Interpersonal Understanding | 15. Conceptual Thinking |
| 6. Customer service Orientation | 16. Expertise |
| 7. Impact and Influence | 17. Self Control |
| 8. Organizational Awareness | 18. Self Confidence |
| 9. Relationship Building | 19. Flexibility |
| 10. Developing Others | 20. Organizational Commitment |

Social Competencies

Archan and Tutschek (in Ivanova, 2012) described social competency as the ability and willingness to cooperate, to interact with others responsibly and to behave in a group and relationally oriented way. Social competencies are also defined as the skills needed to recruit and maintain satisfying and supportive relationships, said Mallinckrodt and Wei, 2005 (in Ivanova, 2012). Social competencies are described as the behavior that one needs to have and needs to demonstrate his or her interactions and cooperation with others in building and sustaining different relationships (Sinnott, et al., in Ivanova, 2012).

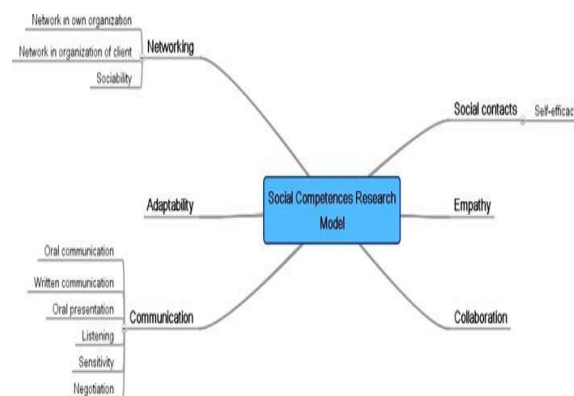


Figure 1. Social (sub)-competencies of the competency research model (Ivanova, 2012)

3. RESEARCH METHOD

Design of Survey Instrument

A questionnaire survey was conducted among employers with industrial engineering graduates' work. The employers were asked to rate the level of *performance* they attributed to 15 competencies for graduates in their early year of work. The ratings were based on responses to a five-point Likert scale. 1 indicated that the competency performance was poor, and 5 indicated that graduates' performance for that competency was excellent. The social competency categories were

taken primarily from the work of Ivanova (2012). The questionnaire also allowed for open-ended comments from employer, in cases for which their perception of performance for a particular competency differed substantially.

Participants Collecting Data

There were 48 Industrial Engineering graduates' students until the period of April 2012. Data was deployment via e-mail, telephone, SMS, social networking, or Facebook account. At this early stage, the responses were low in which, of 47 questionnaires sent, it was only 17 returned and fully completed. In this way, researchers continued to next step - employers' perception. However, the researchers also attempted to obtain information by phone/SMS, despite the presence of alumni questionnaires were not returned. Subsequently, 30 employers were obtained and sent the questionnaire.

Table 1. Industrial Engineering graduates' students

No.	Status	Respondents	
		N	%
1.	Work as employee	33	68.75
2.	Entrepreneur	7	14.58
3.	Others	8	16.6
Total		48	100

Response Rate

The population of this case study consisted of 33 employers from graduates of Industrial Engineering of UIN Sunan Kalijaga. Nevertheless, the researcher was only able to track 30 employers. Of 30 questionnaires distributed, 12 were returned in complete. The questionnaire was distributed in three ways: by post, by e-mail and direct visit. In total, a 40% response rate was achieved. (See Table 3)

Table 2. Rate of respondent response

No.	Delivery	Amount	Return	Response Rate(%)
1.	Send by Post	7	2	6.7
2.	E-mail	12	2	6.7
3.	Directly	11	8	26.67
Amount		30	12	40%

4. RESULT AND DISCUSSION

The estimated means for the employers' perceptions of graduate performance for each social competency are shown in Table 4.

Table 3. Employers' perceptions of engineers' social competencies (estimated means, n=12)

No.	Competencies	Description	Result
1.	Written Communication	Expressing clearly and concise in writing	3,58
2.	Managing Communication	Arranging different communication channels and managing own Communications	3,75
3.	Verbal communication	Using effective verbal communication	3,75
4.	Teamwork	Working in teams, trusting and respecting other team members	3,98
5.	English knowledge	Speaking and writing fluent English	2,3

6.	Honesty	Demonstrating honesty – admitting owns and others mistakes	4,17
7.	Adaptability	Being flexible/adaptable in changing conditions	3,83
8.	Concern for others	Being concerned for the welfare of others in your team, group or Organization	4,23
9.	Negotiation	Negotiating, asserting, defending approaches, needs	3,87
10.	Coordinating	Coordinating the work of others	3,42
11.	Self- Management	Clear way of life, vision, target	3,88
12.	Leading	achieving cooperation, able to motivate and inspire others	3,54
13.	Supervising	Supervising work and people	3,33
14.	Mentoring	Mentoring co-workers	4,08
15.	Problem solving	Fast thinking to give problem solution	3,69

Source: Primary data modified from Ivanova (2012)

As shown from the results, these employers assessed that social competencies in most areas have high levels. Both speaking and writing in English consisting of ‘English knowledge’ competency had the lowest point of employer perceptions of industrial engineering graduates’ from UIN Sunan Kalijaga Yogyakarta.

In line with Industrial Engineering Department’s vision, “Unggul dan Terkemuka dalam penguasaan dan pengembangan Keilmuan Teknik Industri dan Nilai – Nilai Keislaman bagi peradaban” (*Being excellent and foremost in combination and development of Industrial Engineering Science and Islamic Values for civilization*), and the goal “Mencetak lulusan yang mampu berfikir secara kreatif, analitik, dan inovatif dalam menghadapi masalah dan mampu berinteraksi baik fungsional maupun kultural antara individu dengan lingkungannya melalui kemampuan di bidang keilmuan teknik industri yang dimilikinya dengan landasan nilai – nilai Islam” (*To generate the graduates that are capable of thinking creatively, analytically, and innovatively in facing any issues and capable of interacting both functionally and culturally between the individuals and their environment through the competency in industrial engineering science supported by Islamic values*), the biggest point of employer perception from the graduates is ‘Concern to Other’ (4,23). The second rank is Honesty (4,17).

This present study, indicating that the employers perception in this work in effect believed that all engineer social competencies listed (with the exception of *English Knowledge*, estimated mean 2, 3), had a good performance. In terms of graduates’ social competencies, the importance rankings of competencies provided some insights into these employers’ perceptions. The top 5 ranked competencies in order include: concerned to order (4.23), honesty (4.17), mentoring (4.08), teamwork (3.98) and negotiation (3.87).

5. CONCLUSIONS

Employers’ perception of social competencies from this study revealed that Industrial Engineering graduates’ from UIN Sunan Kalijaga have good performance, except on ‘English Knowledge’ competency. This competency becomes one of the main social competencies that Islamic engineers need to improve in future.

Further, it is acknowledged that the relatively low response rate means that there is a need to be cautious with any interpretation of these survey results. Finally, some limitations of this study, however, should be acknowledged. Furthermore, the size of the samples was small. Given that the employers’ placed emphasis on the importance of ‘social competencies’- soft skills, this suggests that traditional undergraduate degrees focused more on cognitive and technical development within a narrow discipline-based theoretical framework, might not be seen as capability to produce the well-rounded, multi-skilled, flexible and adaptable graduates as required by today’s business organizations. An important contribution that cooperative education programs

can make to students' future work life is to help them to understand that the workplace is simply a different learning institution. It is a place where the curriculum is un-stated and the learning outcomes unclear but, importantly, it is a place where they must take responsibility for identifying their own learning needs and then do something about it continuously.

AUTHOR BIOGRAPHIES

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