

Competencies for fresh graduates' success at work: Perspectives of employers

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Abstract

This article investigates Hong Kong employers' views on graduate competencies that facilitate new graduates' success in the workplace. The methodology involves the use of a questionnaire to elicit responses from business employers on the importance of specific competencies contributing to the success of fresh graduates at work. The findings indicate that all of the competencies examined are important to a degree. 'Ability and willingness to learn', 'teamwork and cooperation', 'hardworking and willingness to take on extra work', 'self-control' and 'analytical thinking' are the five highest-ranking competencies measured, although all are clearly necessary for success. Hard and soft skills are rated equally important by employers overall. Recommendations for developing competencies among university students prior to their entry to the workforce are discussed. As the competencies are of a practical nature, it is suggested that universities work together with industry to develop workplace-oriented programmes. This is the first research, to the authors' knowledge, that approaches desirable graduate competencies from the perspective of the skills gap in the context of Hong Kong.

Keywords

Competencies, employers, fresh graduates, hard skills, Hong Kong, soft skills

Scholars have argued that employers rely on employees to increase their competitiveness, because the quality of employee ability and outputs impact on overall organizational performance outcomes (Buller and McEvoy, 2012; Deaconu et al., 2014). They have urged organizations to develop strategies to enhance and exploit the strengths and abilities of the millennial generation (Jerome et al., 2014). In an empirical study, Hitt et al. (2001) further contend that human capital has a moderating and positive effect on a firm's performance. This supports the idea that acquiring competent people is of paramount importance to organizations. On the other hand, poor recruitment decisions are costly to employers (Newell, 2005) from both monetary

and non-monetary perspectives. Researchers, such as Pro-mís (2008), have stressed the importance to organizations of hiring people with the right competencies. Against this background, and with the increasing need for knowledge workers, the demand for competent fresh graduates – a key human resource – has grown substantially.

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A labour market with a high demand for knowledge workers can be found in Hong Kong. Hong Kong has an area of just over 1100 km² and possesses scarce natural resources (Li, 2009). It was ceded to Britain after the Opium War in 1842, but its sovereignty reverted to China on 1 July 1997. Hong Kong was ranked the third most competitive financial centre in the world in the 2018 Global Financial Centres Index (Yeandle, 2018), behind London and New York. It was ranked sixth on the Global Competitiveness Index in the *Global Competitiveness Report 2017–2018* compiled by the Geneva-based World Economic Forum (Schwab, 2018).

Hong Kong has a population of approximately 7.34 million. The size of the total labour force is about four million (Hong Kong Special Administrative Region, 2017b). Shifting from a manufacturing to a knowledge-based economy in the 1980s (Li, 2009), 95% of the GDP is attributable to the service industries (Shek et al., 2015). This creates a high demand for a skillful labour force with substantial differences in the type of skills needed in each sector (Wan, 2011).

In a survey soliciting responses from over 41,700 hiring managers in 42 countries, 65% of Hong Kong employers revealed that they faced severe talent shortage, ranking only behind Japan (83%) and Peru (68%) (ManpowerGroup, 2015). When asked why it was difficult to fill positions, 18% of the respondents commented that applicants lacked sufficient hard skills and 4% said that applicants had insufficient soft skills (ManpowerGroup, 2017). At the same time, 89% of fresh graduates in Hong Kong successfully find employment within 3 months. However, 14% of these new entrants fear that they will be unable to meet the increasing market demand with their current skill levels (HR in Asia, 2017). Overall, these responses indicate that Hong Kong has a skills gap problem.

In preparation for the new challenges of the 21st century, with its political, social and cultural changes, and international competitiveness, Hong Kong carried out a comprehensive review of its education system and instituted higher education reform in 2001. This reform was designed to increase higher education opportunities for young people. In 2017, 24.4% of the population were educated to first-degree level or above – a noticeable improvement on the 10.4% in 1998 (Hong Kong Special Administrative Region, 2014, 2017a). Wan (2011) argues that the purpose of this government policy was to address the mismatch between the knowledge and skill capabilities of the workforce and those required by businesses.

While students may rate their competency levels as high in general (Stewart et al., 2016), organizations tend to have a different perception (Mamun, 2011) and continue to demand ever higher standards. In turn, there is an increasing demand for universities to produce graduates who are more practically work-ready (Alhelalat, 2015; Jackson, 2010; Low et al., 2016; Poon, 2014). Thus, the aim of this study is to examine employers' opinions on the competencies that contribute to fresh graduates' success in the

workplace. To identify which competencies employers demand, this study solicits and analyses the responses of 260 employers in Hong Kong to a survey of 26 competencies identified in the literature.

Over the past decades, the way business operates has undergone drastic changes, driven principally by technological advancement and globalization. As a result of these changes, there is a greater need to examine the requirements of employers with regard to desirable employee competencies. This study contributes to the empirical literature on competencies in the workplace. First, this is one of the few articles to explore the validity of these competencies for success in the workplace from the perspective of Asian employers. Second, it contributes to our understanding of employers' views on competencies, which signals the qualities that are required for the contemporary workplace. The provision of such information may assist students and employees to develop the correct skill set for success at work. Third, through indicating the possible 'skills gap' currently in evidence among fresh graduates, the study highlights the need for competency development in the higher education curriculum.

Literature review

Definitions and categories of graduate competencies

Graduate competencies have gained increased attention from the public, professional bodies, higher education and researchers. McClelland (1973), an American psychologist, advocated the concept of competency as a means of describing the value of employees' abilities. Boyatzis (1982) and Spencer and Spencer (1993) refined the concept and proposed the theory of competency for application to business and education research.

'Competency' refers to visible elements (such as knowledge and skills) and the underlying characteristics (such as attitudes, traits and motives) (Boyatzis, 1982) that drive superior job performance (Fleming et al., 2009; Le Deist and Winterton, 2005; McLagan, 1997). In job settings, a list of competencies can be derived by analysing a job situation (Campion et al., 2011). The list should include the specific knowledge, skills and attitudes needed to perform the job effectively (Miller et al., 2012). Competencies can also describe what people know, what they are capable of doing and what they want to do (Ryan et al., 2009).

Scholars have attempted to classify competencies into two categories, 'hard' skills and 'soft' skills (Deaconu et al., 2014; Dunbar et al., 2016; Orr et al., 2011; Poon, 2014; Stewart et al., 2016). Hard skills are those connected with the technical aspects of acquiring the knowledge to perform a job (Matsouka and Mihail, 2016), and soft skills are those related to personal interaction and are behavioural in nature (Andrews and Higson, 2008). More specifically, soft skills denote the capabilities required for managing relationships among people (Rainsbury et al., 2002).

In their seminal study, Spencer and Spencer (1993) identified a number of generic competency categories, which they claimed accounted for 80–95% of superior performance in technical and management positions, irrespective of the type of business. The competency list, consisting of technical or hard skills and soft skills constituting the fundamentals in this research area, has been validated as a framework and widely adopted by researchers. That said, scholars have acknowledged that new competencies may emerge in a changing world, especially with advances in technology (e.g. Kafai and Pepler, 2011; Teixeira and Davey, 2010).

Graduate competencies and employability

For over four decades, this domain has attracted attention from scholars and practitioners, with research investigations in Australia (Dunbar et al., 2016), New Zealand (Low et al., 2016), North America (Campbell and Kresyman, 2015), Europe (Deaconu et al., 2014) and Asia (Wye and Lim, 2014). The specific subject areas studied include accounting and finance, engineering, hospitality, the service sector, social entrepreneurship and sports and recreation (e.g. Dunbar et al., 2016; Fleming et al., 2009; Ismail et al., 2011). Scholars argue that, while there may be contextual differences across the globe, there are similar expectations of and demands for the competencies that will enhance graduates' employability (Andrews and Higson, 2008).

Studies have attempted to unpack the demand of competencies at work in relation to how they contribute to work readiness, profitability and work performance. Fleming et al. (2009) conducted a study among industrial supervisors, students and graduates, who rated 24 competencies. They found that 'ability and willingness to learn', 'initiative' and 'personal planning and organizational skills' bore the highest ratings among the competencies students needed to master before starting their cooperative educational experiences. In response to a survey of employers conducted in Scotland, 'trustworthiness', 'reliability', 'motivation', 'communication skills' and 'willingness to learn' were considered the most important transferable skills when hiring graduates (McMurray et al., 2016).

Employers' views on graduate competencies

From the perspective of the workplace, Deaconu et al. (2014) reported that employers were most satisfied with graduates' abilities in 'assuming responsibility', 'efficient activity planning and organization' and 'promptness and efficient time management'. The results of content-analysed data collected through critical incident interviews on competencies by Ryan et al. (2012) indicate that the presence of skills in 'team leadership', 'achievement orientation', 'developing others' and 'impact and influence on others' predicts business profitability. Additionally, in the context of the supply chain industry, the skills that were

ranked most important for high performance by respondents in Rahman and Nie (2014) survey were 'team orientation', 'supply chain oriented knowledge', 'ability to see the big picture', 'cross-functional coordination skill' and 'negotiation skill'. These different studies reveal a clear gap between the competencies that graduates possess and the competencies that actually drive success in business.

Employers require graduates to have the fundamental technical skills necessary for their specific professions (Low et al., 2016). However, beyond that, studies have found that soft skills have been receiving greater attention in organizations (Stewart et al., 2016) and higher education (Pang and Hung, 2012). Based on data gathered from job advertisements placed in the careers section of newspapers, Dunbar et al. (2016) found that employers placed greatest emphasis on soft skills and discussed technical skills to a lesser extent. Further supporting this hypothesis, an online survey conducted in the United Kingdom concluded that human resource professionals were very impressed with graduates' technical skills, but expressed concerns about their soft skills and attributes (Poon, 2014). A study soliciting comments from the Romanian labour market revealed that employers viewed transversal competencies as more important than professional ones (Deaconu et al., 2014). In a study surveying 143 organizations, Jackson and Chapman (2012) found that students were confident and proficient on technical aspects but significantly deficient in managerial skill sets.

Researchers argue that soft skills are more important and are in higher demand by employers (Dunbar et al., 2016; Fleming et al., 2009; Orr et al., 2011; Poon, 2014; Stewart et al., 2016). However, in a qualitative study, Rainsbury et al. (2002) found that hard skills and soft skills were perceived to be equally important by graduates and students. This difference between employers and graduates and students in the perceived importance of skill sets for employability suggests that the employers' perspectives on hard and soft skills are worth studying. Moreover, as pressure on universities and other higher education institutions to prepare students for entering the labour market has increased, there has been a corresponding increase in attention to designing curricula that serve employers' requirements for graduates. To substantiate overall effectiveness, determining employers' views on competencies is essential. Therefore, the main objective of this article is to assess employers' comments on the competencies required in fresh graduates at work.

Method

Sample and procedure

This study employed a quantitative approach. Samples were 289 full-time employees of various organizations from Hong Kong who were attending two part-time

Table 1. Business sector of respondents' companies.

Sector	%	N
Business services	5.9	15
Construction/real estate	6.9	18
Creative industry	3.9	10
Education institute	2.0	5
Finance/insurance/banks	12.7	33
Food and beverages/hotels	5.9	15
Government department	3.9	10
High-tech/IT/telecoms	12.7	33
Import/export trade	3.9	10
Logistics	2.9	8
Manufacturing	13.7	36
Other	9.8	25
Retail/wholesale	11.8	31
Social, community and personal services	1.0	3
Trade processing	2.0	5
Transportation/storage	1.0	3
Total	100.0	260

evening executive MBA programmes at two government-funded universities. The programmes were accredited by the Association to Advance Collegiate Schools of Business (AACSB), an international accrediting body of professional schools with the aim of reinforcing the quality of management education at the collegiate level (Trapnell, 2007).

The participants were asked to volunteer for the study by completing a pen-and-paper questionnaire on behalf of their organizations. The questionnaire was accompanied by a cover letter explaining the purpose of the study and assuring respondents of the confidentiality of their responses. The net response from the MBA sample was 260 usable replies from a total of 289 invitations, yielding an overall response rate of 90%. The significantly high response rate was due to adopting the personal drop-off and pick-up method (Allred and Ross-Davis, 2011).

Demographic characteristics (such as gender, work experience, company's major business and company size) were elicited in the questionnaire. All respondents were full-time working adults, and 62% were male. They had an average of 12.2 years of full-time work experience. Table 1 shows the breakdown by sector of the organizations represented by the respondents. Of their employers, 32.8% had 1000 employees or more, while 34.7% had 99 employees or fewer; 11.9% of the companies indicated their geographical coverage as worldwide, while the rest said that their business was Asia-wide.

Measures

At first, 25 competencies were identified (adapted from Burchell et al., 2000; Coll and Zegwaard, 2006; Robinson et al., 2007; Spencer and Spencer, 1993), which were believed to be the required competencies for success in the

workplace. Within that set, the definition of one item, 'Language proficiency', was modified to suit the context of Hong Kong's bilingual labour market demand. Notably, scholars have argued that being hardworking and displaying a willingness to shoulder extra work are values shared in some Far Eastern cultures (Han and Altman, 2010; Lin, 1998; Matthews, 2000; Williams and Sandler, 1995). Thus, one additional item ('hardworking and willingness to take on extra work') was created by the authors to better capture the values of the Hong Kong work environment.

These 26 items (see Table 2) were deemed appropriate for gaining insights into how to lead fresh graduates to succeed in the workplace. The primary advantage of this framework is that each competency has been defined with descriptive behaviours, thereby providing a consistent ground for interpretation. On a 7-point Likert-type scale (1 = *not important at all*; 2 = *unimportant*; 3 = *little importance*; 4 = *neutral*; 5 = *quite important*; 6 = *important*; 7 = *essential*), respondents were asked to rate each of the competencies contributing to the success of fresh university graduates in work settings.

Rainsbury et al. (2002) adopted 24 competencies from Spencer and Spencer (1993) and grouped them into two categories – hard and soft skills. This study also adopts that categorization, separating the 26 competencies into hard and soft skills. The newly created item 'hardworking and willingness to take on extra work' and the item 'creativity, innovation and change', taken from Robinson et al. (2007) were categorized as soft skills. Table 2 shows the competencies, their descriptive behaviours and the categorization of hard and soft skills used in this study.

Results

Importance of competencies

The levels of importance of the competencies contributing to fresh graduates' success in the workplace are presented in Table 3. All items received a rating of above 5, except for 'impact and influence on others', 'directiveness' and 'developing others', which obtained mean scores slightly below 5.

The mean rating of the competencies was between 6.08 and 4.85. A mean of less than 3 was interpreted as being unimportant. The results indicated that, while all 26 competencies were rated as important to varying degrees, as revealed by their mean ratings, all competencies were perceived by employers as important to *some* degree, indicating that they all contribute to fresh graduates' success in the workplace.

The five most important competencies as rated by employers were 'ability and willingness to learn' (6.08), which was ranked as number 1 as per its mean rating, followed by 'teamwork and cooperation' (5.71), 'hardworking and willingness to take on extra work' (5.70),

Table 2. Competencies and descriptive behaviours.

Competency	Descriptive behaviour
Hard skills	
1. Analytical thinking	Thinking for self, reasoning, practical intelligence, planning skills, problem analysing, systematic
2. Computer literacy	Able to operate multiple suites and operating systems, information management awareness
3. Conceptual thinking	Pattern recognition, insight, critical thinking, problem definition, can generate hypotheses, linking
4. Language proficiency	Chinese language proficiency, English language proficiency
5. Organizational awareness	Understands organization, knows constraints, power and political astuteness, cultural knowledge
6. Personal planning and organizational skills	Ability to schedule, anticipate problems, think ahead, methodical, systematic
7. Technical expertise	Job-related technical knowledge and skills, depth and breadth, acquires expertise, donates expertise
Soft skills	
8. Ability and willingness to learn	Desire and aptitude for learning, learning as a basis for action
9. Achievement orientation	Task accomplishment, result seeking, employs innovation, competitive, seeks impact, aims for standards and efficiency
10. Concern for order, quality and accuracy	Monitoring, concern for clarity, reduces uncertainty, manage events and issues
11. Creativity, innovation and change	Generates new ideas, inspires, thinks outside of the box, mindset for change
12. Customer service orientation	Service-oriented, focus on client needs, actively solves client problems
13. Developing others	Training, coaching, mentoring, providing support, positive attitude
14. Directiveness	Assertiveness, decisiveness, use of power, taking charge, firmness of standards, group control and discipline
15. Flexibility	Adaptability, perceptual objectivity, remaining objective, resilience, behaviour contingent on situation
16. Hardworking and willingness to take on extra work	Goes the extra mile, provides assistance, willing to work overtime, performs tasks outside job scope
17. Impact and influence on others	Strategic influence, impression management, showmanship, persuasion, collaborative influence
18. Information seeking	Problem definition, diagnostic focus, looking deeper, contextual sensitivity
19. Initiative	Bias for action, decisiveness, strategic orientation, proactive, seizes opportunities, self-motivation, persistence
20. Interpersonal understanding	Empathy, listening, sensitivity to others, diagnostic understanding, awareness of others' feelings
21. Organizational commitment	Aligns self and others to organizational needs, business-mindedness, self-sacrificing
22. Relationship building	Networking, establishes rapport, use of contacts, concern for stakeholders (e.g. clients)
23. Self-confidence	Strong self-concept, internal locus of control, independence, positive ego strength, decisive, accepts responsibility
24. Self-control	Stamina, resistance to stress, stays calm, high emotional quotient, resists temptation, not impulsive, can calm others
25. Team leadership	In charge, vision, concern for subordinates, builds a sense of group purpose
26. Teamwork and cooperation	Fosters group facilitation and management, conflict resolution, motivation of others, creates positive workplace climate

‘self-control’ (5.70) and ‘analytical thinking’ (5.67). ‘Impact and influence on others’, ‘directiveness’ and ‘developing others’ were rated as the least important. Figure 1 shows the ranking in the order of mean scores.

Comparison of hard and soft skills

To garner further meaning from the survey results, the perceived importance of hard skills was compared with that

of soft skills. Table 4 shows the mean difference between hard skills (19 items, mean = 5.3114) and soft skills (7 items, mean = 5.3953).

Independent-samples *t*-tests are used to compare the means between two unrelated groups on the same continuous, dependent variable. An independent-samples *t*-test was performed, but the differences were not statistically significant at the 0.05 or 0.01 α level, thereby confirming that both hard skills and soft skills were perceived to be equally important (Tables 4 and 5).

Table 3. Descriptive statistics.

	N	Minimum	Maximum	Mean	Standard deviation
Ability and willingness to learn	260	2	7	6.08	0.975
Achievement orientation	260	2	7	5.55	0.975
Analytical thinking	260	2	7	5.67	0.981
Computer literacy	260	2	7	5.19	1.014
Conceptual thinking	260	3	7	5.39	0.990
Concern for order, quality and accuracy	260	2	7	5.44	0.946
Creativity, innovation and change	260	2	7	5.21	1.060
Customer service orientation	260	2	7	5.41	1.092
Developing others	260	1	7	4.85	1.191
Directiveness	260	1	7	4.94	1.197
Flexibility	260	2	7	5.42	0.985
Hardworking and willingness to take on extra work	260	1	7	5.70	1.095
Impact and influence on others	260	1	7	4.96	1.143
Information seeking	260	3	7	5.32	0.922
Initiative	260	3	7	5.50	0.996
Interpersonal understanding	260	2	7	5.50	0.948
Language proficiency	260	2	7	5.56	1.010
Organizational awareness	260	2	7	5.05	0.971
Organizational commitment	260	1	7	5.23	1.035
Personal planning and organizational skills	260	2	7	5.20	0.983
Relationship building	260	2	7	5.33	1.017
Self-confidence	260	2	7	5.52	1.023
Self-control	260	3	7	5.70	0.935
Team leadership	260	1	7	5.14	1.174
Teamwork and cooperation	260	2	7	5.71	0.970
Technical expertise	260	1	7	5.12	1.035
Valid N (listwise)	260				

Discussion

Employers are arguably the primary experts on what competencies are most needed in the workplace. Including their views in an analysis of the importance of competencies can generate insights for universities with respect to their strategies for developing students and improving graduate employability. Hence, this article explores employers' views on the perceived importance of 26 competencies and expands the dimensions of analysis by comparing the overall importance of hard and soft skills.

As has been noted, the findings show that employers rated all competencies as important to varying degrees, but, as detailed above, 'ability and willingness to learn',

'teamwork and cooperation', 'hardworking and willingness to take on extra work', 'self-control' and 'analytical thinking' were ranked as the top five competencies – all five are categorized as soft skills (Rainsbury et al., 2002). However, as we have seen, statistical analysis supports neither the hard nor the soft category as being more important than the other.

The relatively low importance attached to 'impact and influence on others', 'directiveness' and 'developing others', which were ranked lowest, is probably explicable by the fact that fresh graduates are typically hired for entry-level positions. Employers expect them to be employment-ready, capable of working with others and with minimum supervision (Andrews and Higson, 2008). However, although employers may also expect fresh graduates to possess leadership potential, they may well not have an immediate need for fresh graduates to take on leadership roles.

One method of developing these skills among students is to expose them to real work environments (Jackling and Natoli, 2015). Through strategic partnerships with industry, universities have instituted programmes to expose students to the workplace, thereby reducing the initial shock of a reality quite different from that of academia. These experiences may be described as 'practicum', 'gap-year', 'internship', 'cooperative educational experience' or 'work-integrated learning' (Hascher et al., 2004; Knouse and Fontenot, 2008; Martin et al., 2012). The commonality between them is that students are immersed in a work environment, arranged or endorsed by their university, to experience the routines of employment.

An example of programmes that place great emphasis on real work experience is the apprenticeships scheme in the United Kingdom. Apprenticeships are paid jobs that incorporate on- and off-the-job training covering the full range of industry activity (Delebarre, 2015). Apprenticeship programmes enable an apprentice to work towards the completion of certain qualifications (Hasluck and Hogarth, 2010). In the 1996–1997 academic year, about 50,000 apprenticeships were started; in 2014–2015, that figure had increased to 499,900 (Delebarre, 2015). Furthermore, the UK government has set an ambitious target of three million new apprenticeships by 2020 (Powell, 2018), meaning that one in five new job starters will be apprentices (White, 2017). These figures and targets demonstrate the perceived demand for this type of education, as well as paying tribute to the success of the programme and highlighting the feasibility of instituting similar schemes in other international labour markets.

Despite the different formats, all these programmes suffer from inherent challenges (Billett, 2009; Freudenberg et al., 2011; McLennan and Keating, 2008). The more conspicuous of these challenges are a lack of interest in coaching student participants, leading to an unsatisfactory experience; disinterested student participants not

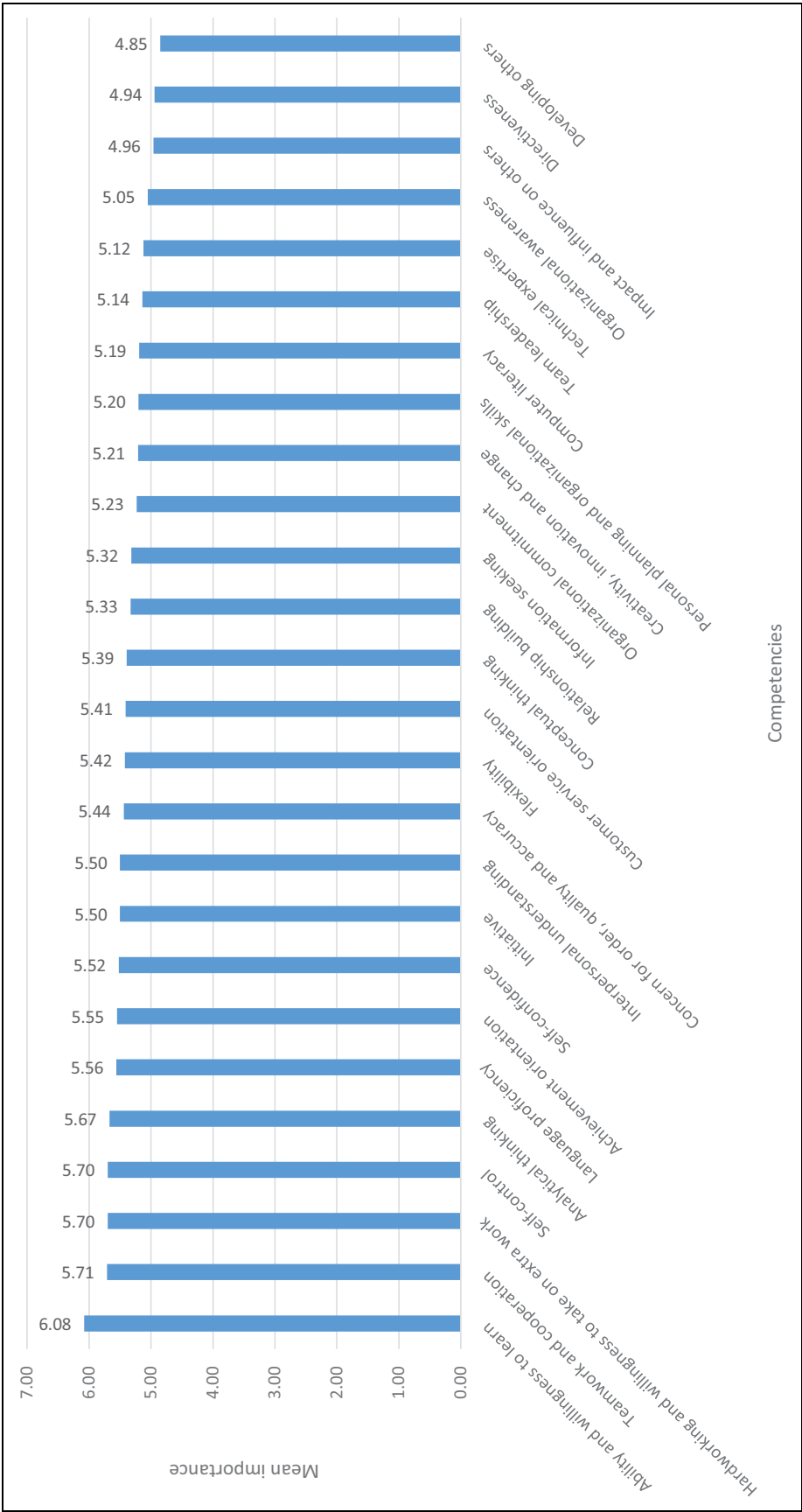


Figure 1. Descriptive statistics.

Table 4. Results of independent samples *t*-test group statistics.

	<i>N</i>	Mean	Standard deviation	Standard error of mean
Hard skills	7	5.3114	0.23405	0.08846
Soft skills	19	5.3953	0.30264	0.06943

accustomed to workplace etiquette resulting in frustrated employers; student participants lacking the necessary skills to meet the required standards; unsuitable work environments; and an unwillingness to compensate student participants meaningfully.

Perhaps the better kind of industry–university model in this context would be one in which both employer and student participant were highly motivated and committed to the placement. This model, based on strong mutual cooperation, might require students to spend about a third of their university life in a workplace and to be paid a market-rate salary. Incoming students would spend their first year on campus, then interview competitively for a job in their field of study starting in the second year. They would then alternate between study and work terms until graduation. The study terms would allow students to assimilate practice with theory, while the work terms would enable them to apply theory to practice. They would be required to perform well both at university and in the workplace.

By the time students graduated, they would have accumulated approximately 2 years of solid work experience and would have been paid enough to leave them debt-free. At the same time, their future employability would be more or less assured, due to the exposure, training and achievements gained through the co-op employment. Indeed, this refining process of study and work over five or six cycles should result in a competent graduate who not only possesses academic skills but has advanced business acumen with some two solid years of experience in a relevant field. The iterative process of work and study is the impetus behind the effectiveness of such a programme.

For such a programme to be truly feasible, solid support from industry is key. Employers would have to be convinced of the ability of the potential student participants to contribute to their businesses before they would pay a market-rate salary or assign meaningful work. This confidence would need to be developed over time, as the law of probabilities dictates the occasional misfit. In some countries, the government might also contribute to cooperative education programmes by granting a tax subsidy to businesses hiring student participants, on the condition that they be assigned relevant and meaningful responsibilities. Such tax incentives would probably be the single greatest motivator for hiring students.

The university, in turn, needs to fulfill its role in the triangular relationship: admission standards are the gatekeeper for producing co-op students of a consistent and high caliber. Second, the academic curriculum needs to provide sufficient latitude for reflection and the application of learning from work experiences. This in turn should improve the co-op student's performance in the next work cycle.

The United Kingdom, as mentioned above, provides a useful example of the potential of such a programme, blending academic learning, workplace experience and government support, with its apprenticeships scheme. Apprenticeship training in the United Kingdom is delivered at three different levels – ‘foundation’, ‘advanced’ and ‘higher’. Introduced in 2015, ‘degree apprenticeships’ are higher apprenticeships which allow participants to earn a bachelor's or master's degree while being employed full-time and securing at least an apprentice's minimum wage (Bishop and Hordern, 2017; Rowe et al., 2016). Importantly, the government funds apprenticeship training in England. Effective May 2017, if an employer trains an apprentice and pays the levy arising from apprenticeships, the employer receives full funding support from the government. If an employer does not pay the levy and would like to train an apprentice, the employer will need to co-invest 10% and can claim government funding to cover the remaining 90% of the costs. The aim of this mechanism is to create an apprenticeship system with high commitment

Table 5. Statistical relationship between importance of hard and soft skills.

	Levene's test for equality of variances		t-Test for equality of means						
	<i>F</i>	Significance	<i>T</i>	<i>df</i>	Significance (2-tailed)	Mean difference	Standard error difference	95% confidence interval of the difference	
Equal variances assumed	0.198	0.660	−0.661	24	0.515	−0.08383	0.12691	−0.34577	0.17810
Equal variances not assumed			−0.745	13.909	0.468	−0.08383	0.11246	−0.32518	0.15751

Note: *N* = 260.

p* < 0.05; *p* < 0.01.

from employers (Department for Education, 2016). Moreover, these degrees are co-designed by institutions and employers to ensure that students gain the competencies most desired in their respective industries, thereby significantly enhancing their competitiveness in the labour market. In testament to the success of the programme, as of the 2017–2018 academic year, there were over 7600 degree apprenticeships – a noteworthy increase from the tens originally on offer (Higher Education Funding Council for England, 2017).

Conclusion

With the increasing demands from employers of fresh graduates comes an increasing need for a better understanding of graduate competency requirements. From the survey conducted, it is apparent that employers in Hong Kong desire a diverse range of competencies in fresh graduates and rate all 26 competencies listed in the survey as important to some degree for graduates' success in the workplace. Through collaboration between universities and industry, these needs of the labour market may be developed and nurtured in students, with the ultimate goal of producing capable and competent graduates who possess the skills necessary to contribute to and advance companies' competitiveness. With examples of apprenticeship programmes (such as that in the United Kingdom) readily available, universities, ideally supported by government, can study, learn and then develop and implement similar programmes with a clear focus on the competencies demanded by employers.

This is the first study, to the authors' knowledge, that approaches desirable graduate competencies from the perspective of employers in the context of Hong Kong. This context should be taken into account when making comparisons with other studies relating to graduate competencies. However, as a new study on the subject in Hong Kong, these findings offer interesting insights, given that the Hong Kong context has its peculiarities.

The study does have some limitations. It is based on a cross-sectional survey methodology covering a relatively small sample size. Qualitative research is therefore desirable, taking into account the larger context with greater nuance. It will also be necessary to replicate this study with samples from other developed knowledge economies, such as Singapore or Japan, if the research is to be generalized to any extent.

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References

- Alhelalat J (2015) Hospitality and non-hospitality graduate skills between education and industry. *Journal of Business Studies Quarterly* 6(4): 46–55.
- Allred SB and Ross-Davis A (2011) The drop-off and pick-up method: an approach to reduce nonresponse bias in natural resource surveys. *Small-Scale Forestry* 10(3): 305–318.
- Andrews J and Higson H (2008) Graduate employability, 'soft skills' versus 'hard' business knowledge: a European study. *Higher Education in Europe* 33(4): 411–422.
- Billett S (2009) Realising the educational worth of integrating work experiences in higher education. *Studies in Higher Education* 34(7): 827–843.
- Bishop D and Hordern J (2017) *Degree Apprenticeships: Higher Technical or Technical Higher (Education)?* London: Gatsby Charitable Foundation.
- Boyatzis RE (1982) *The Competent Manager*. New York: John Wiley & Sons.
- Buller PF and McEvoy GM (2012) Strategy, human resource management and performance: sharpening line of sight. *Human Resource Management Review* 22(1): 43–56.
- Burchell N, Hodges D and Rainsbury E (2000) What competencies do business graduates require? Perspectives of New Zealand stakeholders. *Journal of Cooperative Education* 35(2–3): 11–20.
- Campbell C Jr, and Kresyman S (2015) Aligning business and education: 21st century skill preparation. *E-Journal of Business Education & Scholarship of Teaching* 9(2): 13–27.
- Campion MA, Fink AA, Ruggeberg BJ, et al. (2011) Doing competencies well: best practices in competency modeling. *Personnel Psychology* 64(1): 225–262.
- Coll RK and Zegwaard KE (2006) Perceptions of desirable graduate competencies for science and technology new graduates. *Research in Science and Technological Education* 24(1): 29–58.
- Deaconu A, Osoian C, Zaharie M, et al. (2014) Competencies in higher education system: an empirical analysis of employers' perceptions. *Amfiteatru Economic* 16(37): 857–873.
- Delebarre J (2015) *Apprenticeship Statistics: England, 1996–2015*. Briefing Paper No. 06113, 5 January 2015. London: House of Commons Library.
- Department for Education (2016) *Implementing the Further Education and Skills Reform Programme – DfE Brief on Progress for FE Governors and Leaders*. London: Crown.
- Dunbar K, Laing G and Wynder M (2016) A content analysis of accounting job advertisements: skill requirements for graduates. *E-Journal of Business Education & Scholarship of Teaching* 10(1): 58–72.
- Fleming J, Martin AJ, Hughes H, et al. (2009) Maximizing work integrated learning experiences through identifying graduate competencies for employability: a case study of sport studies in higher education. *Asia-Pacific Journal of Cooperative Education* 10(3): 189–201.

- Freudenberg B, Brimble M and Cameron C (2011) WIL and generic skill development: the development of business students' generic skills through work-integrated learning. *Asia-Pacific Journal of Cooperative Education* 12(2): 79–93.
- Han Y and Altman Y (2010) Confucian moral roots of citizenship behaviour in China. *Asia-Pacific Journal of Business Administration* 2(1): 35–52.
- Hascher T, Cocard Y and Moser P (2004) Forget about theory – practice is all? Student teachers' learning in practicum. *Teachers and Teaching* 10(6): 623–637.
- Hasluck C and Hogarth T (2010) The net benefits to employers' investments in apprenticeships: Case study evidence from the UK. *The Canadian Apprenticeship Journal* 2: 1–28.
- Higher Education Funding Council for England (2017) *Degree Apprenticeships: Realising Opportunities*. Universities UK. Available at: <http://www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2017/degree-apprenticeships-realising-opportunities.pdf> (accessed 20 March 2018).
- Hitt MA, Bierman L, Shimizu K, et al. (2001) Direct and moderating effects of human capital on strategy and performance in professional service firms: a resource-based perspective. *Academy of Management Journal* 44(1): 13–28.
- Hong Kong Special Administrative Region (2014) *Statistics on Students in Higher Education Institutions Funded through the University Grants Committee*. Hong Kong: Census and Statistics Department.
- Hong Kong Special Administrative Region (2017a) *Distribution of Education Attainment of Population Aged 15 and Over*. Hong Kong: Census and Statistics Department.
- Hong Kong Special Administrative Region (2017b) *Hong Kong Labour Force Projections for 2017 to 2066*. Hong Kong: Census and Statistics Department.
- HR in Asia (2017) 89% Fresh graduates in Hong Kong secure a job within 3 months and monthly salary of HK\$14,685. Available at: <http://www.hrinasia.com/hr-news/89-fresh-graduates-in-hong-kong-secure-a-job-within-3-months-and-monthly-salary-of-hk14685/> (accessed 16 April 2018).
- Ismail R, Yusoff I and Sieng LW (2011) Employers' perceptions on graduates in Malaysian services sector. *International Business Management* 5(3): 184–193.
- Jackling B and Natoli R (2015) Employability skills of international accounting graduates: internship providers' perspectives. *Education + Training* 57(7): 757–773.
- Jackson D (2010) An international profile of industry-relevant competencies and skill gaps in modern graduates. *International Journal of Management Education* 8(3): 29–58.
- Jackson D and Chapman E (2012) Non-technical skill gaps in Australian business graduates. *Education + Training* 54(2/3): 95–113.
- Jerome A, Scales M, Whithem C, et al. (2014) Millennials in the workforce: Gen Y workplace strategies for the next century. *E-Journal of Social & Behavioural Research in Business* 5(1): 1.
- Kafai YB and Peppler KA (2011) Youth, technology, and DIY: developing participatory competencies in creative media production. *Review of Research in Education* 35(1): 89–119.
- Knouse SB and Fontenot G (2008) Benefits of the business college internship: a research review. *Journal of Employment Counseling* 45(2): 61–66.
- Le Deist FD and Winterton J (2005) What is competence? *Human Resource Development International* 8(1): 27–46.
- Li H (2009) *Village China Under Socialism and Reform: A Micro-History, 1948–2008*. Stanford: University Press.
- Lin CYY (1998) Success factors of small-and medium-sized enterprises in Taiwan: an analysis of cases. *Journal of Small Business Management* 36(4): 43.
- Low M, Botes V, Dela Rue D, et al. (2016) Accounting employers' expectations – the ideal accounting graduates. *E-Journal of Business Education & Scholarship of Teaching* 10(1): 36–57.
- McClelland DC (1973) Testing for competence rather than for 'intelligence'. *American Psychologist* 28(1): 1.
- McLagan PA (1997) Competencies: the next generation. *Training and Development* 51(5): 40–48.
- McLennan B and Keating S (2008) Work-integrated learning (WIL) in Australian universities: the challenges of mainstreaming WIL. In: *ALTC NAGCAS national symposium on Career Development Learning: Maximising the Contribution of Work-integrated Learning (WIL) to the Student Experience*. Melbourne, Australia, pp. 2–14.
- McMurray S, Dutton M, McQuaid R, et al. (2016) Employer demands from business graduates. *Education + Training* 58(1): 112–132.
- Mamun M (2011) Quality of private university graduates of Bangladesh: the employers' perspective. *South Asian Journal of Management* 18(3): 48–68.
- ManpowerGroup (2015) *2015 Talent Shortage Survey*. Available at: <https://www.manpowergroup.com/talent-shortage-2015/talent+shortage+results> (accessed 18 April 2018).
- ManpowerGroup (2017) *2016–2017 Talent Shortage Survey*. Available at: <https://www.manpower.com.hk/Upload/201611/685b8357-b3df-4c88-8428-b992e54e6bcc.pdf> (accessed 18 April 2018).
- Martin A, Rees M, Edwards M, et al. (2012) An organization overview of pedagogical practice in work-integrated education. *Asia-Pacific Journal of Cooperative Education* 13(1): 23–37.
- Matsouka K and Mihail DM (2016) Graduates' employability: what do graduates and employers think? *Industry and Higher Education* 30(5): 321–326.
- Matthews BM (2000) *The Chinese Value Survey: An Interpretation of Value Scales and Consideration of Some Preliminary Results*. Adelaide: Shannon Research Press <https://ehlt.flinders.edu.au/education/iej/main/mainframe.htm>.
- Miller T, Wesley CL II and Williams DE (2012) Educating the minds of caring hearts: comparing the views of practitioners and educators on the importance of social entrepreneurship competencies. *Academy of Management Learning & Education* 11(3): 349–370.
- Newell S (2005) Recruitment and selection. In: Bach S (ed), *Managing Human Resources: Personnel Management in Transition*, 4th ed. Malden: Blackwell, pp.115–147.

- Orr C, Sherony B and Steinhaus C (2011) Employer perceptions of student informational interviewing skills and behaviors. *American Journal of Business Education* 4(12): 23–32.
- Pang E and Hung H (2012) Designing and evaluating a personal skills development programme for management education. *Journal of College Teaching and Learning (Online)* 9(3): 159.
- Poon J (2014) Do real estate courses sufficiently develop graduates' employability skills? Perspectives from multiple stakeholders. *Education + Training* 56(6): 562–581.
- Powell A (2018) *Apprenticeship statistics: England*. Briefing Paper No. 06113, 25 January 2018. London: House of Commons Library.
- Promis P (2008) Are employers asking for the right competencies? A case for emotional intelligence. *Library Leadership & Management* 22(1): 24–30.
- Rahman S and Nie Q (2014) Graduate students' perceptions of supply chain skills for supply chain managers. *Benchmarking* 21(2): 276–299.
- Rainsbury E, Hodges D, Burchell N, et al. (2002) Ranking workplace competencies: student and graduate perceptions. *Asia-Pacific Journal of Cooperative Education* 3(2): 9–18.
- Robinson J, Garton B and Vaughn P (2007) Becoming employable: a look at graduates' and supervisors' perceptions of the skills needed for employment. *North American Colleges and Teachers of Agriculture Journal* 51(2): 19–26.
- Rowe L, Perrin D and Wall T (2016) The chartered manager degree apprenticeship: trials and tribulations. *Higher Education, Skills and Work-Based Learning* 6(4): 357–369.
- Ryan G, Emmerling RJ and Spencer LM (2009) Distinguishing high-performing European executives: the role of emotional, social and cognitive competencies. *Journal of Management Development* 28(9): 859–875.
- Ryan G, Spencer LM and Bernhard U (2012) Development and validation of a customized competency-based questionnaire: linking social, emotional, and cognitive competencies to business unit profitability. *Cross Cultural Management* 19(1): 90–103.
- Schwab K (2018) *The Global Competitiveness Report*. World Economic Forum. Available at: <http://www3.weforum.org/docs/GCR2017-2018/05FullReport/TheGlobalCompetitivenessReport2017%E2%80%932018.pdf> (accessed 16 April 2018).
- Shek DT, Chung PP and Leung H (2015) Manufacturing economy vs. service economy: implications for service leadership. *International Journal on Disability and Human Development* 14(3): 205–215.
- Spencer LM and Spencer SM (1993) *Competence at Work*. New York: John Wiley and Sons.
- Stewart C, Wall A and Marciniak S (2016) Mixed signals: do college graduates have the soft skills that employers want? *Competition Forum* 14(2): 276–281.
- Teixeira AA and Davey T (2010) Attitudes of higher education students to new venture creation: the relevance of competencies and contextual factors. *Industry and Higher Education* 24(5): 323–341.
- Trapnell JE (2007) AACSB International accreditation: the value proposition and a look to the future. *Journal of Management Development* 26(1): 67–72.
- Wan C (2011) Reforming higher education in Hong Kong towards post-massification: the first decade and challenges ahead. *Journal of Higher Education Policy and Management* 33(2): 115–129.
- White H (2017) Apprenticeships are here. *Radiography* 23: S5–S6.
- Williams S and Sandler RL (1995) Work values and attitudes: Protestant and Confucian ethics as predictors of satisfaction and commitment. *Research and Practice in Human Resource Management* 3(1): 1–13.
- Wye CK and Lim YM (2014) Analyzing skill profile among business graduates: is it generic or specific? *International Journal of Business, Economics and Management* 1(5): 57–71.
- Yeandle M (2018) *The Global Financial Centres Index 23*. China Development Institute. Available at: http://www.longfinance.net/images/gfci/GFCI_23.pdf (accessed 16 April 2018).