

# **Graduate work-readiness in the Asia-Pacific region: Perspectives from stakeholders and the role of HRM**

## **Abstract**

**Purpose** – This paper focuses on graduate work-readiness challenges in three Asia Pacific economies (Malaysia, Indonesia and Australia), from the perspectives of three stakeholders (government, employers and industry). A stakeholder-oriented HRM model is proposed to assist the various stakeholder groups in addressing the challenges identified.

**Design/methodology/approach** – Qualitative methods were used, comprising interviews and focus groups within. Stakeholder-oriented HRM theory underpins the conceptual framework.

**Findings** – All three countries report difficulties attracting graduates with the requisite portfolio of qualifications, skills and personal capabilities. The reported effects of these challenges include: constraints on national economic growth, future production structures and long-term socio-economic development. Based on a review of the work-readiness and stakeholder-oriented HRM theory literature, it is posited that graduate work-readiness challenges may be addressed by HR professionals in partnership with other key stakeholders.

**Social implications** – Bridging the graduate skills gap between government, employers and educational institutions is an important area in which HR professionals can contribute by reducing the mismatch between demand and supply through influencing and balancing the interests and needs of key stakeholders.

**Originality/value** – This study contributes to the extant literature on the topic of graduate work readiness. It explores the potential roles of multiple stakeholders with suggestions to address their challenges in selected Asia Pacific regions.

**Key Words:** Asia Pacific, higher education, human resource management, stakeholder-oriented HRM, work-readiness

(We acknowledge funding support for this research from the Asia Business Centre, Curtin University)

## Introduction

The number of Asia Pacific employers reporting difficulties due to a lack of qualified talent has risen from 45 per cent in 2014 to 48 per cent in 2015. This is the second highest increase since 2006 according to Manpower report (2015). Other regional studies have revealed skills gaps in various occupations and industry sectors, notably in relation to skilled trades, sales representatives, engineers, technicians, accountants, information technology workers and managerial categories (Manpower, 2015; Montague, 2013; Nankervis et al., 2012). Brown et al. (2011, p.46) suggest that ‘only 13% of university graduates’ from the twenty-eight low-wage Asian nations were considered to have the required skills and competencies required for their jobs. This notion of ‘suitability’, or underdeveloped work competencies, emphasises the desire for graduates to possess a range of generic skills and attributes that ensure that they are “ready” for the workforce (Casner-Lotto et al., 2006; Goldin, 2015).

There have been various terms used to define work-readiness, including: ‘graduate skills’ and/or ‘graduate attributes’ (Barrie, 2004; Harvey et al., 1992; Yorke & Harvey, 2005) ‘graduate-ness’, (UK Higher Education Quality Council, 1995, 1997; Walsh & Kotzee, 2010), ‘graduate identity’ (Hinchliffe and Jolly, 2011; Holmes, 2013;), ‘graduate pre-professional identity’ (Jackson, 2016a) and ‘graduate capital’ (Tomlinson, 2017). This paper uses the term ‘graduate work-readiness’ as it encompasses both the perceived needs of employers and the competencies desired by graduates, and it is arguably broader than ‘job readiness’. ‘Graduates’ include both vocational and higher education graduates.

Whilst some industry studies have reported gaps in the work-readiness skills required by Asia Pacific graduates, few scholarly studies have been conducted in the region, and even fewer have examined their specific skills deficiencies (Cameron et al., 2015; Burgess et al., 2018). Thus, this paper analyses the nature and scope of graduate work-readiness challenges (in terms of the critical ‘competencies’ required by graduates to enter the workforce). It focuses on three Asia Pacific economies-namely, Malaysia, Indonesia, and Australia. These countries are all part of the group referred to as ‘ASEAN plus six’, currently working towards a *Regional Comprehensive Economic Partnership* (RCEP), which aims to integrate the existing free trade agreements between the ASEAN bloc and its Plus Six partners (Wilson, 2016). Specifically, this study focuses on the causes of work readiness challenges; and potential collaborative strategies to address them, through the perspectives of three main stakeholder representative groups (government, industry and educational institutions). These three inter-related economies were chosen because they share the same region, face similar challenges with respect to graduate work-readiness, and have taken different approaches to address those challenges. Moreover, they are regional competitors and trading partners. Many Malaysian and Indonesian students undertake their higher education studies in Australian institutions, and some Australian universities have off-shore campuses in Malaysia and Indonesia.

This study extends stakeholder theory concepts in relation to strategic human resource management (SHRM) theory by proposing the use of multiple respondents (Boselie et al., 2009; Guerci and Shani, 2013; Ulrich 2012), as a way of investigating the effectiveness of HRM systems from the perspectives of multiple actors (in this case, national governments, employers and educational systems). A new ‘inside-out’ paradigm (in contrast to Ulrich’s ‘outside-in’ perspective – Ulrich 2012) is introduced in this paper to clarify the analysis. Whereas Ulrich’s focus is on the need for HRM professionals to incorporate external environmental (‘outside’) factors in their internal organisational (‘in’) strategies, planning, systems and processes; this paper emphasises the complementary imperative for HR professionals to contribute their accumulated knowledge and experience from (‘inside’) to the external environmental graduate work-readiness strategies, policies and processes (‘out’) of the three key stakeholders.

### **Work-readiness**

The concept of work-readiness (especially among graduates) has increasingly become the subject of global discourse, with organisations attaching more importance to this key labour market requirement (Goldin, 2015). Mason et al. (2006) describe work-readiness as the ‘possession of the skills, knowledge, attitudes and commercial understanding that will enable new graduates to make productive contributions to organisational objectives *soon after commencing employment*’ (pp. 2-3). They further suggest that numeracy, literacy, information technology, general communication, problem-solving and teamwork; together with ‘learning how to learn’ and ‘understanding the world of work’ are key competencies for all new job applicants. The OECD’s definition is simpler and more direct – namely, ‘the right skills mix not only for the present but also for the *future needs of dynamic labour markets*’ (OECD, 2011, p.11). The OECD categorises these competencies as foundation skills (literacy and numeracy), higher level cognitive capabilities (problem-solving and analytical), interpersonal skills (communication), teamwork and negotiation, technological flexibility, learning skills, creativity and entrepreneurship (OECD 2011, pp. 14-15). Definitions outlined by Connell and Burgess (2006, p. 499) are compatible with these competencies, but also emphasise the importance of competence ‘portability’ and ‘transferability’, allowing graduates to easily move within or between industry sectors. Following an extensive study of undergraduate business programs in Australian and UK universities, Jackson and Chapman (2012, pp.548-551) compiled a comprehensive taxonomy of graduate competencies. These include skills such as business principles, core business skills, critical thinking skills, problem-solving, and many more that are considered to be ‘requisite for successfully and innovatively applying disciplinary knowledge in the workplace’ (p. 541).

While most of the competencies identified by Jackson and Chapman (2012) are regarded as what is commonly referred to as soft skills, Nilsson (2010) maintains that work-ready competencies represent ‘both hard and soft skills, including formal competencies, interpersonal skills and personal characteristics’ (p. 540). Mitchell et al. (2010), in common with Jackson and Chapman (2012), consider specific work-readiness skills to be general communication, oral communication, written communication, general ethics, teamwork, diversity, time management, problem-solving, customer service, leadership and ‘business etiquette’ (pp. 48-9). Andrew and Higson (2008) also

propose the need for graduates to possess professionalism, reliability; ability to cope with uncertainty and be able to work under pressure as well as skills in planning and strategic thinking; written and verbal communication, self-confidence, good self-management and have a willingness to learn (p. 413). Di Gropello et al. (2011) further list job-specific skills plus behavioural skills, referring to the need for client orientation, teamwork, innovation, information technology and managerial competencies (services); negotiation, and language skills, amongst others (pp. 6-10).

Whilst debates continue in the extant literature, there is no universal template for determining exactly what and which types of ‘work-readiness’ skills are essential for specific graduate careers (Barrie et al., 2009). Jackson (2016a) contends that the conceptualisation of graduate work-readiness is unrealistic, arguing that it should extend beyond the skills-list approach, which is too narrow and does not fully capture the complexity of the concept. Jackson (2016b) further maintains that, graduate work-readiness should encompass the construction of a pre-professional identity (PPI), or an understanding of and connection with the skills, qualities, conduct, culture and ideology of a graduate’s intended profession. Currently, student identity and graduate attributes are perceived as quite separate (Daniels and Brooker, 2013), Trede et al’s (2012) study links aspects of PPI formation in vocational and higher education with work-readiness among graduates, identifying ‘learning professional roles, understanding workplace cultures, commencing the professional socialisation process and educating towards citizenship’ (p. 365) as key areas of overlap. Daniels and Brooker (2013) claim that, to address the gap between graduate attributes and student identity, efforts are needed to reframe graduate identity as shaped by graduate attributes in terms of an ongoing identity development occurring throughout graduates’ educational experience.

To date discussion suggests that the “required” competencies are contested, that they change over time and that they are context-specific (occupation, industry and country). A key theme of this paper is that effective approaches to the development of graduate work-readiness competencies, in both theory and practice, are heavily reliant on collaborative strategies which integrate the actions of HR professionals in relation to the three key stakeholders (namely, governments, employers and educational institutions). Hence, the following section briefly discusses stakeholder-oriented HRM theory, before considering the role of HR professionals in facilitating integrated stakeholder strategies.

### **Stakeholder-oriented HRM theory**

An emphasis on the importance of a stakeholder approach to human resource management can be traced to Beer et al’s (1984) *Harvard Model*, Paauwe’s (2004) *Sustainable HRM Model* framework, and more recently, the *Strategy Scan Model* (Boselie, 2010). All these models incorporate the characteristics of general stakeholder theory (Donaldson and Preston, 1995), including the recognition of ‘similar and diverse interests’ and the ‘relative salience’ of particular internal and external stakeholders; the need to balance and manage stakeholder conflict, and attempt to create ‘shared value’; and finally, the importance of ensuring effective stakeholder ‘engagement’ (Buchholz and Rosenthal 2005; Mahoney, 2012; Reynolds et al. 2006). More recent

literature on stakeholder-oriented HRM theory (for example, Ferrary 2009; Guerci and Shani 2013, 2014; Hemans 2010) accepts the characteristics of general stakeholder theory, and builds on seminal research on stakeholders and HRM by exploring the influences of internal and external stakeholders on individual organisations or particular countries. This differs from much of the HRM research which analyses the roles of stakeholders aiming to resolve internal HRM challenges. Mitchell et al (1997, 882) examined power, urgency and legitimacy in their quest to determine ‘The Principle of Who or What Really Counts’ in stakeholder relationships. They concluded that “stakeholder theory must account for power and urgency as well as legitimacy” (Mitchell et al, 1997, 882) and we argue that all three groups identified here could legitimately make stakeholder claims.

In relation to graduate work-readiness challenges, three primary stakeholder groups are readily identifiable which are: *governments*, which regulate the labour market and set education strategy and policy guidelines, maintain appropriate infrastructures, and establish monitoring systems; *employers*, who conduct analyses of their overall work and job requirements, and manage subsequent employee performance; and *vocational and higher education (VE and HE) providers*, which determine desirable graduate outcomes, design syllabi which reflect these, and formally evaluate the achievement of such outcomes. Graduates (and their families) may be considered secondary stakeholders, as they are consumers of pre-determined government-industry-education system ‘products’.

To date, developments in stakeholder-oriented HRM theory have been mainly focused on what Ulrich et al (2012) describe as ‘outside-in’ strategies. This refers to the application of HR roles such as strategic positioner, capability builder, change champion, HR innovator and integrator designed to enhance the integration of HR functions and practices within organisations in alignment with *external* environmental contexts. Such contexts comprise dynamic government and industry goals and objectives, labour market characteristics, and desired organisational outcomes. Whilst this is a key imperative for HRM professionals and their organisations, it can also be argued that a complementary ‘inside-out’ paradigm is also necessary, especially with respect to the graduate work-readiness challenges reported in this paper. This ‘inside-out’ paradigm suggests that HRM professionals not only need to design their internal strategies and systems to adapt to external influences and pressures, but that they can also contribute to their organisation’s effectiveness by facilitating collaborative strategies with other stakeholders. For example, by developing mutually-beneficial relationships with relevant governments and educational institutions, HR professionals can ensure that human capital requirements are met, especially with respect to the work-readiness of their new graduate employees. Arguably, this new HRM imperative encompasses organisational self-interest and broader labour market and social priorities, utilising similar HR roles to those proposed by Ulrich (2012) but with an external, rather than an internal, emphasis.

Accordingly, this paper builds on stakeholder-oriented HRM theory to incorporate the contributions that HR professionals can potentially make to enhance government, industry, and educational institutions’ strategies and policies to address the graduate work-readiness challenges, as part of an integrated multiple stakeholder approach. As the experts in human resource planning,

labour market analysis, work and job design, talent attraction and selection, training and development, career planning, rewards and benefits, it is proposed that HR professionals are well-positioned to engage in such collaborative endeavours.

## **Research methodology**

An extensive literature review comprised scholarly articles, government and industry reports, and media articles. Information was sought on broad local labour market characteristics; relevant government labour legislation and policies, industry structures and occupational skills gaps; and the structure and nature of vocational and higher education systems in the three selected countries. The findings indicated that most studies regarding work-readiness challenges in the three countries focused on one or other of the key stakeholders, with few considering all of them. A research scoping workshop comprising co-researchers in each country was convened in late 2015 to analyse the similarities and differences in the literature and preliminary data. Significant gaps in the literature were observed in terms of the reported nature and causes of graduate work challenges, and the various strategies employed by governments, employers, and educational institutions to address them. Thus, the research questions developed for this study were:

*R1. What is the nature and cause of the graduate work-readiness challenges reported by governments, employers and educational institutions across the three selected economies?*

*R2. What collaborative strategies and approaches are recommended by participating stakeholders in these countries to address these challenges?*

## **Methodology**

The authors utilised a multiple case design comprising open-ended, one-on-one semi-structured interviews with participants based on the research questions, as well as focus groups conducted in Australia. For cultural reasons, focus groups were not used in Indonesia or Malaysia. Data from individual interviews and focus groups were triangulated for the purposes of data completeness and confirmation (Adami 2005; Halcomb and Andrew 2005), and to add breadth and depth to the findings (Lambert and Loiselle, 2008). The participant interviews held in Malaysia and Indonesia were conducted in the local languages (Bahasa Melayu and Bahasa Indonesia), and then back-translated by the bilingual co-researchers. In Australia, interviews were conducted in Perth and Sydney and focus group discussions were held in Melbourne, during March and April 2016. Following ethics approval from the lead university, all participants were provided with pre-interview/focus group information and consent forms.

In order to yield a sample that allowed for meaningful comparison between stakeholder perceptions, this study employed a mixed method sampling strategy. This type of sampling technique combines probability and purposive sampling to generate datasets that include deep and broad information (Teddlie and Yu, 2007). The participants were classified into three distinct

groups - employers (industry personnel), educational institutions (VE & HE), and government (policy experts). In total, fifty-three participants were purposively sampled from the three main stakeholder groups (employers, government and educational institutions). This comprised seven interview participants in Sydney (4) and Perth (3) and twelve participants from the focus groups in Melbourne. The number of participants for Malaysia and Indonesia was fifteen and nineteen respectively. Purposive sampling relied upon unique sampling and snowball sampling (Miles and Huberman, 1994). All participants were asked to refer other experts in their domain, so as to identify participants with rich information. Participants were selected based on their position and experience in academia, industry and government. Care was taken to include participants from academia (HE and VE), who had more than ten years' experience and who were aware of work-readiness issues. The participants from employer/industry groups comprised CEOs, senior managers and HR managers with broad knowledge of staffing challenges; and almost all the government participants were involved in policy-making concerning graduate recruitment and youth employment. All interviews and focus groups were recorded and transcribed, and thematic qualitative analysis of the key themes was conducted in order to answer the research questions.

Tables 1 provides interviewee information by sector

*Insert Table 1 here*

### ***Data analysis***

Given the research questions, it was considered important to categorise each stakeholder (employers, education institutes or government) as a case (unit of analysis) in a particular country, to strengthen the research findings by replicating the response patterns. Such a process supports the robustness of the findings (Yin, 2013). Data generated were analysed in two stages according to key themes categorised from the case analysis (Braun and Clarke, 2013; Hesse-Biber and Leavy, 2011). The researchers examined the case of each country on a stakeholder basis and used their experiences, insights and descriptions through words and written text to find patterns and themes in the meaning as per the within-case analysis of that country (Creswell, 2013). Next, cases from

all the sample countries were compared in relation to each stakeholder's experiences and insights with the intention of finding patterns in the meaning - referred to as cross-case analysis or cross-case synthesis (Creswell, 2013; Yin, 2013). Transcriptions of the recorded in-depth interviews and focus group discussions were analysed, followed by open coding and axial coding through close examination of the data; then aggregate competence themes were sought and subsequently reviewed. For reporting purposes these themes were defined and named. Power quotes are also presented, in following qualitative research conventions to provide additional data to support analysis in relation to the research questions, see Table 4 (Pratt, 2008).

## **Findings**

This section discusses the various challenges reported by stakeholders and is followed by analysis of the causes, collaborative strategies and approaches intended to overcome the reported graduate work-readiness challenges.

### ***Graduate work-readiness challenges***

The findings revealed both similarities and differences in the work-readiness challenges. In all three countries, concerns were expressed regarding the quality of graduates, in terms of their desired competencies. All the stakeholders were conscious that, in order to maximise productivity, it is important for them to equip future graduates with the right skills, attributes and abilities (competencies).

Table 3 outlines the 'competencies' considered important from the perspective of all the stakeholders. These themes (competencies) were categorised and ranked on the basis of thematic analysis of data with the help of coding.

#### **Table 2:**

**Work-readiness competencies posing challenges for stakeholders in Australia, Indonesia and Malaysia**

**Insert Table 2 here**

Table 2 reveals that, for the Australian stakeholders, self-management, effective communication, team work and collaboration as well as critical/analytical skills were perceived as being key graduate deficits. For Indonesia, challenges included a lack of critical/analytical skills, poor English, decision making ability and interpersonal skills. Challenges indicated by Malaysian stakeholders included poor attitudes, English skills and a lack of confidence. For all three countries and all stakeholders critical/analytical thinking, problem solving and decision making were identified as important and recurring themes related to graduate work readiness challenges.

## **Malaysia**

The Malaysian government participants ranked attitudinal and confidence issues as having ‘high’ importance, while employers were more concerned about graduates English language competencies. Respondents from educational institutions considered graduates lacked soft skills, as well the capacity to work independently. These findings are consistent with previous Malaysian studies, which observed that graduates lack critical thinking and communication skills, language proficiency (especially English); ‘positive character’, suitable attitudes; problem solving and a lack of skills and knowledge essential for success in the twenty-first century (Chew, 2013; Hanapi and Nordin, 2014; Ismail, 201; MoHE, 2012).

The following were typical employer comments:

*“To me if I hire somebody, I’ll look to see whether he or she has the attitude and ability to fit in the organisation, because everything else is the same. Certificate is the same but the right attitude is the one thing that differentiates A and B.”*

Thus, while government participants ranked attitudinal issues as of ‘high’ importance, industry representatives were more concerned about graduates’ English language skills, while vocational and higher educational respondents considered graduates often lacked soft skills.

## **Indonesia**

Indonesian stakeholders observed that graduate work-readiness challenges are associated with the growing skills gaps and mismatches between employer requirements and perceived graduate competencies. The quality of both vocational and higher education graduates’ technical and work-readiness competencies were the main reported skill problems perceived by Indonesian participants. These findings are consistent with previous research conducted in Indonesia (Allen 2016; ICEF, 2015; OECD/ADB, 2015; WEF, 2016). Critical and analytical thinking, problem solving, decision-making, being organised, taking responsibility, effective communication, lack of commitment/involvement, team-work) and collaborative skills, were some of the major work-readiness deficits reported which pose significant challenges for the stakeholders concerned.

An employer stakeholder made the following observation about a ‘fresh crop’ of graduates:

*“Actually, they’re not given the practical skills as much as they might be...there needs to be a stronger emphasis on applied learning and generic skills that go with it...you do need to teach administrative and management (organisation) skills, amend the curriculum, or they’re just lost”.*

## **Australia**

Australian stakeholders observed that Australian HE and VE systems do not sufficiently provide graduates with the work-readiness skills necessary for the contemporary workplace. Self-management, communication (written and expression), team-work, creative and innovative skills, cognitive skills, and cultural adaptability, were the main work-readiness deficits reported by many of the stakeholders.

In addition, employer stakeholders reported difficulties with graduate skills in the areas of critical thinking, decision-making, showing initiative, attitude, resilience, and lack of adaptability. One employer stakeholder was especially critical of graduates’ written communication skills:

*“Most often graduates write in passive voice – they tend to write in very long flowery, language, and sentences would be so long that by the time you get to the end you couldn’t remember what you read before”.*

Government stakeholders also referred to the lack of apparent ability to work well in a team and the absence of critical and problem-solving skills. Education stakeholders reported presentation skills as a major deficiency, followed by written communication, collaboration, decision-making and self-management skills (inability to organise work). These concerns generally reflect what has previously been reported, suggesting that new graduates are not sufficiently prepared for self-management, effective communication, teamwork and negotiation, reportedly important requirements for the Australian workforce (Di Gropello et al. 2011; GCA, 2014; Jackson and Chapman, 2012; Knoch et al., 2016; Moore and Morton, 2017; Norton, 2014).

## ***Work readiness challenges***

Malaysian stakeholders observed that the inadequacy of industry training and development systems, unrealistic expectations of graduates, and growth in the numbers of graduates, were key causes of the deficiencies they identified, stating that they pose significant challenges for graduates’ work-readiness in their country. Stakeholders from all three groups expressed their concern about the lack of linkages between industry and educational institutions, and the urgent need to build partnerships to enhance graduates’ work-readiness skills. The education stakeholders maintain that the main cause of the challenges concerns a lack of suitable employment opportunities; graduates’ unwillingness to leave their local areas, unrealistic salary expectations; graduates’ negative attitudes; and the relevance of current vocational and higher education programs. The unwillingness of graduates to relocate (especially from rural to urban areas) was raised as an important issue only by the Malaysian stakeholders.

Most Indonesian stakeholders argued that the causes of the work readiness challenges were gaps between the practical skills taught in technical and vocational education and training, and the demands of the labour market; the lack of strong linkages between the educational institutions and their industry counterparts; inadequate student internships, work placements and/or quality apprenticeships. Concerns about the Indonesian technical and vocational education and training (TVET) system were also expressed, in particular its supply (rather than demand) driven strategy; its fragmented and inconsistent quality across provinces, between public and private providers; and importantly, its low status as perceived by employers, students and their parents. All of the issues raised resonated with existing research (OECD/ADB 2015, p.34-35). Similar concerns were expressed about Indonesia's higher education system, with respect to its overly theoretical curriculum, lack of industry associations, lecturers' lack of work experience, outdated pedagogies, relatively poor graduate employment outcomes. Whilst there were complaints about TVET and higher education systems in all three countries, the strongest criticisms were expressed by the Indonesian stakeholders interviewed. A lack of effective communication between the key stakeholders was perceived as the core of the problem, as illustrated by a government participant:

*“I think it is probably because of the lack of industry engagement with the learning institutions, because if there's more collaboration, then the graduates will be learning what industry actually needs and there won't be any issues of mismatch, right?”*

Some Australian stakeholders reported that employers often have unclear skill expectations of new graduates, whereas graduates consistently rank themselves as work-ready. In several key areas (oral and written communication, critical thinking and creativity), graduates are more than twice as likely as employers to believe that they are well-prepared for work (Howieson et al., 2014). As one employer observed:

*“I think it's the digital disruption. Graduates constantly want to read information, want to be on their digital devices...texting is obviously a whole other language...the English language might be replaced by text language”.*

Stakeholders also reported that some employers may be biased against young employees, and not provide sufficient opportunities for them to grow. It was further suggested that some employers neglect to offer graduate training schemes considering work integrated learning (WIL), internships, and apprenticeships as a burden, rather than treating them as opportunities to impart work-readiness skills to new graduates as one employer stakeholder stated:

*“We need to recognise more readily that no-one comes prepared, and there is an investment that needs to be made. If you train someone in your own ways, your own procedures, your own values, your expectations of success, you can get very productive employees”.*

With respect to the educational institutions, many higher education participants perceive that traditional models of teaching fail to integrate theory and practice. Outdated pedagogies, a lack of funding and resources for organising and supervising student internships; together with a lack of

training in soft skills, and lecturers' administrative burdens were felt to contribute to undeveloped graduate work-readiness.

### ***Stakeholder strategies***

Referring to the intention to revise the '*Stakeholder –oriented HRM Model*' alongside the '*inside-out*' paradigm, stakeholders were asked how their HR professionals/ HRM departments may be able to contribute to strategies to address graduate work-readiness challenges. The reasons proposed for current graduate work-readiness problems were attributed to weaknesses in industry training and development systems in Malaysia, along with unrealistic expectations held by employers, and poor associations between educational institutions and employers. In Indonesia, identified causes included: poor linkages between higher education and employers; failing of the VET system in terms of skill development; and an absence of internships and job placement programs. In Australia, the identified problems included outdated pedagogy in universities, inadequate investment in induction and training programs by employers, and insufficient information concerning what skills and attributes employers seek from graduates. In terms of specifying collaborative strategies to address the challenges of graduate work-readiness, the stakeholders recommended dialogue and information exchanges, the development and re-evaluation of work experience programs, strengthening and organising the networks of intermediaries linking graduates with the labour market, and developing industry skills councils to identify and modify skill requirements on a sector basis.

Table 3 categorises the key strategies/themes proposed:

**Table 3:**

**Stakeholders potential roles in meeting graduate work-readiness challenges**

**Insert Table 3 here**

Many of the collaborative strategies recommended by government and educator stakeholders resonate with existing research on the topic. However, some more innovative recommendations also emerged. For example, almost all the stakeholders from the three countries emphasised the need for an open dialogue, government funding and support to boost research and development by universities with the intention of exploring new ideas, creating feedback loops between stakeholders on industry trends and graduate skills requirements, thus helping educators to develop evidence-based graduate programs. The collaborative strategies proposed by Australian stakeholders centred around the themes of exposing graduates early to recruitment practices, so that they can clear the ‘first hurdle’ of entering the industry or public sector; providing scholarships for doctorate programs in industry; and involving student unions in the process of designing, providing, and monitoring VE, HE and work experience programs to inculcate greater engagement.

The Indonesian and Malaysian government and education stakeholders recommended programs to help prospective graduates become more aware of recognition of prior learning (RPL) systems, and also to improve RPL mechanisms through embracing the ‘Accreditation of Prior Experiential Learning (APEL)’ under the Malaysian Qualifications Agency (MQA), and ‘RPL’ under the Indonesian Qualification Framework. Australian educators also emphasised the need to promote international exchange programs, as advocated by Crossman and Clarke (2010), as a way of forging networks; creating opportunities for experiential learning for graduates, language acquisition and the development of soft skills related to cultural understanding.

Government and employer stakeholders from all three countries recommended other collaborative strategies, such as establishing a labour market intermediary network with the intention of strengthening links between the supply and demand sides of the labour market; developing sector skills councils (SSC), informing graduates about courses and involving industry more in curriculum development and emphasising demand-led approaches in industry to recruit from priority client groups which they might never have recruited from before. Other suggestions from Malaysian stakeholders include: establishing industry centres of excellence (ICoEs) in collaboration with industry to boost graduate-work readiness. Indonesian stakeholders emphasised the need for policies to provide grants and special incentives for organisations (e.g., reduce taxes) that have effective collaboration with universities; while Australian stakeholders recommended boosting the employers’ role in framing National Work Integrated (WIL) strategies (PhillipsKPA, 2014), and ‘Knowledge Transfer Partnerships (KTPs)’, to facilitate the transfer of expertise and research findings.

The following represents observations from a Malaysian employer:

*“Structured Internship Programmes can help fresh graduates. So what they do is, actually they place and train graduates and provide training to them maybe through organisations like TalentCorp”.*

## Discussion

This paper extends the perspective of traditional stakeholder-oriented HRM suggesting that HR professionals can have important roles in influencing and balancing the interests and goals (Fontaine et al., 2006) of a range of external stakeholders (governments, employers, education systems). The study developed a model illustrating an ‘inside-out’ paradigm, extending HRM professionals’ roles with regard to their relationships with governments, industry and educational institutions. The model suggests that, the interaction and collaborative efforts of HRM professionals within government (HRD ministries, departments of education and labour, public sector HR professionals), employers (HR professionals and HRM departments), and educational institutions (training and placement coordinators, HR academics), may help to enhance graduate work-readiness skills, attributes and competencies with associated benefits for all stakeholders - including the graduates. Drawing from Ulrich’s (2012) global study, the proposed roles of HRM professionals within this proposed stakeholder-oriented HRM model, can be categorised as ‘*policy influencer*’ (government), ‘*catalyst*’ (employers) and ‘*facilitator*’ (educational institutions).

With respect to their role as a ‘policy influencer’, HRM professionals from government may be involved with their counterparts in industry and educational institutions, to formulate and improve policies, streamline quality assurance practices, and prepare reports on the work-readiness challenges in specific industry and education sectors. The collaborative strategies suggested by stakeholders, such as establishing sector skills councils, industry centres of excellence and knowledge transfer partnerships, highlight the important role that can be demonstrated by government HRM professionals to enhance policy coherence through a ‘whole-of-government’ approach. These policies are likely to influence and strengthen interactions between the workplace and education and training to enhance graduate work-readiness.

HR professionals within industry may assume the role of ‘catalysts’, enhancing the work-readiness of graduates through more substantial engagement with both government and educational stakeholders. As the experts in human resource planning, job and work design, learning and development and HRM program evaluation, industry HR professionals could work with senior managers and supervisors in their organisations to ensure that graduate work-readiness expectations are clearly articulated, in collaboration with the relevant educational institutions where they have established effective partnerships. Industry HR professionals might assist their counterparts in educational institutions through consultations, mentoring, feedback, guest lectures, designing curriculum, and through providing work experience opportunities for graduates. Supportive processes championed by industry HR professionals for their government counterparts may include, extending their expertise in improving and designing components of national articulation and accreditation strategies. Similarly, HR professionals in educational institutions could become active ‘facilitators’, providing support to industry counterparts, and at the same time assisting government HR professionals in quality assurance and program reviews and developing transition mechanisms. This may occur through government funded initiatives, designing robust RPL systems and apprenticeship/WIL programs; and participating in institutional course and program development committees.

Figure 1 below outlines our conceptualisation of a revised stakeholder-oriented HRM model, proposed as a framework for addressing graduate work-readiness challenges. In this model, HR professionals are perceived as potential mediators of the relationships between governments, other employers, and education systems assisting progress towards the mutual development of constructive solutions.

**Figure 1 Proposed Stakeholder Framework to enhance Graduate Work Readiness**

**Insert Figure 1 here**

**Conclusion**

This paper proposes a stakeholder-oriented HRM model involving HR professionals from three main stakeholders; government, industry and educational institutes, in an ‘inside-out’ strategy to address the identified graduate work-readiness challenges. HR professionals from stakeholder groups will need to adopt a more proactive approach to resolve the challenges associated with graduate work readiness. Such an approach may involve them using ‘policy-influencer’, ‘catalyst’ and ‘facilitator’ roles to progress and mediate the relationships between industry, government and educational stakeholders, to address the identified graduate work-readiness challenges. The contributions of this paper are threefold. Firstly, it presents new evidence on graduate work readiness challenges. Secondly, it approaches stakeholder-oriented HRM theory from a new perspective and thirdly, it provides new directions and opportunities for HR professionals within the realm of their roles in government, industry and educational institutions towards the enhancement of graduate work readiness.

This study contributes to current understanding of graduate work-readiness challenges pertaining to three Asia Pacific economies (Malaysia, Indonesia and Australia). It is proposed to augment the role of HRM professionals as policy-influencers’, ‘catalysts’ and ‘facilitators’ in concert with the three main stakeholders to address the identified graduate work-readiness challenges in these countries. This study also highlights the responsibilities of HRM professionals in educational and

government institutions towards developing and implementing new and more innovative collaborative strategies to enhance the work-readiness of graduates.

A limitation of this paper is its focus on three stakeholder groups, the number of stakeholders interviewed and the number of countries included in the study. Future research might involve other groups, including graduates, parents, and schools, more countries and more stakeholder groups. A further limitation is that participants held senior positions across the three stakeholder groups, and whilst the sample was chosen to reflect broad graduate work-readiness challenges, future research might include from line manager participants. Thus, although this study proposes an active role for HRM professionals towards addressing graduate work readiness issues, for future research on the topic it would be beneficial to determine specifically how this collaboration may be further explored and implemented.

## References

- Adami M.F. (2005), "The use of triangulation for completeness purposes", *Nurse Researcher*, Vol. 12 No.4, pp.19–29.
- Allen, E.R. (2016), "Analysis of trends and challenges in the Indonesian labour market", ADB Papers on Indonesia, Manila: ADB.
- Andrews, J. and Higson, H. (2008), "Graduate employability, 'soft skills' versus 'hard' business knowledge: A European study", *Higher education in Europe*, Vol. 33 No.4, pp. 411-422.
- Barrie, S. (2004). "A research-based approach to generic graduate attributes policy", *Higher Education Research & Development*, Vol. 23 No.3, pp.261-275.
- Barrie, S. C., Hughes, C., & Smith, C. (2009). *National graduate attributes project (GAP) final report*.
- Beer, M., Spector, B., Lawrence, P. R., Mills, D. Q., and Walton, R. E. (1984), "A conceptual view of HRM", *Managing Human Assets*, New York Free Press.
- Boselie, P., Brewster, C., and Paauwe, J. (2009), "In search of a balance – managing the dualities of HRM: An overview of the issue", *Personnel Review*, Vol.38 No. 5, pp. 461-471.
- Boselie, P. (2010), *Strategic human resource management: A balanced approach*, McGraw Hill, Maidenhead, Berkshire, United Kingdom.
- Braun, V. and Clarke, V. (2013), *Successful qualitative research: A practical guide for beginners*. Sage.
- Brown, P., Lauder, H., and Ashton, D. (2011), *The Global Auction: The broken promises of education, jobs and incomes*, Oxford: OUP.
- Buchholz R.A., and Rosenthal S.B.(2005), "Toward a contemporary conceptual framework for stakeholder theory" , *Journal of Business Ethics*, Vol 58, pp.137-148.
- Burgess, J., Cameron, R., Dakal, S.P., and Brown, K., (2018), Applicant work-readiness and graduate employability challenges in the Asia Pacific, in (Eds, ) Burgess, J., Cameron, R., and Dakal, S.P., *Transitions from Education to Work*, Routledge, Oxon, pp 32-52.
- Cameron, R., Nankervis, A., Burgess, J., Brown, K., Connell, J. and Dakal, S.P. (2015), "Enhancing work-readiness of vocational and higher education graduates: Asia-Pacific region", In Proceedings of the *9th International Conference on Researching Work and Learning: Work and Learning in the Era of Globalisation: Challenges for the 21st Century*, Dec 9-11, 2015, Singapore: Institute for Adult Learning.

- Casner-Lotto, J., & Barrington, L. (2006), “*Are they really ready to work? Employers' perspectives on the basic knowledge and applied skills of new entrants to the 21st century US workforce*”, Partnership for 21st Century Skills, 1 Massachusetts Avenue NW Suite 700, Washington, DC 20001.
- Chew C S. (2013), “Helping unemployed graduates in Malaysia”, *New Straits Times*, March 14, 2013.
- Connell, J., and Burgess, J. (2006), “The influence of precarious employment on career development: The current situation in Australia”, *Education and Training*, Vo.48 No.7, pp.493-507.
- Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approach*. Sage publications.
- Crossman, J. E., & Clarke, M. (2010), “International experience and graduate employability: Stakeholder perceptions on the connection”, *Higher education*, Vol.59 No.5, pp.599-613.
- Daniels, J., & Brooker, J. (2014). “Student identity development in higher education: Implications for graduate attributes and work-readiness”, *Educational Research*, Vol. 56 No.1, pp.65-76.
- Di Gropello, E., Kruse, A. and Tandon, P. (2011), *Skills for the labor market Indonesia: trends in demand, gaps, and supply*, World Bank Publications, 2011.
- Donaldson, T. and Preston, L. (1995), “The Stakeholder Theory of the Corporation: Concepts, Evidence, and Implications”. *The Academy of Management Review*, Vol.20 No.1, pp. 65-91.
- Ferrary, M. (2009), “A stakeholder’s perspective on HRM,” *Journal of Business Ethics*, Vol.87, pp.31-43.
- Fontaine C., Haarman A. and Schmid S. (2006), *The stakeholder theory*, Edlays education, Vol.1, pp.1-33.
- GCA. (2014), *Grad employment and salary outcomes of recent higher education graduates, 2015*, Graduate Careers Australia.
- Goldin, N. (2015), *Key Considerations in Youth Workforce Development, A Report of the CSIS Project on Prosperity and Development*, Center for Strategic and International Studies Washington.
- Guerci, M. and Shani, A.B.R. (2013), “Moving towards a stakeholder-based HRM: A perspective of Italian HR management”, *International Journal of Human Resource Management*, Vol.24 No.6, pp. 1130-1150.
- Guerci, M. and Shani, A.B.R. (2014), “Stakeholder involvement in Human Resource Management practices: Evidence from Italy”, *Management revue, Socio-economic Studies*, Vol.25 No.2, pp.80-102.

- Harvey, L., Burrows, A. & Green, D. (1992), “*Someone who can make an impression: Report of the QHE employers' survey of qualities of higher education graduates*” (Birmingham, Quality in Higher Education Project, The University of Central England in Birmingham).
- Halcomb E.J. & Andrew S. (2005), “Triangulation as a method for contemporary nursing research”, *Nurse Researcher*, Vol.13 No.2, pp.71–82.
- Hanapi, Z. and Nordin, M.S. (2014), “Unemployment among Malaysia Graduates: Graduates’ attributes, lecturers’ competency and quality of education”, *Procedia-Social and Behavioral Sciences*, Vol.112, pp.1056-1063.
- Hemans, M. 2010, *A stakeholder’s perspective on HRM-performance linkages*, Master’s Thesis, Cornell University.
- Higher Education Quality Council (1995), *The Graduate Standards Programme: Interim report* (London, Higher Education Quality Council).
- Higher Education Quality Council (1997), *Graduate Standards Programme final report* (London, Higher Education Quality Council).
- Hesse-Biber, S. N. Leavy. P. (2011). *The practice of qualitative research*. Sage Publications.
- Hinchliffe, G. W., & Jolly, A. (2011), “Graduate identity and employability”, *British Educational Research Journal*, Vol.37 No.4, pp.563-584.
- Holmes, L. 2013. “Competing perspectives on graduate employability: possession, position or process?”, *Studies in Higher Education*, Vol.38 No.4, pp. 538-554.
- Howieson, B., Hancock, P., Segal, N., Kavanagh, M., Tempone, I. and Kent, J. (2014), “Who should teach what? Australian perceptions of the roles of universities and practice in the education of professional accountants”, *Journal of Accounting Education*, Vol.32 No.3, pp.259-275.
- ICEF (2015), *Indonesia looks to education to help drive growth*, ICEF Monitor, 26 May 2015. Available at: <http://monitor.icef.com/2015/05/indonesia-looks-to-education-to-help-drive-growth/>
- Ismail, N.A. (2011), “Graduate characteristics and unemployment: A study among Malaysian Graduates”, *International Journal of Business and Social Science*, Vol.2 No.16.
- Jackson, D., Chapman, E. (2012), “Non-technical competencies in undergraduate business degree programs: Australian and UK perspectives”, *Studies in Higher Education*, Vol.37 No.5, pp.541-567.
- Jackson, D. (2016 a). “Re-conceptualising graduate employability: the importance of pre-professional identity”, *Higher Education Research & Development*, Vol.35 No.5, pp.925-939.

- Jackson, D. (2016 b). "Skill mastery and the formation of graduate identity in Bachelor graduates: evidence from Australia", *Studies in Higher Education*, Vol. 41No.7, pp. 1313-1332.
- Knoch, U., May, L., Macqueen, S., Pill, J. and Storch, N. (2016), "Transitioning from university to the workplace: Stakeholder perceptions of academic and professional writing demands", *IELTS Research Reports Online Series*, p.37.
- Lambert, S.D. and Loiselle, C.G. (2008), "Combining individual interviews and focus groups to enhance data richness", *Journal of advanced nursing*, Vol. 62 No. 2, pp.228-237
- Mahoney J.T. (2012), "Towards a stakeholder theory of strategic management", *Working Paper No. 12*, University of Illinois at Urbana-Champaign, College of Business, 2012.
- Manpower (2015), *2015 Talent Shortage Survey*, Manpower: Milwaukee, Wisconsin.
- Mason, G., Williams, G., Cranmer, S. (2006), "Employability skills initiatives in higher education: What effects do they have on graduate labour market outcomes?", *Education Economics*, Vol.17 No.1, pp.1-30.
- Miles, M., & Huberman, A. (1994), *Qualitative data analysis: A sourcebook of new methods* (2nd ed.). Thousand Oaks, CA: Sage
- Mitchell, G.W., Skinner, L.B., White, B.J. (2010), "Essential soft skills for success in the twenty first century workforce as perceived by business educators", *The Delta Pi Epsilon Journal*, Vol. LII No.1, pp. 48-49.
- Mitchell, R., Bradley R., Agle, B., and Wood, D. (1997), Toward a Theory of Stakeholder Identification and Saliency: Defining the Principle of Who and What Really Counts, *The Academy of Management Review*, 22 (4) 853-886.
- MoHE (2012), *Higher education statistics - Tracer study*, Kuala Lumpur, Ministry of Higher Education.
- Montague, A. (2013), "Vietnam and skill shortages in Vietnamese manufacturing and service sectors, and some plausible solutions", *Asia Pacific Journal of Human Resources*, Vol.51 No.2, pp. 208-227.
- Moore, T. and Morton, J., 2017. "The myth of job readiness? Written communication, employability, and the 'skills gap' in higher education", *Studies in Higher Education*, Vol.42 No.3, pp. 591-609.
- Nankervis, A., Cooke, F., Chatterjee, S. (2012), *New models of HRM in China and India*, London & New York: Routledge.
- Nankervis, A., Baird, M., Coffey, J., Shields, J. (2016), *Human Resource Management: Strategy and Practice*, 9<sup>th</sup>edn., Melbourne: Cengage.

- Nilsson, S. (2010), "Enhancing employability: The perspectives of engineering graduates", *Education and Training*, Vo.52 No.6/7, pp. 540-551.
- Norton, A. (2014), *Mapping Australian higher education 2014-15*, October, 2014, Grattan Institute.
- OECD (2011), *Towards an OECD skills strategy*, Paris, OECD.
- OECD/ADB (2015), *Reviews of National Policies for Education in Indonesia: Rising to the Challenge*. OECD, March, 2015.
- Paauwe, J. (2004), *HRM and performance: Achieving long-term viability*. Oxford: Oxford University Press.
- PhillipsKPA (2014), *Engaging employers in work integrated learning: Current state and future priorities*, Richmond, Melbourne, PhillipsKPA.
- Pratt, Michael G. 2008. "Fitting oval pegs into round holes: Tensions in evaluating and publishing qualitative research in top-tier North American journals." *Organizational Research Methods* 11, no. 3: 481-509.
- Reynolds S.J., Schultz F.C. and Helman D.R. (2006), "Stakeholder theory and management decision-making: Constraints and implications of balancing stakeholder interests", *Journal of Business Ethics*, Vol 64, pp. 285-301.
- Teddlie, C., & Yu, F. (2007). "Mixed methods sampling: A typology with examples", *Journal of Mixed Methods Research*, Vol 1 No. 2, pp.77–100.
- Tomlinson, M., & Tomlinson, M. (2017). "Forms of graduate capital and their relationship to graduate employability", *Education+ Training*, Vol. 59 No.4, pp.338-352.
- Trede, F., Macklin, R., & Bridges, D. (2012), "Professional identity development: A review of the Higher Education literature", *Studies in Higher Education*, Vol.37 No.3, pp.365–384.
- Ulrich, D., Younger, J., Brockbank, W., Ulrich, M. (2012), *HR from the outside in: Six competencies for the future of HR*, Chicago: McGraw-Hill.
- Yin, R. K. (2013), *Case study research: Design and methods*. Sage publications.
- Yorke, M. & Harvey, L. (2005), Graduate attributes and their development, *New Directions for Institutional Research*, 128, 41–58.
- Walsh, A. & Kotzee, B. (2010)," Reconciling 'graduateness' and work-based learning", *Learning and Teaching in Higher Education*, Vol.4 No.1, pp. 37–50.
- Wilson, J. (2016)., The changing architecture of the Asia-Pacific trading system: Implications for the Indonesia-Australia Comprehensive Economic Partnership Agreement (IA-CEPA),

*Briefing paper for the Australia-Indonesia Business Partnership Group (IA-BPG), June 2016, <http://researchrepository.murdoch.edu.au/id/eprint/37435/1/perth-usasia-centre-2016.pdf> viewed 8/11/2017*

World Economic Forum (2016), *The Human Capital Report 2016*, WEF.

## Appendix 1:

**Table1: Stakeholder participants by sector**

Country	Number of stakeholder participants by sector				Total
	Employers	Government	Vocational Education	Higher Education	
Malaysia	4	7	2	2	15
Indonesia	3	2	7	7	19
Australia	5	5	5	4	19
<b>Total</b>	<b>12</b>	<b>14</b>	<b>14</b>	<b>13</b>	<b>53</b>

**Table 2:**

**Work-readiness competency challenges for stakeholders in Malaysia, Indonesia and Australia**

<u>Stakeholders</u>	<u>Malaysia</u>	<u>Indonesia</u>	<u>Australia</u>
<b>Government</b>	Attitude (4), Confidence (4) <b>Critical thinking (3), English command (3),</b> Experience (3), Flexibility (3), Knowledge (2), Multi-tasking skills (2), <b>Problem-solving (2),</b> Soft skills (2), Survival skills (1), Strong will (1), Team work (1), Willingness (1)	<b>Critical/Analytical thinking/Problem solving (2), Command over English (2), Decision-Making skills (2), Inter-personal relations (2),</b> Self-Management (1), Engagement (1), Commitment/Involvement (1), Initiative (1), Time Management (1)	Team work /Collaborative skills (3), Self-management (3), <b>Critical/Analytical thinking/Problem solving (3),</b> Culture/Organisation -Fit (2), <b>Decision-making (2),</b> Communication(Expression) (2), Initiative (2), Communication (Writing skills) (1), Accountability (1), IT skills (1), <b>Interpersonal (1),</b> Ethics (1), Flexible (1), Value system (1)
<b>Employers</b>	Good command of English (3), Confidence (3), Strong willed (2), Attitude (2), Motivation (2), Experience (2), <b>Critical thinking (2)</b>	Organised (3), Responsible (3), <b>Critical/Analytical thinking/Problem solving (3),</b> Interpersonal skills (3) <b>Effective communication (2),</b> IT skills (1), Involvement/Commitment (1), Motivation (1), Business acumen (1), Numerical abilities (1), Negotiation skills (1) Emotional Intelligence (1), Innovation/creativity (1), Multi-tasking skills (1), <b>Team-work (1),</b> Presentation(grooming) (1), Initiative (1), Taking pressure (1)	Self-management (4), <b>Communication (Writing skills &amp; expression) (3), Team work (3), Critical/Analytical thinking/Problem solving (3),</b> Culture/Organisation -Fit (3), Leadership (3), Decision -making (2), Professionalism (2), Prior exposure to work (2), Adaptability (1), Courageous (1), Diversity Management (1), Attitude (1), Resilience (1), Sustainability (1)
<b>Education</b>	Soft skills (3), Independent (3), Attitude (3), Hardworking (3), Creativity (3), Innovative (3), Entrepreneur skills (2) Academic performance (2), Self-Management (2), <b>Critical thinking (2), Confidence (2), Communication (3),</b> Endurance/ Persistence	<b>Critical/Analytical thinking/Problem solving (5),</b> Low Self-esteem (4), <b>Effective communication (3),</b> Time-Management (3), Willingness to learn (2), Organised (2), Collaborative skills (2), Adaptability (2), Presentation(grooming) (2), Self-Management (2), Commitment/Involvement (2), Initiative (2), Taking pressure (1)	<b>Communication (Writing skills &amp; expression) (4),</b> Team work (2), Decision -making (2), Leadership skills (1), IT skills (1), Sensitivity (1), Accountability (1), Diplomatic skills (1), Administrative skills (1), Proactive (1), Creativity (1), Networking skills (1), Passion (1), Articulation (1), Sustainability (1) , Organised (1) , Negotiation skills (1) <b>,Strategic thinking (1)</b>

(1), Sincerity (1),  
Entrepreneurial skills (1)

**\*Note: Competencies appear in order of highest frequencies (4 is highest and 1 is lowest) based on thematic coding**

**Table 3:  
Stakeholders perspectives on their roles in meeting graduate work-readiness challenges**

<i>Government/Educators</i>	<i>Government/Employers</i>	<i>Employers/Educators</i>
• Open dialogue	• Open dialogue	• Active involvement of industry in program delivery
• Exposure of recruitment processes	• Establishing Sector Skills Councils (SSC)	• Industry HR personnel on academic board
• Government funding/support	• Establishing labour market intermediary network	• Modular' approach
• Graduates awareness of various opportunities	• Establishing Industry Centres of Excellence (ICoEs)	• Expansion and awareness of work experience opportunities among the student population (i.e., WIL)
• Continuous program reviews	• National Work Integrated Learning (WIL) strategies	• Following a 'competency-based' approach,
• Designing tailor-made/ evidence-based graduate programs	• Demand led approaches	• Recognition awards for academician
• Promoting international exchange programs	• Grants/special incentives for organisations	• Marketing graduate skills
• Scholarships for doctoral programs in industry	• Graduate support mechanisms	• Providing information to students
• Quality assurance	• Developing policies for R&D collaborations	• Industry and alumni mentors supporting graduate students
• Awareness and robustness of recognition of prior learning(RPL) mechanisms	• Supporting industry partnerships	• Informing educators about specific learning requirements of industry
• Feedback to universities on industry trends and graduate skill requirements	• Supporting Knowledge transfer partnerships (KTP)	• Feedback to universities on industry trends and skills requirement of graduates
• Liaison with student unions	• Design of policies, skills training and work experience programs	• In-organisation upskilling of of graduates?
• Position papers on apprenticeship systems	• Industry information reports/ events/seminars	• Exposure of recruitment processes
• Producing HR data	• Advisory councils/ Government policy reviews	• Appointing industry adjunct professors, university advisors/ industry fellows

Appendix 2:

Figure 1: Proposed Stakeholder Framework for Addressing Graduate Work Readiness

