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The Transition from Graduation to Work

Challenges and Strategies in the Twenty-First Century Asia Pacific and Beyond

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Preface

A smooth transitioning from education to employment remains a major labour market challenge globally. Investing in education and completing accredited programmes that satisfy job entry criteria is a standard pathway towards employment, income generation, family formation and career development. However, for many, the transition to work is not direct, not smooth and not a short-term process. Education may provide certain skills and certification, but it does not provide work experience or those skills (especially soft skills) that complement formal qualifications or organisational or industry knowledge that may be a pre-requisite for job entry. The evidence suggests long delays between completing education and obtaining a full-time and regular job in the career that matches the formal qualifications, and a transitional process characterised by underemployment including insecure and irregular employment, often in an industry or an occupation outside of the ones in which formal qualifications were obtained. This book explores the transitional challenges from graduation to employment in the Asia (South and South East) and Pacific context. This book builds upon prior research on graduate work-readiness (GWR) and brings in the views and suggestions of stakeholders as to how to address GWR. Specifically, the purpose is to identify and evaluate innovative programmes that can inform institutional and public policy responses to GWR challenges. The conclusion of the book draws on comparative analysis of GWR across the region and considers a number of potential ways in which GWR can be strengthened.

- Subas Dhakal is a Lecturer at Curtin Business School in Curtin University, Perth, Australia. He is a management academic with expertise in the theory and practice of sustainable development.
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Verma Prikshat Lecturer, Australia Institute of Business, Adelaide. He has more than 17 years of academic experience, including teaching, research and programme management and coordination at tertiary level, in Australian and Indian universities. He has taught a variety of management courses (for example, Management, Human Resource Management, Organisation Change and Management, Organisation Behaviour, Leadership, Managing Change and Leadership and Employment Relations) at three Australian universities (namely, Central Queensland University —Melbourne Campus and Batchelor Institute of Indigenous Tertiary Education, Northern Territory). He has presented his research findings in numerous international conferences, and his major areas of research interest are in human resource competencies and graduate work-readiness challenges in the Asia Pacific region.

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Part I
The Issues and the Challenges

Chapter 1
An Introduction to the Transition from Graduation to Work: Challenges and Strategies in the Asia Pacific and Beyond

Subas Dhakal, Verma Prikshat, Alan Nankervis and John Burgess

Abstract The concept and the importance of Graduate Work-Readiness (GWR) in the region is outlined. The objectives and structure of the book are discussed followed by the mapping of the countries to be studied, the analysis undertaken in each of the countries and the structure of the book. The chapter sets out the contribution of the book and includes a list of limitations associated with the approach taken.

Keywords Asia Pacific · Education policy · Graduate work-readiness Higher education · Stakeholders · Vocational education

1.1 Introduction

Youth employment is now a top policy priority in most countries across all regions, and at the international level is being translated into the development of a global strategy for youth employment and embedded into the 2030 development agenda. With a growing multitude of country-level initiatives involving many actors and institutions from the public and private sectors, focus now turns to forging partnerships for policy coherence and effective coordination on youth employment (ILO 2015: 4).

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A smooth transitioning from education to employment remains a major labour market challenge globally. Investing in education and completing accredited programmes that satisfy job entry criteria is a standard pathway towards employment, income generation, family formation and career development. However, for many, the transition is not direct, not smooth and not a short-term process. Education may provide certain skills and certification, but it does not provide work experience, nor those skills (especially soft skills) that complement formal qualifications or organisational or industry knowledge that may be a prerequisite for job entry. The problem is that education and the successful completion of trade and university programmes are not sufficient by itself to provide access to an entry position in a chosen career. Instead, the evidence suggests long delays between completing education and obtaining a full-time and regular job in the career that matches the formal qualifications, and a transitional process characterised by underemployment including insecure and irregular employment, often in an industry or an occupation outside of the ones in which formal qualifications were obtained.

The overall challenge of youth unemployment and underemployment has been highlighted by the ILO (2013, 2016). It is not a new phenomenon, but it persists despite increased investment in the education of youth and population ageing in many countries that potentially opens up opportunities for young people to enter the workforce (Dhakal et al. 2018). Youth employment opportunities should be enhanced by the persistent claims of global skill shortages and by they being a generation which is familiar with and skilled in the use of digital technology (Dhakal et al. 2018). Despite these apparent advantages, youth unemployment rates are on average double national unemployment rates and are around 13% globally (ILO 2016), and despite the large investments in education globally, the youth unemployment and transition to employment problem persist globally (ILO 2016). One issue that has attracted attention is the idea of a mismatch between the skills of graduates and those skills required for job entry positions. This perceived mismatch has brought attention towards the content, structure, teaching and assessment of tertiary courses within vocational education and training (VET) institutions and universities (Tran 2015). It appears that instructional and course designs are not aligned with the skill needs of industry, and hence institutions need to assess and improve 'graduate employability' (Burgess et al. 2018). Challenges associated with the employability of vocational education (VE) and higher education (HE) graduates are identified by governments, industry and educational institutions across the Asia Pacific region as significant constraints on future economic development (Burgess et al. 2018). What exactly is the graduate employability problem? Is it an information and communication problem? Are educational intuitions not providing the skill sets that are in demand? Are employers not signalling to education providers what their skill requirements are? It may be an information shortage and asymmetry; it could be a failure of public policy in ensuring that there is matching of graduates with labour market demand, and that there are pathways from graduation to employment.

There are several terms that are used interchangeable to represent the transitional challenges from graduate to employment; these include 'graduate work-readiness',

'job readiness' and 'graduate employability'. A discussion of the terminology can be found in (Burgess et al. 2018). The concept suggests that beyond formal credentials, such as degrees, that graduates require attributes that improve their ability to access employment and to readily transit to employment in the field in which they have formal qualifications. Two key definitions of graduate 'work readiness' include 'the right skills mix not only for the present but also for the future needs of dynamic labour markets' (OECD 2016: 11) and 'transferable, non-discipline specific skills a graduate may achieve through learning that have application in study, work and life contexts' (OECD 2016: 11). These essential skills can be divided into four broad categories: fundamental skills, people skills, thinking skills and personal skills (Australian Qualifications Framework 2015). How are these skills acquired? Are they embodied into the teaching and learning process? Should it be assumed that all graduates have acquired these skills on the completion of their programme? A thorough discussion of the skills, attributes and qualities associated with successful transition can be found in Chap. 3. These skills form the foundation research questions that are discussed throughout this book within different national settings.

At a functional level, an important issue is the identification of those skills and attributes that contribute to employability and embedding these into existing teaching and learning programmes. Another problem is that many of the skills required cannot be taught directly. There are assumed or generic skills such as numeracy, literacy and digital proficiency that are regarded as prerequisites for completing education and training programmes. The soft skills include independent evaluation, teamwork, tolerance and empathy Prikshat et al. (2018). Developing these skills results in greater emphasis in programme design and delivery on not only academic and technical skills but also generic and soft skills. As a consequence, in many countries of the region, graduate programmes are systematically incorporating skill and competence development towards job readiness—that is, incorporating those attributes or competencies into programmes that will assist transition into employment (Dhakal et al. 2018). However, even if the above processes were effective, job access is not guaranteed. The labour market develops unevenly through time, so possessing all the right attributes at a time of economic downturn may mean that unemployment and underemployment will be the outcome for many graduates. In addition, technological and structural change disrupts access to jobs, displaces jobs or requires new or different skills from those accessed through education. Having credentials and being trained with outdated skill sets will only intensify the difficulties faced in the transition process. The World Economic Forum (2015, 2016) has been emphasising the impact of automation and digital technology on current and future jobs, and highlighting the changing skill sets that are required for the dynamic jobs of the future together with the claim that many future jobs currently do not exist, so that planning and developing the appropriate skill sets become very problematic when it is not known what these new jobs' skill sets are!

The irony is that in many countries there are persistent claims of a skills shortage alongside graduates being underemployed and unemployed (Montague et al. 2018);

and in other countries there are programmes to support immigrant labour to address skills shortages, while at the same time graduate transitional problems are intense (Burgess et al. 2018). This book will examine the transition challenges within the context of national labour markets. Using a stakeholder model of the transition process (see Chap. 3) that identifies the key groups associated with the transition, the book examines what the key stakeholders (government, tertiary institutions and employers) associated with the transition process (see Chap. 3) are saying and doing about the transition challenges. In particular, a key aim is to identify successful processes and policies that have supported the transition process. To this end, the country chapters will examine programmes at different levels (national and local) and instigated by different stakeholders (government, educational institutions, professions and employers) that seek to support the transition process. The instrumental aims of the book are to find out what works, under what conditions it works and why it works, that is, to inform practice and policy.

1.2 Why Is GWR an Important Public Policy Issue?

The ability of organisations across the region to attract the necessary quantity and quality of employees is exacerbated by both a lack of available applicants and a lack of competencies among those who are available in almost all Asia Pacific economies (see Dhakal et al. 2018). Circumstances indicate that this situation will worsen unless significant policy changes are implemented by the three key stakeholders who are integral to the transition process—namely, employers, government authorities and educational institutions. Gathering tangible evidence on the needs, and contributions of the labour market to employability, is the key starting point to influence policymakers, human resource professionals and the managers of educational institutions to address what is regarded as being a turbulent period of structural change linked to digitilisation, robotics and artificial intelligence (World Economic Forum 2015). A starting point is to examine what programmes and processes are in place to not only satisfy current skill needs but also to anticipate and respond to future skill needs.

Rothwell and Rothwell (2017) provide a detailed and critical analysis of graduate employability noting that (as suggested above) formal tertiary qualifications provide a foundation for career development and provide skills that are required for national economic development. In many countries in the Asia Pacific region, access to and the completion of tertiary qualifications is seen as a pathway towards accessing comfortable and secure living standards. However, the reality is that, despite increasing participation rates and the internationalisation of secondary and tertiary education within the region (Burgess et al. 2018), there is a graduate employment challenge manifested by underemployment (doing jobs that do not require graduate qualifications); high levels of (especially) youth unemployment and recurring insecure employment postgraduation in casual, part-time, temporary and short-term jobs (Dhakal et al. 2018). Can we put it down to the failure of

institutions and individuals in either not possessing or not accessing the 'right' set of attributes to obtain jobs? As Rothwell and Rothwell (2017) suggest, placing the problem on the supply side of the equation obscures what is happening on the demand side of the market. In particular, growing credentialism across occupations and job entry positions may result in low-paid jobs requiring tertiary qualifications for entry. Also both the quality and availability of jobs are diminishing due to a combination of effects—automation and technological displacement, outsourcing and offshoring of professional service jobs, privatisation and sub-contracting of the public sector (a former source of apprenticeships and graduate entry/career jobs) and filling skills shortages through migration as opposed to employing and training graduates (Rothwell and Rothwell 2017; Burgess et al. 2018).

For governments, there are a number of challenges and issues that arise where there are graduate transition and employment problems. First, it destroys the assumption that investment in education will increase individual and community living standards. Private and national investments in education are assumed to generate a return to the individual and to the community, and it is the constant mantra of international agencies such as the World Bank (2017) and the OECD (2016). If this is not the case, then the justification for the heavy investment in tertiary education is difficult to sustain. Second, as Rothwell and Rothwell (2017) note, increased access and participation in higher education is both a direct and an indirect means of addressing youth unemployment, a major challenge in labour markets across the globe. However, if graduate employment is delayed or does not occur, then the unemployment problem is transferred from the 16–20 years age group to the 21–24 years age group. It is the same problem of workforce access but only delayed, while the potential pool of unemployed and underemployed continue their studies for a few additional years. The underlying problem of transition remains; it is only delayed and shifted on to an older cohort. Third, by focusing on graduate employability, there is an assumption that there are jobs for graduates and that they possess the skill/knowledge and attributes associated with graduates. This is one issue, especially within the context of automation and the fourth industrial revolution (World Economic Forum 2015), that suggests that the inter-temporal matching of skill sets with demand is under threat since the processes of digitilisation, robotics and automation across industries are so extensive and unpredictable that the value of the investment in tertiary education can be quickly eroded. Today's skills and credentials are made redundant and do not meet the requirements for 'new' jobs.

Possessing accurate and detailed information about current and future job and skill requirements remains a major challenge in the region, especially in those countries with limited and infrequent national labour market data such as Thailand, Vietnam and Indonesia, amongst others (see Dhakal et al. 2018). Without systematic, accurate and timely labour market data, the decisions around investment in tertiary education and the programmes that are offered are not fully informed. Finally, tertiary education has itself been transformed; it is more international, more marketised and more competitive (Tran 2015); but if the 'product' does not generate the advertised promises made to the buyers of the service (such as getting a

job), then the sector will have to address the transition challenges in order to restore market credibility to its products, and governments will tie funding not to enrolments and completions but to graduate employment outcomes (Tran 2015). Tertiary institutions are likely to have the responsibility for GWR as one of the key criteria for accessing public funding; in the process, this absolves the responsibility of other stakeholders!

Our third strategic stakeholder group, employers, are not a passive receiver of graduates into job entry positions. For their part, there is a need to inform tertiary institutions and professional accreditation organisations of their skill needs and of the sets of attributes they expect graduates to possess for purposes of job entry and smooth transitioning into the workforce. There is often a reminder from employers that graduates do not possess the appropriate attributes or skill sets required (NSW Business Chamber 2016; Business Council of Australia 2017), but the available evidence suggests that in several countries employers are not active in interacting with other key stakeholders or developing transitional programmes such as internships, traineeships, scholarships and placements (see Malaysia and Vietnam). There is evidence that these take place in some countries, but generally not evenly across sectors (see Australia), where in other countries the government is active in bringing employers and tertiary institutions together (see Singapore); however, in many cases where there are skill shortages, the response has been to resort to immigration as a short-run solution to the matching problem for both unskilled and skilled labours (see Malaysia, Singapore, Australia).

1.3 The Purpose of the Book

Within the context of the graduation to employment challenge, and within the Asia Pacific region (and beyond), this book examines the views and responses of stakeholders as well as considering the policy developments and responses to graduate work-readiness. The examination of the challenges and the dimensions of the challenges within the region have been previously examined (Prikshat et al. 2018). This book builds upon that prior research and brings in the views and suggestions of stakeholders as to how GWR can be improved. Specifically, the purpose is to identify and evaluate innovative programmes that can inform institutional and public policy responses to GWR challenges. By covering a diverse number of economies in terms of their levels of development and labour market arrangements, the study provides institutional and policy examples within very different contexts. Following on from this, the specific questions that guide the book are as follows:

1. What are the current policies, strategies and practical approaches that have been developed, or might in the future be designed, by three strategic stakeholders: (a) governments, (b) educational institutions and (c) employers to address these challenges?

2. How effective have the strategies identified been to date? Where do there appear to be gaps/problems?
3. What can be learned from a comparative analysis regarding transitional programme development and implementation?
4. What might constitute effective strategies to address these challenges for key stakeholders in participating countries?

1.4 The Contribution of the Book

Dhakal et al. (2018) scoped the nature of the problem of GWR and discussed in broad terms the policy approaches towards GWR in selected countries of the region. This book builds upon the earlier publication—although there are differences in the country coverage—but differs from it by providing an overarching multiple stakeholder theoretical framework (see Chap. 3) and introduces new evidence which complements the broader conceptual material in the earlier book. Specific contributions of this book include the following:

1. It presents new material on the nature, scope, causes and effects of GWR challenges in the Asia Pacific region and beyond.
2. It compares and contrasts the similarities and differences in GWR challenges in the diverse countries (sociocultural, economic, government policies, industry focus and educational systems).
3. It presents a series of new cases illustrating innovative approaches in different countries.
4. It makes practical suggestions to address the challenges—from the perspectives of the three key stakeholders.

1.5 Country Selection

The book focuses on the Asia Pacific region and Mauritius, taking in a diverse range of countries by size, demography, economic development, industrial composition, ethnicity and religion. It is a dynamic part of the world in terms of growth and significance, covering some of the highest growth economies globally such as India. The countries included in the book represent developed nations (Australia, Singapore and Taiwan), large populous nations (India), medium-size nations (Malaysia, Indonesia, Thailand and Vietnam) and smaller developing countries (Mauritius). There are contrasts in geographic size (Australia, Singapore and Mauritius), economic development (Indonesia and Taiwan), the importance of the informal sector (Indonesia, India, Vietnam and Thailand), differences in educational attainment (Thailand, India and Singapore), the organisation of the economy in

terms of the balance between the public and private sector (Vietnam and Australia), demography (the youth profile of Indonesia, Thailand and Malaysia against the ageing profiles of Singapore and Australia) and industry structure (the importance of services and resource industries in Australia; hospitality and tourism in Mauritius; manufacturing in Vietnam and Taiwan; and agriculture in Malaysia, Thailand and Indonesia).

There is a considerable range in the access to skills development and the capacity to finance and provide skills development across the region. There are major capacity limitations and constraints on development throughout the region, including developing human capabilities (Rola-Rubzen and Burgess 2016). Several countries have large components of the population which have limited schooling and no formal qualifications (India, Thailand and Indonesia). In these same countries, the informal economy and agricultural sectors are significant, where formal qualifications are not a condition of entry into the market. They also support a large number of small and family businesses that also require few formal entry requirements such as a minimum education. In addition, the provision of education infrastructure (schools, colleges and universities) may be limited, and there may be access challenges as a result of poor or unreliable transport systems. The lack of technological infrastructure (mobile and fibre networks) may be another block on skill development. At an operational level, there may be an absence of systematic labour market data, which in turn limits the ability to plan; and of course access to finance for infrastructure development in the training and education areas means the capacity to supply the services that support skill acquisition. The diverse profiles of the countries mean that advanced technology, robotics and digitalization associated with the 4IR (WEF 2015) may have limited impact across economies that have progressed through the 2IR and 3IR. However, if those sectors affected by the 4IR are a small component of the economy, they will still require skilled labour if the gains of 4IR are to be realised.

The book will contain separate chapters on each of the countries studied (see Sect. 2), using the conceptual framework (see Chaps. 2, 3 and 4), in order to analyse their economic, social and cultural contexts, and will conclude (Chap. 14) with a comparative analysis of the similarities and differences between all countries, the nature and extent of their graduate employability, antecedents and consequences, and practical approaches to their remediation, drawing upon the experiences from all the included countries. Each country chapter follows a similar format that includes the dimensions and trends in graduate work transitions, major challenges regarding core resources and competencies, current policy programme that address GWR, the views of the key stakeholder groups, case studies of innovation programmes that address GWR and findings. The lessons learnt from these cases and their implications for other countries will be developed and presented in Sect. 3 (Chaps. 14 and 15) of the book.

1.6 The Analytical Framework and Methods

The details of the underlying analytical framework and methods applied in the book are set out in Chaps. 2 and 3. A stakeholder approach is developed to address the problems in this area which are all analysed from a multiple stakeholder paradigm. The key stakeholders considered include governments, schools, tertiary education organisations, students, employers, professional organisations and families of students. The primary focus of this book is on government, tertiary education and employers, in order to highlight the policy and strategy implications for governments, industry and educational systems throughout the Asia Pacific and beyond. In Chap. 4, alternative policy paradigms are set out—the EU, USA and Japan—for contextualising the policy development around GWR. The purpose of the chapter is to highlight the universality of the GWR challenge and to provide an overview of different approaches to the challenge within different institutional and policy contexts. Despite the long experience with programmes to improve GWR within these developing economy contexts, the problems of youth unemployment and the transition challenges to accessing a job remain. From this arises the rhetorical question of whether policy development in the Asia Pacific can be informed by the experience of developed economies. Employing documentary analysis and interviews with key stakeholders, the country chapters seek to identify programmes and policies that appear to work effectively in terms of improving GWR and in assisting the transition from graduation to employment. The analysis is exploratory (Davies 2006) to the extent that it provides an overview of the challenges of GWR in each country, examines policies and processes that support GWR, and if possible identifies those innovative programmes that support the transition process. From this scoping exercise, the book ties together the country studies into an overview and comparative analysis in Sect. 3 of the book.

1.7 The Limitations of the Book

The book has a number of limitations that should be noted. It does not cover all countries in the region, notably, absences include China and the Philippines. The focus is on a core stakeholder group and other potentially relevant stakeholders are not included, for example, students, trade unions and professionals. The analysis is biased towards instructive and successful programmes to support GWR, and ineffective programmes were not included within the analytical framework. The differences across the countries included in terms of size, development, infrastructure, political structures and sectoral composition means that within a chapter it is not possible to capture this diversity and complexity for countries such as India, Indonesia and Thailand. Finally, the data is not exhaustive in terms of the coverage of core stakeholders, and in terms of the use of secondary data in some countries detailed or timely data is not available.

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Chapter 2
Conceptualising Graduate Work-Readiness: Theories, Concepts and Implications for Practice and Research

Verma Prikshat, Alan Nankervis, John Burgess and Subas Dhakal

Abstract This chapter discusses the conceptualization of graduate work-readiness (GWR) and outlines the theoretical underpinnings associated with developing these conceptualisations. The chapter develops the Work-Related Integrated Competence Model (WRICM) as a comprehensive representation of the competency sets required by graduates to meet the expectations of the multiple stakeholders associated with the graduate transition process. The chapter evaluates the measurement of GWR using the WRICM models and compares it to other models used to measure GWR. The implications and possibilities of the WRICM model are then outlined. The proposed model provides a comprehensive foundation for evaluating GWR and for informing practice and policy around developing GWR attributes.

Keywords Graduate work-readiness Model · Work-related competencies WRICM · Graduate integrated competence model

2.1 Introduction

Graduate work-readiness is gaining importance as a selection criterion for predicting graduate potential, as well as a predictor for graduates' potential job performance and career advancement in the workplace (Atlay and Harris 2000; Barrington et al.

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2006; Gardner and Liu 1997; Walker et al. 2013). Recent developments in higher education have seen a strong emphasis being placed on 'work-ready graduates', contingent upon demonstrable graduate outcomes, who are competent within their disciplinary fields and possess the abilities necessary to negotiate a world of work that is in constant flux (Barrie 2006; O'Brien et al. 2013). It has emerged as an important criterion linked to the increasing demand from employers for graduates to be equipped with work-readiness skills; and at the same time it has become increasingly normalised in the design of university graduates' capabilities (Cavanagh et al. 2015; Hager and Holland 2006). Most industrialised countries now accept the link between tertiary study and employment and give due recognition to work-readiness as an important outcome of tertiary education (Billett 2012; Oprean 2007; Tynjälä et al. 2003), and graduates are expected to exit their studies in work-ready mode and with demonstrable levels of employability (Clarke 2017). In the wake of the shift towards the knowledge economy, increasing globalisation, industry needs graduates who can not only demonstrate the technical knowledge and competencies of their discipline, but also a range of work-relevant skills and competencies (Costea et al. 2012; Harvey 2001; Hinchliffe and Jolly 2011).

There needs to be an open debate about what it means to be 'work-ready' in diverse work contexts, as well as discussions about the role of employers in building on-going graduate employability in the workplace (Clarke 2017). Given the public policy significance of the topic, the conceptualisation of graduate job-readiness becomes important in order to further integrate and contextualise it within learning processes (Burgess et al. 2017). The aim of this chapter is to examine current theories and develop a deeper conceptual understanding of graduate work-readiness and its implications for the transition from graduation to work through possible measurement instruments, and its contribution to research and practice.

2.2 Review of Work-Readiness Theoretical Frameworks

The last two decades have witnessed an upsurge in the number of studies which have attempted to determine the set of work-readiness competencies required by graduates. A well-known review by Porter and McKibbin (1988) floated this term in the context of business schools that tend to fall short in imparting the requisite skills to allow recent graduates to be truly work- ready. O'Neil et al. (1997) identified and categorised a framework of workforce-readiness skills to address economic difficulties and the challenge of competing in world markets, based on five major studies in United States. Gardner and Liu's (1997) study examined 'Workforce-readiness of graduates' in a survey of 150 employers that compared the entry-level job requirements to the on-the-job performances of new hires. Further, this concept was occasionally referred to in the context of health care research, where due to the increasing complexity and acuity of health care companies, there was an expectation by health care organisations for graduate nurses to 'hit the

ground running' (Romyn et al. 2009), and by maintaining currency in the undergraduate nursing curricula, ultimately influencing the work- readiness of new nursing graduates (Hillman and Foster 2011; Wolff et al. 2010).

The prevalent assumption is that work-readiness is related to the propensity of the student to know what skills they have developed and how they match the criteria for a desired job (Harvey 2001). Mason et al. (2006: 2–3) described work-readiness as '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 and further suggested that numeracy, literacy, information technology, general communication, problem-solving and teamwork; together with 'learning how to learn' and 'understanding the world of work' were key competencies for all new job applicants. Cabellero and Walker (2010: 16), while observing that the concept of work-readiness was still in its early stages of development, defined it as the extent to which graduates are perceived to possess the skills and attributes that render them 'prepared' or 'ready' for success in the workplace. These skills are indicative of graduate potential in terms of job performance and career advancement (Cabellero and Walker 2010). Jollands et al. (2012) defined work-readiness as a complex of generic attributes that allow graduates to apply their technical knowledge to problem-identification and problem-solving once they join the workforce. The ACT report (2013) defined it as a framework for aligning education and training to current job-skill requirements and describes what individuals must achieve to secure in-demand jobs and to transition throughout their careers (Cited in Clarke 2013). Glover et al. (2002: 294–295) referred to it as 'enhanced capacity to ensure employment', whereas Coetzee (2012), described work-readiness as a component of the 'graduate-ness' (the effect on knowledge, skills and attitudes of having undertaken an undergraduate degree) of a student who has a sense of 'self-directedness,' or an ability to recognise one's 'personal agency' in obtaining and keeping employment. Further, given differences across regions and countries, the ambiguity and fluidity of the definitional and conceptualisation structures of job-readiness extends beyond industries and occupations (Burgess et al. 2017). Thus, the foremost challenge is to conceptualise graduate work-readiness against a theoretical framework and underpinning competencies that it constitutes. The next section of the chapter explores the construct of graduate work-readiness encompassing its important competencies.

2.3 Work-Readiness Integrated Competence Model (WRICM)

Extant research has identified that 'the extent to which graduates are 'work-ready' is seen as indicative of their potential in terms of job performance and career advancement' (Cabellero and Walker 2010: 13). The current graduate recruitment

literature does not provide a clear conceptualisation of what defines work-readiness in graduate employees (Barrington et al. 2006). It is generally described as a concept with different labels, such as, work-preparedness, graduate employability, transferable skills, key competencies, and generic attributes (Cabellero and Walker 2010; Green et al. 2009; Litchfield et al. 2008).

Although there is clearly some consensus amongst stakeholders on the importance of identifying the work-readiness of their graduates, yet the same cannot really be said for which graduate attributes are most important (Bridgstock 2009; Holmes 2013; Daniels and Brooker 2014). Different stakeholders attribute value differently and vary in terms of the skills, capabilities, and competencies articulated by employers as being indicative of graduate work-readiness (Bridgstock 2009; Caballero et al. 2011; Cavanagh et al. 2015; Green et al. 2009, Hager and Holland 2006; Wye and Lim 2009). Given this variance in the perceptions of stakeholders, it is easy enough to compile lists of graduate work-readiness competencies, but it is quite a different matter to conduct the research needed to determine whether these competencies are the actual work-readiness competencies sought by graduates to incorporate them into the workplace or not. It is therefore important that not only is a list of graduate work-readiness competencies identified, but also that there is a conceptualization of work-readiness to determine the applicability of this concept and the identified competencies in the context of industry and employment.

For this conceptualisation, we frame graduate work-readiness in the context of strategic management theory using the 'resource-based view (RBV)' approach. The resource-based view posits that organisations can create competitive advantage by acquiring or developing resources that are rare, valuable, and hard to imitate and replace (Barney 1991, cited in Finch et al. 2016). The Finch et al. study (2016), following Barney (1991) and Teece et al. (1997), suggested that employability can be viewed as the complex integration and application of five specific resources and dynamic capabilities that are perceived as being: valuable, rare, hard to imitate and to substitute by the market: intellectual, personality, meta-skill, job-specific, and integrated dynamic capabilities. Based on Finch et al.'s (2016) study, we extend the notion further to conceptualise that work-readiness can be defined as an integrated dynamic competence that requires the reconfiguration, synthesis and integration of four resources—namely, intellectual, personality, meta-skill, job-specific—that needs to be channeled by graduates into a holistic, compelling and personal narrative that appeals to potential employers. We propose this construct as a '*Work-readiness integrated competence model (WRICM)*' that may serve as a platform for further research into graduate work-readiness.

Intellectual resources are cognitive skills that are complex, and involve decision making, problem-solving, reasoning and knowing how to learn from previous situations (Reid and Anderson 2012). Given that previous research has demonstrated a strong relationship between intellectual resources and employability across a variety of occupations and contexts (Hinchliffe and Jolly 2011; Scherbaum et al. 2012; Schmidt and Hunter 2004; Stiwne and Jungert 2010), thus it aptly fits as one of the dimensions of graduate work-readiness. Further, given that employers perceive specific personality traits as indicators of future performance, contributions

and career success (Hogan et al. 1996; Wellman 2010), therefore personality resources constitute an important dimension of graduate work-readiness. Further, meta-skills resources also become an important dimension of graduate work-readiness as recent research has noted these to be important predictors of employability (Canadian Council of Chief Executives 2014; Economist Intelligence Unit 2014; Finch et al. 2012). Job-specific resources indicate to employers that a graduate possesses the minimum proficiencies required to perform a specific role (Bhaerman and Spill 1988 cited in Finch et al. 2016).

Along the lines of Finch et al. (2016), graduates with intellectual, personality, meta-skill and job-specific resources must develop the ability to combine or reconfigure these resources to be work-ready and that will help them in being able to achieve competitively and acquire employability. The successful reconfiguration, synthesis and integration of these four resources by graduates into a holistic, compelling and personal narrative, originally proposed as integrated dynamic capabilities (Finch et al. 2016), and rechristened as '*integrated competence*' that appeals to potential employers, becomes the mainframe of our WRICM construct.

Further based on our earlier work (Nankervis et al. 2018), the ten most important work-readiness competencies and associated dimensions (See Table 2.1 for list of competencies and associated dimensions) were matched to the WRICM's four resources, to expand this construct. These ten competencies were based on a comprehensive literature review from 35 studies included in the review (See Nankervis et al. 2018 for more details).

Figure 2.1 presents the WRICM which is based on an adaption of Finch et al.'s (2016) work, together with the inclusion of the ten competencies under four main resources:

2.4 Implications of WRICM for Transitions from Graduation to Work

Conceptually, issues such as work transition and employability are complex and require an holistic analysis which includes an array of stakeholders (i.e. individual graduates, employers, professional associations, policy makers and the education system—Monteiro et al. 2016) The link between graduation and learning outcomes and further employability is not always straightforward, and there are other factors which are interacting in a complex equation which influences the transition to work and employability (Alves 2005). Indeed, the conceptualisation of WRICM is a positive step that has categorised the requisite integrated competencies for graduates. By using this construct the concerned stakeholders can understand the expected graduate competence levels. Thus, the WRICM model complements and enriches the multiple stakeholder framework adopted in our study (see Chap. 3). Our conceptualisation of WRICM construct has several implications for research and practice, some of which are reviewed next. We begin with the measurement of graduate work-readiness integrated competencies, because high-quality measures

Table 2.1 Work-readiness integrated competence model (WRICM)

WRICM (Work-readiness integrated competence model)	Intellectual resources	Cognitive skills	Problem-solving and analytical, planning and strategic thinking, learning skills
		Foundation skills	Numeracy, literacy
	Personality resources	Self-management skills	Meta-cognition, lifelong learning, self-regulation
		Innovation and creative skills	Entrepreneurship, change-management, ability to cope with uncertainty
		Leadership skills	Leadership skills, logical thinker, visionary, influencer, developing people, managing relationships, taking charge
	Meta-skill resources	Teamwork and political skills	Working with others, influencing others, conflict resolution, diversity management, political skills, interpersonal orientation, people skills
		Communication skills	Written & verbal communication, languages skills, giving and receiving feedback
		Information technology skills	ICT literacy, ethical issues surrounding the technology
		System thinking skills	Big picture, fixing recurring problems, solving difficult problems, STS, social/ psychological outcomes
	Job-specific resources	Core business skills	Performance management, organisational management, professionalism and a strong work ethic

are essential to enrich theory as well as for practical research. Moreover, it is important for practice, as if WRICM is to become a leverage point for stakeholders concerned, then valid measures are needed to effectively assess the work-readiness of graduates.

2.5 Measurement of Graduate Work-Readiness

There is limited evidence in the research for a specific measure of graduate work-readiness. In the Australian context, the *Graduate Skills Assessment (GSA)* developed by the Australian Council for Educational Research (ACER) (Hambur et al. 2002), was designed to assess widely applicable generic skills acquired

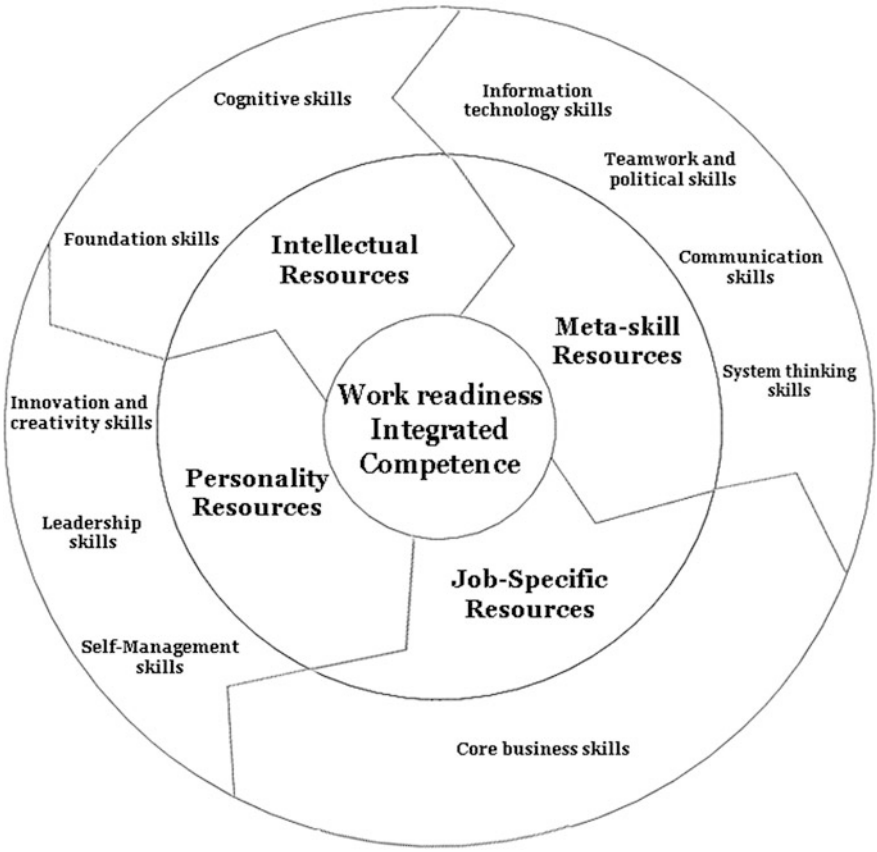

Fig. 2.1 Work-readiness integrated competence model (WRICM)

through the university experience and which may be relevant to university achievement and future employment. Raftopoulos et al. (2009) study determined the work-readiness skills that are regarded as important by employers and graduates in the Fasset Sector (finance, accounting, management-consulting and other related financial services organisations) of South Africa, and they also developed a *Work-Readiness Skills Scale* comprising the competencies of oral and written communication, self-discipline, time management, interpersonal skills and teamwork, problem-solving skills and positive work ethics. Caballero et al. (2011) were the first researchers to work towards developing a comprehensive measure of the attributes and characteristics of work-readiness for graduate contexts. Four factors, namely, personal characteristics, organisational acumen, work competence, and social intelligence were identified as the attributes and characteristics of work-readiness and further quantified them in terms of a scale—Work-Readiness Scale (WRS).

Coetzee's (2014) *Graduate Skills and Attributes Scale (GSAS),* can be considered as an interesting contribution to the academic debate on measuring and assessing graduates' skills and attributes. GSAS comprises an eight-factor theoretical framework postulated by Coetzee (2012) which clusters eight graduate skills and attributes into three holistic, overarching attitudinal domains of personal and intellectual development, scholarship, global and moral citizenship, and lifelong learning. Based on the findings of Walker et al. (2013) and the 64-item work-readiness scale WRS developed by Caballero et al. (2011), Walker et al. (2015) further tested the original WRS for its refinement and validity and to determine whether the four-factor construct was still supported. The results of the study confirmed the theoretical constructs from previous literature (Caballero et al. 2011; Walker et al. 2013) and the validity of the revised WRS-GN (*Graduate nurse population*). The following Table 2.2 shows the different scales and competencies/skills included for measuring graduate work-readiness.

Although all the above scales are designed to measure work-readiness in graduate contexts and can systematically assess the proposed constructs, they suffer from some limitations. For example, the GSA does not assess the personal attributes and personality traits that may be associated with implementing these generic skills. Similarly, Caballero et al.'s (2011) WRS and Walker et al.'s (2015) WRS-GN samples mainly included graduate engineers and graduate nurses, while Coetzee's (2014)

Table 2.2 Graduate work-readiness scales

Graduate work-readiness scales	Institution/authors	Competencies/skills covered
Graduate Skills Assessment (GSA)	Australian Council for Educational Research (ACER) (Hambur et al. 2002)	Written communication, critical thinking, problem-solving and interpersonal understandings
Work-Readiness Skills Scale	Raftopoulos et al. (2009)	Oral and written communication, self-discipline, time management, interpersonal skills and teamwork, problem-solving skills and positive work ethics *Additional skills* Numeracy skills and motivation, confidence and leadership skills
Work-Readiness Scale (WRS)	Caballero et al. (2011)	Personal characteristics, Organisational acumen, work competence and social intelligence
Graduate Skills and Attributes Scale (GSAS)	Coetzee (2014)	Personal and intellectual development, scholarship, global and moral citizenship and lifelong learning
Work-Readiness Scale for Graduate nurse population (WRS-GN)	Walker et al. (2015)	Personal characteristics, organisational acumen, work competence and social intelligence

GSAS was predominantly limited to black and female early-career participants in the economic and management sciences field in a South African open and distance-learning (ODL) higher education institution. Thus, none of the above-mentioned scales (Table 2.2) can be easily generalised to other disciplinary fields, educational, student, age, race or gender groups. Moreover, as the context of this book is Asia-Pacific and beyond, further research is required in order to prepare a more generic work-readiness scale that can be operationalised in the contexts of different education disciplines and different countries. The authors highly recommend developing a generic scale that is based on the graduate work-readiness construct propounded in this chapter, as it is based on the resource-based view approach, and at the same time this construct has more holistic connotations around the construct of WRICM which is comprised of the synthesis and integration of four resources namely, intellectual, personality, meta-skill, job-specific resources. Until, such a scale is developed and published, the stakeholders of graduate work-readiness have the option to use Caballero's (2011) WRS scale, as it has been validated and refined by Walker et al. (2015) and used by some recent studies (Masole and van Dyk 2016).

2.6 Research

The extant research observed that current graduate work-readiness assessment methods, although valid in predicting performance criteria, lack the rigour and construct validity that would be required to effectively assess work-readiness in graduates (Cabellero and Walker 2010). Further, as observed by Hager (2006), the value of assessments in evaluating work-readiness will hinge crucially on how well the attributes that constitute work-readiness are conceptualised. Our WRICM construct and recommendations for measuring and assessing the work-readiness through a more holistic approach around the resource-based view approach have important implications for future research. There is a need for a generic work - readiness scale that can be generalised for regions, disciplinary fields, educational, student, age, race or gender groups. We have expanded the repertoire of competencies/skills required for graduates' through the WRICM that can help graduates' smooth transition to work in the future.

This WRICM construct gives researchers further scope to identify different dimensions of skills/competencies required for work-readiness, which can be fitted under these four resources. Given the lack of consensus about the specific competencies that comprise work-readiness (Barrington et al. 2006; Caballero et al. 2011), the WRICM construct acts as platform to further validate requisite competencies from the perspectives of all concerned stakeholders. An implication of greater relevance to researchers interested in developing a scale based on WRICM, is the need to think about the practicality of the scale that can be utilised by different stakeholders.

2.7 Practice

The new construct presented in this chapter has implications for education, industry, professional associations, policy makers and graduates themselves. It has important implications for practitioners interested in enhancing the work-readiness of graduates, and other valued outcomes such as a more effective workforce for industry and more professional graduates. This construct attempts to encompass noted variations in how graduate competencies/skills that produce work-readiness graduates are envisaged by administrators, taught by teaching staff, and understood by graduates (Barrie 2006; Curzon-Hobson 2004; Green et al. 2009; Tymon 2011). Moreover, WRICM represents a more systematic framework with its antecedents in the resource-based view theory of strategic management. Our definition of work-readiness as an integrated dynamic competence that requires reconfiguration, synthesis and integration of four resources, is highly flexible and has the potential to be improvised in terms of incorporating requisite competencies under the main four resources as per different nationalities, industries, disciplinary fields, educational or student cohorts. Practitioners seeking to enhance the work-readiness of graduates should consider the mentioned resources in the context of the requisite competencies needed for particular courses and disciplines, and to develop a comprehensive WRICM catering to their own needs. Practitioners are encouraged to explore and evaluate different competencies that can be built into the four resources of the WRICM.

2.8 Conclusion and Summary

The aim of this chapter was to revisit previous conceptualisations of work-readiness and to provide a definition and model that could guide research as well as practice. We define work-readiness as an integrated dynamic competence that requires the reconfiguration, synthesis and integration of four resources—namely, intellectual, personality, meta-skill, job-specific—that needs to be channeled by graduates into a holistic, compelling and personal narrative that appeals to potential employers. This definition focuses on these four resources which are intrinsic to the needs of an industry, and it is theoretically grounded in the resource-based view of strategic management theory, and it emphasises the requisite competencies desired by graduates.

The definition of work-readiness proposed in this chapter overcomes some of the key limitations of previous definitions. First, there was no overarching construct under which all the different attributes, skills or competencies were categorised. Secondly, there were differences of opinion amongst stakeholders regarding different competencies according to their respective needs. The WRICM construct overcomes these two limitations, as first it proposes an overarching framework of ‘work-readiness integrated competence’ that encompasses main four resources;

and second under these resources, WRICM offers flexibility to stakeholders to suggest the set of competencies for graduates according to different nationalities, industries, disciplinary fields, educational or student cohorts. Thus, WRICM contributes to the existing literature by offering a clearer and easier to interpret construct, and it is likely to contribute to richer theories of work-readiness. Next, the proposed definition has important implications for validating the construct and for identifying the competencies that contribute to work-readiness. We maintain that all the stakeholders associated with graduate work-readiness should operationalise it using an 'integrated competence' approach until a validated measure of the construct is created. The integrated competence approach helps ensure adequate coverage of the possible competencies that are required by future graduates to contribute to their work-readiness by making a smooth transition to work. Nevertheless, the final selection of a competencies under different resources must be shaped by education or industry specific goals to orient the graduates according to their needs.

Work-readiness is an important factor in understanding the transition of graduates from education to work. Unfortunately, the theoretical and conceptual development of work- readiness is limited to date and has not attracted sufficient interest. In this chapter we offer a refined, focused, and theoretically based definition of work-readiness. There is a need for substantial research to fully develop a complete understanding of this important construct; yet, with a solid conceptualisation in this chapter, and throughout the book, researchers and practitioners have a foundation upon which to begin creating strategies that help graduates improve their employability, thus facilitating smoother transitions into the workplace.

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Chapter 3
Mapping Stakeholders of Graduate Work-Readiness (GWR)

Alan Nankervis, Verma Prikshat and Subas Dhakal

Abstract Using stakeholder theory this chapter maps and identifies the key stakeholders associated with the process and evaluation of GWR. From a shared value perspective three key stakeholder groups are identified: higher education institutions who are responsible for developing the GWR attributes of their graduates; governments who are responsible for financing education and ensuring that there is an effective and efficient functioning of the labour market, including meeting current and future skill needs of the economy; and employers who require trained and accredited graduates that possess those attributes that enable them to transition into current and future job vacancies.

Keywords Employers · Governments · Graduate work-readiness
Higher education · Stakeholder theory

3.1 Introduction

Earlier chapters in this book have considered the breadth and depth of graduate work-readiness challenges across the Asia-Pacific region and beyond, together with the likely impact of the Fourth Industrial Revolution on this significant and growing global phenomenon. The preceding chapter discusses a range of work-readiness theories and models and concludes with an explanation of the conceptual model which provides the framework for the book. This chapter builds on earlier discussions by analysing an important component of this model—namely, the key

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stakeholders which drive the demand and supply sides of graduate work-readiness. In order to achieve this purpose, the chapter first considers the main concepts of general stakeholder theory and several stakeholder analytical models, and then applies these to the specific challenges faced by the countries which are discussed in subsequent chapters. Finally, the rationale and research methodology employed in the study are presented in the final section of the chapter.

3.2 General Stakeholder Theory

3.2.1 Stakeholder Descriptors

Whilst stakeholder theory is clearly relevant to almost all situations and at national, industry and institutional levels, much of the relevant literature has focused on particular industry sectors or individual organisations, especially in relation to project management. Thus, the theory suggests that all situations necessarily involve multiple stakeholders, with similar and diverse interests, and that the key role of their 'managers' is to continually balance these interests in order to achieve the greater good, whether the primary objective is profitability or merely survival and growth. Freeman (1984) defined stakeholders as 'any group or individual who can affect or is affected by the achievement of the purpose and objectives', whilst Fontaine et al. (2006) explained that organisations are 'groupings of stakeholders, and (the role of management) is to manage their interests, needs and viewpoints'. Regardless of the nature of the issue, stakeholders are variously identified as 'those groups who are vital to the survival and success' (Freeman, cited in Fontaine et al. 2006); 'committed value-chain partners to create outstanding performance and customer service' (Freeman et al. 2008: 365); or 'those persons or interests that have a stake, something to gain or lose as a result of activities' (Clarkson 1995, cited in Buchholz and Rosenthal 2005: 137). Naturally, different circumstances involve a diverse range of stakeholders, with mutual and sometimes conflicting interests, as well as differential degrees of power and influence.

As examples, on one hand, the key stakeholders may include customers, employees, local community representatives, suppliers and distributors, and shareholders; whereas, on the other hand, they might encompass consumers, governments, stockholders, competitors, media, past and future generations, academics, trade unions, regulators, policy-makers and business partners. Austen et al. (2009) explain that, whilst stakeholder theory originated from strategic management theory, it has subsequently been applied to many other fields and issues, including corporate social responsibility, environmental management, ethics, health, information technology, marketing, management, public policy and education (p. 4). This book uses stakeholder theory in relation to the combination of management, public policy and education.

3.3 Stakeholder Categorisation

Savage et al. (1991) suggest that there are four identifiable types of stakeholders—namely, supportive, marginal, non-supportive and 'mixed blessing'. *Supportive* stakeholders possess 'high cooperative potential and low competitive threat'; *marginal* stakeholders reflect 'low cooperative potential and competitive threat'; *non-supportive* stakeholders present 'low cooperative potential and high competitive threat'; whilst *'mixed blessing'* stakeholders are enigmatic, possessing both 'high cooperative potential *and* competitive threat' (in Fontaine et al. 2006: 19). Other taxonomies focus on the contributions of stakeholders, and include normative (prescriptions of stakeholder roles), descriptive (stakeholder behaviours), instrumental (stakeholder management), and analytic theories (Donaldson and Preston 1995: 71; Fontaine et al. 2006: 3, 17); or on the 'relative saliency' (power, legitimacy, urgency—Mitchell et al. 1997) of various stakeholder groups (Freeman et al. 2008; Reynolds et al 2006: 287, 288). The 'relative saliency' view is central to considerations of effective stakeholder management, as it highlights the relative importance of different stakeholder groups at different times and emphasises the need to dynamically balance their interests. Buchholz and Rosenthal (2005: 138) advised 'taking the interests and concerns of these various groups and individuals into account in arriving at management decisions, so that they are all satisfied at least to some extent, or at least that the most important stakeholders with regard to any given issue, are satisfied'. Some authors suggest that stakeholder roles can be divided into four categories—namely, sponsors, shapers, schedulers and users (Horton and Pilkington 2014: 4). *Sponsors* 'set the direction, hold the budget and can release resources; (Horton and Pilkington 2014: 4), *shapers* design appropriate systems, and *schedulers i*mplement them; whilst *users* are the consumers of such programmes or systems (Horton and Pilkington 2014: 4–5). Newcombe (2003), argues that effective stakeholder management begins 'with the identification of key stakeholders … (and) establishing the strategic importance of stakeholder groups then helps organisations determine what the nature of their stakeholder management strategies should be' (p. 844).

3.3.1 The 'Shared Value' Perspective

The concept of 'shared value' is a common theme in the stakeholder management literature, reflected in explanations such as that it is 'a relationship of mutual enrichment, and nurturing rather than either domination and control or "external tolerance"' (Buchholz and Rosenthal 2005: 147). In reality, stakeholder management is more challenging, multi-faceted, and problematic than such prescriptions would suggest, involving the balance of diverse and sometimes conflicting vested interests; ranging from governments, politicians, suppliers and customers, to employees, trade unions, line and middle managers, all of whom are likely to have

divergent expectations of their organisations. Problems may arise from a limited understanding of stakeholder expectations, a lack of reinforcement of 'shared' values and the organisational mission and objectives, and contested definitions of the 'public good' (Balser and McClusky 2005: 295–6; Nankervis et al. 2017).

3.4 Mendelow's Stakeholders Model

Whilst there has been a range of conceptual models developed to identify pertinent stakeholders, and in particular to map their relative salience, as discussed above, in relation to their legitimacy, interests, urgency, resources and power in different circumstances, the dominant analytical framework used in both theory and practice is that provided by Mendelow (1991). It is represented in Fig. 3.1 below and contains two key axes—namely the relative 'interest' (legitimacy, urgency) and 'influence' (power, resources) of particular stakeholders.

This model is used in this chapter to identify the key stakeholders and their relative salience in managing the graduate work-readiness challenges faced by all regional countries discussed later in the book. Thus, the group of stakeholders which have potential interest, influence and power with respect to graduate work-readiness is likely to include society as a whole; national, state and local governments; vocational and higher education; industries in all sectors; graduates themselves, and their families. However, the key stakeholders, or those with legitimacy, particular interests, urgency, power and resources can be reduced to only three—namely, national governments, which formulate educational and

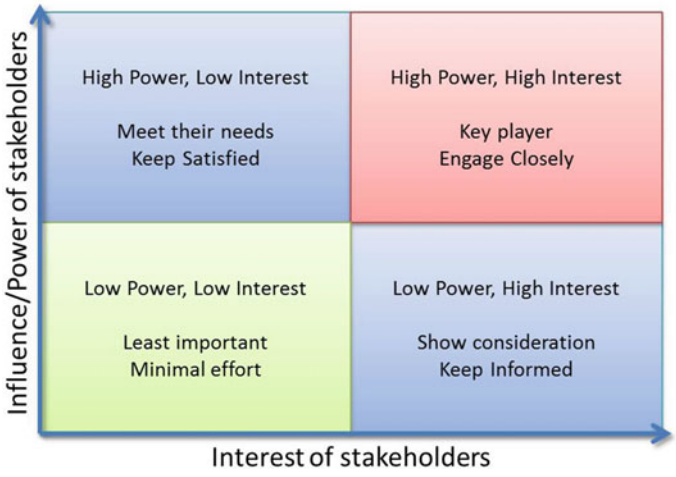

Fig. 3.1 Mendelow's Stakeholders Model. *Source* Mendelow (1991)

industrial laws and policies, provide funding and other resources, regulate and evaluate the effectiveness of educational systems; vocational and higher education institutions, which design, implement and evaluate graduate training programmes (supply side); and employers (demand side), who determine their own skills and competency criteria, hire suitably qualified graduates, and provide necessary learning and career development opportunities for them. Thus, all of these key stakeholders fit into the right hand top quadrant of Mendelow's model, whilst graduates and their parents, state and local governments, into the right bottom quadrant. However, the relative saliency of each of the three key players is unequal, as governments possess more power and resources than either educational institutions or employers, and the latter two often have diverse interests and different levels of influence. The challenge then is to negotiate between all three stakeholders, in order to achieve mutually beneficial graduate work-readiness outcomes for all stakeholders, including society as a whole, graduates and their families. Newcombe (2003, p. 844), argues that effective stakeholder management begins 'with the identification of key stakeholders … establishing the strategic importance of stakeholder groups then helps organisations determine what the nature of their stakeholder management strategies should be'. Austen et al. (2009: 8) suggest that this can best be achieved by using a structured approach, involving:

1. Identification of stakeholder groups
2. Identification of stakeholder legitimacy, interests, urgency, resources and power
3. Examination of the dynamic relationship between stakeholders
4. Evaluation of their likely impact
5. Identification of ways of managing stakeholder expectations and influencing stakeholders
6. Prioritising stakeholder demands
7. Monitoring and controlling the stakeholder engagement strategy.

3.5 Graduate Work-Readiness and Key Stakeholders

As discussed in earlier chapters, graduate work-readiness encompasses individuals' characteristics, attributes and skills, which are then collectively transformed into the human and social capital which meet the productivity demands of employers, and more broadly, the social and economic aspirations of their governments and societies. A key component of the latter is of course labour market demand and supply, which regulate the job opportunities available for graduates, and the dynamic skills and competencies required in particular industry sectors. Given the increasing uncertainty in this area generated by the digital revolution, collaboration and constant communication between the three key stakeholders—governments, employers and higher education systems (encompassing both vocational and university service providers)—becomes crucial. Employers are transforming the

quantity, quality and skills required by their workforces; higher education systems are struggling to keep up with these demands, whilst simultaneously producing an over-supply of under-qualified graduates; and few governments demonstrate the capacity to balance labour supply and demand in this changing global environment. As Clarke (2017) explains, 'while the "best" graduates, or those in areas of under-supply, may anticipate positive outcomes, the current situation indicates that even well-qualified and seemingly highly employable graduates may not find suitable employment immediately after graduation, or may need to accept a position that is outside his or her field of expertise, or at a lower level than anticipated' (p. 9). The following section considers the implications of graduate work-readiness challenges for the three key stakeholders identified in this book.'

3.6 Implications for Stakeholders

3.6.1 Governments

As the overall regulators of the labour market, governments have the responsibility to develop appropriate strategies and policies to balance labour demand and supply, not only in terms of the quantum of skilled employees across private and public sectors, but also with respect to the quality of employees' skills, competencies and likely future capabilities, in alignment with their national human capital management (HCM) frameworks. HCM theory emphasises the links between national education levels and outcomes and economic growth, and associates workforce quantity and quality with its outputs in terms of efficiency, effectiveness, productivity and competitiveness. Kalfa and Taksa 2015 assert that 'it has become the dominant framework in the debates between governments and international organisations, such as the OECD and UNESCO, about the role of education' (p. 581).

In support of this contention, various authors have argued that work-readiness has multiple economic and social benefits at the country level. These include, but are not restricted to, high productivity levels and national economic growth—'a social policy to fight social segregation and facilitate the re-entry of the unemployed into the labour market' (Kalfa and Taksa 2015: 582); increased adaptability, flexibility, innovation and a 'genuinely democratic society with full participation' (Kalfa and Taksa 2015: 582). Whilst these claims may exaggerate the capacity of work-readiness, whether amongst graduates or more generally, to influence such desirable outcomes; in an era of global digital disruption, applied knowledge, skills, competencies and personal characteristics may well be the key to industry adaptability and survival. In this dynamic context, governments' strategic labour market planning, policy formulation, regulatory and facilitation roles are crucial, in concert with the other two key stakeholders (Clarke 2017: 9–11; Tomlinson 2014).

3.6.2 Employers

Tomlinson (2014: 23) suggests that there are three key factors which underline the relationship between employers and graduates with respect to graduate work-readiness—namely, employer perspectives of graduates and higher education; the means by which they attract suitable graduate talent; and finally, their efforts to develop and retain high-quality graduates. Thus, much research (Finn 2016: 1; Hinchcliffe and Jolley 2011: 577) has revealed that many employers have unrealistic expectations of graduate skills and competencies, that they are only infrequently involved with local higher education institutions, or that they are seldom prepared to support transitions from universities to the workplace through induction, learning or structured career development systems. Hinchcliffe and Jolley's (2011) research also identified some specific expectations that employers have of graduates which provide clues for higher education curricula—namely, a focus on broad graduate characteristics such as personal values, 'intellect', performance, and the demonstration of 'engagement' with a variety of organisations, whether on a casual, part-time or voluntary basis (p. 576). This classification constitutes their notion of 'graduate identity', which they acknowledge will differ between employers and between industry sectors. As the primary sources of labour demand, employers have inherent economic and social responsibilities (as well as self-interest) to accurately define their skills requirements, translate them into job criteria, communicate them to prospective applicants, and subsequently, to provide appropriate on-the-job support and development programmes—'a realistic graduate employability agenda' (Finn 2016: 1). Such an agenda might include closer and ongoing relationships between employers and universities, not only as recruiting opportunities, but also as broader collaborative ventures involving mutual assessments and future development of the overall role of higher education, curriculum reform, and future directions in graduate work-readiness capacity development.

3.6.3 Higher Education Institutions

If governments are responsible for developing overall labour market strategies and future directions, and employers for defining their expectations of graduates to meet their current and future workforce demand, then higher education systems have the supply of work-ready graduates as their primary responsibility. However, much recent research has revealed that vocational institutions and universities in many countries have fallen short of these responsibilities, especially from employers' perspectives. Manifold concerns have been expressed, including narrow (rather than multiple) disciplinary teaching approaches; a lack of generic skills development opportunities; overly theoretical (compared with practical) emphases, lecturers

without relevant work experience, and sometimes disinterest in graduates' careers (Kinash et al. 2016: 952–953); funding and reward imbalances between research and teaching activities; and importantly, the relative absence of ongoing communication and involvement between higher education and industry (Clarke 2017; Jackson 2014, 2016; Kalfa and Taksa 2015; Tran 2015). Jackson (2014) further suggests that the responsibility of vocational institutions and universities with respect to graduate work-readiness also 'encompasses, and is not separate from, the broader aim of developing global citizens who are socially responsible, empowered and engaged with the needs of the community' (p. 934).

There are encouraging signs that some higher education providers in many countries are now responding to some of these criticisms. As examples, some vocational institutions and universities are promulgating policies and teaching techniques which address generic workplace competencies alongside more traditional disciplinary skills; reflective practice student activities and applied workplace projects; networking between academics and industry leaders; as well as internships, student work placements, and less frequently, interchanges between universities and local businesses. Examples of these new approaches to the enhancement of graduate work-readiness are discussed in most of the following country chapters. As Kinash et al. (2016) explain, 'at an institution level, universities are responsible not only for a quality education experience but also for appropriately connecting students with external practice and relevant communities and debates which will engage them beyond their university years' (p. 955).

To summarise this section of the chapter, the three key stakeholders responsible for ensuring graduate work-readiness into the future, in an increasingly uncertain global environment—namely, governments, employers and higher education institutions—will need to seriously address the challenges posed. Governments are responsible for anticipating future labour market issues associated with demand and supply, and for developing strategies, policies and tripartite collaborations which will resolve associated issues. Employers need to more accurately define their competency and skills criteria, and to develop ongoing employee enhancement programmes which will attract and retain the required talent for their present and future operations. Finally, vocational and university systems and institutions will need to be receptive to more innovative philosophies, pedagogies, and considerably more intensive connections with their industry counterparts. All of these issues, and a range of practical strategies to address the graduate work-readiness challenges provided by the research participants from all the countries included in this study, are discussed in subsequent chapters of this book. The next section of this chapter describes the research methodology employed in the study, which was based on stakeholder perspectives of, and responses to, the challenges.

3.7 Research Methodology

3.7.1 Key Research Questions

The six key research questions for the study focused on the scope, nature, antecedents, consequences and remedial strategies associated with graduate work-readiness, as below

1. What is 'graduate work-readiness'?
2. What is the nature and scope of the work-readiness challenges in each country?
3. What are the causes/antecedents of these challenges?
4. What are the economic, social, industry and personal consequences of a lack of graduate work-readiness competencies?
5. What possible strategies and solutions are appropriate for governments, employers, and education systems?
6. Are there 'best practice' cases of innovative practices and policies to address the graduate work-readiness challenges?

3.7.2 Research Study

The research study was primarily qualitative, and was conducted in nine regional countries—namely, Australia, India, Indonesia, Malaysia, Mauritius, Singapore, Taiwan, Thailand and Vietnam. Regional co-researchers in all the latter countries conducted their own research, which is reported in subsequent chapters.

The key research methods included:

(a) A comprehensive literature review of the topic, its characteristics and challenges (see Chap. 3)
(b) Preliminary labour market analysis conducted by key informants from six of the countries in the study
(c) A scoping workshop held in Singapore which identified the key issues and formulated the subsequent research design
(d) Empirical research, in the form of interviews and focus groups representing the three key stakeholders in all countries. The interviews and focus groups were recorded and transcribed, and the data were analysed using qualitative analysis software. The number of participants included in each country differed according to availability and receptiveness to interview and/or focus group methodologies, but there were approximately 60 participants overall, representing governments, employers and higher education sectors
(e) A second workshop was held in Hanoi (Vietnam) to report on, analyse, and compare the data from all participant countries

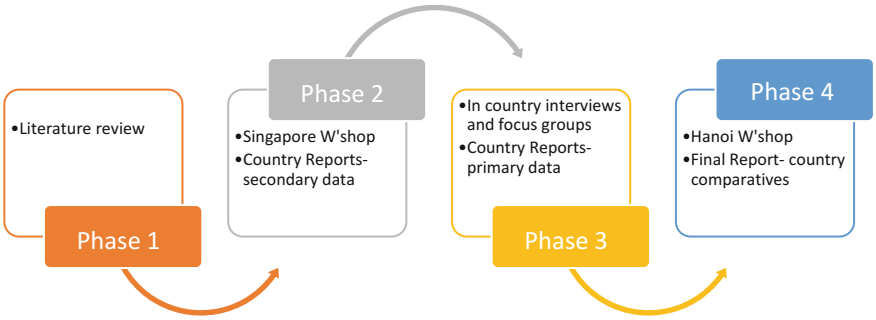

Fig. 3.2 Qualitative multi-method research design

(f) All data were then compared and analysed using Leximancer following the production of country reports

Figure 3.2 provides a visual depiction of the study and its phases.

3.7.3 Research Sample

Specific numbers and positions of the study participants are included in each country chapter, but the overall representation of the sample is briefly presented here. All country samples included senior government stakeholder representatives from a broad range of departments and agencies. Employer/industry representatives included local public and private organisations in many industry sectors, as well as several multinational corporations. Their positions ranged from Chief Executive Officers and managing directors, to HR professionals and workforce planners. Education representatives included university rectors, pro-vice chancellors, senior lecturers, lecturers and researchers. Overall, the research sample was relatively large, reflective of the perspectives of all three key stakeholders in the eleven countries, and as the following country chapters illustrate, provided significant insights into the nature, scope, antecedents and consequences of graduate work-readiness challenges across the region.

3.8 Conclusion

Drawing on the earlier chapter, this chapter explored stakeholder theory in relation to the significant graduate work-readiness challenges faced by governments, employers, and higher educational systems in the eleven countries. The research

methodology employed in the empirical study and the sample of regional participants are presented, and the links between theory and practice are discussed. Each of the subsequent chapters provide details of the findings from the empirical research, including cases and examples of successful interventions.

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Chapter 4
European, American and Japanese Perspectives on Work-Readiness: Implications for the Asia-Pacific Region

Jonathan Winterton

Abstract Work-readiness has been at the heart of European, American and Japanese employment policy for some time, but differences in institutional arrangements for training and in labour market regulatory mechanisms result in variations in the way in which policies are implemented but employers in all regions make similar comments on workforce skills, if to varying degrees. Given the apparent contradictions in debates in Europe and the USA, there is little mileage in ASEAN emulating their policy initiatives, which may not even be appropriate for the originating countries. Further research into work-readiness issues within ASEAN and the wider Asia-Pacific region is essential so problems can be identified more accurately before appropriate solutions can be developed to fit the context.

Keywords Work readiness · Employability · Europe · USA · Japan

4.1 Introduction

Global policy consensus on the importance of raising workforce skills has been one of the defining features of the last few decades, and a recurrent sub-theme is education-to-work transition and the employability of graduates from vocational education and training (VET) and higher education (HE) institutions (Aguilar et al. 2017; Hanushek et al. 2017). This chapter compares approaches to work-readiness challenges in Europe, the USA and Japan and considers the implications for the Asia-Pacific Region. The focus of this edited collection is on individuals entering the labour market from education, but it must be acknowledged from the outset that employability is also an issue for those already in the labour market because of the profound and rapid structural shifts and technological changes that are rendering certain skills obsolete and eliminating or transforming occupations. The current restructuring wave also presents challenges for adequately preparing graduates to

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enter a world of work that is changing at a faster pace than ever before and in ways that many view as constituting a paradigm shift in the nature of work and employment (Winterton and Forde 2013).

Concern with employability and work-readiness is not a new phenomenon: these were an explicit part of traditional apprenticeships which in early industrialised nations like the UK represented the only education available for working class children, and which remained the principal route of skill formation and transition to work up to the second world war (Liepmann 1960; Williams 1963). Employability and work-readiness concerns are not specific in a temporal sense, even if they take on increased significance at times of rapid change; neither are they spatially limited, but the nature of the concern is highly contextualised by specificities of education and training systems as well as employment regimes. Country differences in these respects are a function of a complex interplay of political and socio-economic histories in which institutions and processes are embedded and which result in divergent responses and outcomes to similar global challenges.

4.2 Comparative Skills Profiles Across the OECD

These differences produce characteristic skill profiles (as measured by the proxy of educational attainment level) in the labour force of different countries, as summarised in Table 4.1.

Table 4.1 shows that for Organisation for Economic Cooperation and Development (OECD) countries, one-third of the current labour force is educated to tertiary level (ISCED 6–8) while just over one-fifth has at best completed

Table 4.1 Educational attainment in selected countries

Country	Low	Medium	High
	(ISCED 0–3)	(ISCED 4–5)	(ISCED 6–8)
	Percent of labour force		
OECD[a]	23	44	33
EU21	22	46	30
Germany	13	61	26
UK	21	38	42
USA	11	46	45
Japan	5	53	47
Indonesia	72	21	8
Malaysia[b]	45	27	28
Sarawak[c]	49	36	15

[a]OECD (2013) [all countries except Malaysia]
[b]Estimated from *Labour force by educational attainment 2015*, Department of Statistics Malaysia
[c]Statistics from Workforce Development Unit, Chief Minister's Office, Sarawak

secondary education (ISCED 0–3), which implies that 44% have intermediate qualifications (ISCED 4–5). The OECD statistics over-estimate the proportion with intermediate skills as usually classified because of the qualifications included ('upper-secondary, post-secondary, non-tertiary') at that level, but since the same criteria are applied in all countries, they do offer a reasonable indication of relative differences in the skills equilibrium of different countries. Of course, measuring human capital by educational attainment is imperfect because it does not take into account the extent to which the holders of qualifications are employed in occupations where they are likely to use a significant proportion of the competencies implied by those qualifications (Winterton and Cafferkey 2018a), but qualifications are frequently used as a proxy of skills and the statistics on educational attainment are reasonably reliable. On this basis, the EU21 (European Union member states that are OECD members) correspond very closely with the OECD average, but within the EU there are substantial differences highlighted by the examples of Germany and the UK, which are taken up further below. In terms of the percentage of the labour force with tertiary qualifications, the UK, USA and Japan are becoming quite similar, but the proportions with low-level qualifications are quite different, notwithstanding issues surrounding the intermediate category.

4.3 Work-Readiness and Employability Challenges in Europe, USA and Japan

In the following sections, work-readiness and employability issues are explored in three very different geographic and socio-cultural contexts—Europe, the United States of America (USA) and Japan—before drawing summary conclusions and discussing the implications for the Asia-Pacific Region, where particular challenges of graduate work-readiness have been identified (Cameron et al. 2017).

4.4 Europe

European-wide policies on employment, education and training are implemented in member states exhibiting very different socio-economic characteristics as well as considerable institutional and regulatory diversity. Whilst HE structures and systems are sufficiently comparable to permit substantial student (and academic) mobility under various EU programmes, there are fundamental differences in the institutions of vocational education and training (VET). A brief overview of the main differences in VET systems is therefore necessary to understand how EU employment and training policies are adopted and adapted in different countries. The first and most obvious distinction is between school-based systems and enterprise or work-based systems: school-based systems predominate in the EU,

with nuanced differences according to whether training is in specialist VET schools, which is mostly the case, or an integral part of secondary education, as in Sweden. In the UK and Ireland, VET is mostly undertaken at work, whilst Germany (along with Austria and Slovenia) has a hybrid 'dual system' with integrated workplace practice and study in vocational schools. A second important distinction is in the systems of regulation, with a contrast between systems that are state-regulated and those that are left to market forces. The EU norm is for state-regulated VET systems, but market systems are becoming more influential even within regulated countries. The UK VET system is mostly left to market forces, which is unsurprising for a VET system that is employer-led and work-focused, but Italy also has a market-led system, even though it is school-based, notwithstanding attempts to introduce state regulation of VET institutions (Winterton 2000). It is significant that Greece and Bulgaria have similar arrangements to Italy, the consequences of which are discussed below.

These different systems, which explain the different families of approaches to competence as a conceptual construct (Winterton 2009), also have implications for the extent to which training is of sufficient volume and quality, as well as how far it meets employer expectations for work-readiness. The predominant state-regulated, school-based system delivers an adequate volume of training to quality standards set by the state, but employers in France, for example, complained that VET curricula designed within the education system fails adequately to address current labour market needs (Le Deist and Winterton 2012). The disconnectedness of VET from the labour market in Turkey is so serious that employers have developed independent schools that are not recognised by the state, and declared that they would rather engage young workers with no training at all than graduates of government VET schools (Öke and Winterton 2006). Work-based VET systems are more likely to produce work-ready employees, yet paradoxical, it is in the employer-led systems that business appears to have been most vociferous on employability and critical of what the education and training system delivers.

The origins of European policy initiatives on work-readiness can be traced to the end of the 1980s, when expenditure on passive welfare measures for the unemployed was reaching record levels, and active labour market policies were developed to get people back to work. Labour market activation initiatives had been pioneered in Denmark, the Netherlands and the UK and were noted by the OECD *Employment Outlook Jobs Study* (OECD 2006). The new approach carried with it the notion of 'employability' which was initially only concerned with the unemployed, particularly youth and older workers, but was later extended to include the 'work-readiness' of individuals making the transition from education to work. Concern over increasing structural unemployment in OECD countries was reflected also in the European Commission (1993) White Paper *Growth, Competitiveness and Employment*. The three elements of the title were given equal prominence and established the framework for social dialogue at European level on labour market reform. The result of that dialogue was a new draft Treaty agreed at the Amsterdam summit in June 1997, committing member states to developing a coordinated

strategy for employment, subsequently elaborated in the *European Employment Strategy* (EES) at the Luxembourg summit in November 1997.

The EES involved a redefinition of the 'unemployment problem' as an 'employment problem', specifically in terms of a low employment rate in comparison with the USA. The employment guidelines underpinning the EES were structured into four pillars: employability; entrepreneurship; adaptability; and equal opportunities. The Luxembourg Process required member states to develop National Action Plans for Employment, reporting annually on their policies with respect to the Employment Guidelines, later integrated into the Broad Economic Policy Guidelines (BEPGs). National reports were subject to peer review by other member states and evaluated by the Commission. Labour market reform in Europe was seen as essential to raise the employment rate sufficiently to be able to maintain the advanced social protection systems that distinguish the EU from the USA and Japan. Guidelines on improving employability were central to the EES (Lefresne 1999) and included youth and long-term unemployment; school-to-work transition; and active labour market measures.

Despite the pervasiveness of employability in European policy discourse, there was no consensus definition and the term was used in a variety of ways (Gazier 1998, 2001; Philpott 1999). Employability, defined as the likelihood of becoming or remaining employed, involves an essential 'duality' reflecting the interaction of labour supply and market demand (Brown et al. 2003: 110). Policy discourse, however, has almost universally focused on supply-side aspects of employability and neglected demand (Peck and Theodore 2000). The need for employability to be contextualised within a conceptualisation of employability as a multi-faceted construct was recently reiterated by Williams et al. (2016).

The limitations of supply-side interventions without demand-side measures to create employment opportunities were recognised in practical local labour market initiatives designed to combat long-term unemployment (Campbell 2000) and rural unemployment (Lindsay et al. 2003). Even where there is available work, the 'employability gap' of long-term unemployed can only be addressed with multi-agency support to overcome multiple deprivation (Hollywood et al. 2000). Similarly with unemployed youth, the challenge is not only to develop the skills employers want (CBI 1999, 2015; Lindsay 2002) but also to inculcate the necessary work habits (Lafoucriere and Winterton 2004) with the active involvement of employers themselves (McQuaid and Lindsay 2002). This body of work led McQuaid and Lindsay (2005: 208–213) to extend their analytical framework beyond the inherent duality of employability, incorporating three sets of factors that need to be addressed: individual employability attributes (skills, competencies and experience); individual circumstances (socio-economic and household circumstances); and external factors (labour demand and employment-related public services). Adam et al. (2016) in their review of employability policies in cities similarly demonstrate the importance of employer engagement to open sustainable job opportunities, personalised support and coordination of multi-agency initiatives. As a concept, 'employability' continues to be a weak explanation for youth unemployment in the UK (Crisp and Powell 2017) and the emphasis on 'work

readiness' in Britain and Ireland is still on getting young people into work rather than building their human capital (Symonds and O'Sullivan 2017).

The EES took on new significance with the Lisbon Strategy adopted in March 2000, which committed to making Europe, by 2010, 'the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion' (European Council 2000: 5). The Lisbon target employment rate of 70% overall (60% for women) became more of a challenge with the enlargement of the EU in May 2004, but the EU was on track to achieve this until the Global Financial Crisis (GFC) at the end of 2007. The Commission's *New Skills for New Jobs* (EC 2008) initiative responded to the unpredictability of changes following the GFC that made the need to raise skills and employability more urgent. In 2010, as the Sovereign Debt Crisis (SDC) began to unfold, the Commission (EC 2010) launched *Europe 2020*, a revised strategy for growth, competitiveness and jobs, which was designed to offer a framework for European economic recovery. Recognising the need for an additional margin to cushion the SDC, *Europe 2020* established employment targets above those of Lisbon: the employment rate for 2020 was set at 75%; early school leavers at 10% (from 15%); and young people qualified to degree or diploma level, at 40%.

Whereas the early focus for employability in Europe was mainly on raising the employment rate through combatting long term and youth unemployment, subsequent employability initiatives were more concerned with preparing individuals for transition (Tomkin and Hillage 1999). Such initiatives addressed improving school-to-work transition; aligning education (including HE) more closely with rapidly changing labour markets; and supporting workforce flexibility, adaptability and mobility. Throughout this period, the priority of the European employability agenda has been inclusion and labour market integration of disadvantaged groups: 'There is surprisingly little deviation from this prioritization, even in "high-skill equilibrium" countries like France and Germany, and this is probably because unemployment disproportionately affects youth (lacking work experience) and older workers (with fewer relevant qualifications).' (Winterton and Haworth 2013a: 178).

Work-readiness of new entrants to the labour market has become a more prominent element in employability policy, reflected in concerns to reduce the proportion of early school leavers and to improve school-to-work transition. Countries with specific 'employability' policies for new entrants have adopted various strategies around apprenticeships, integrated work and learning and various work experience initiatives such as internships and placements. The wider literature also demonstrates growing concern with graduate unemployment and the employability of university graduates, reflecting the paradoxical situation described in an early critique of the *Jobs Strategy*, 'whereby young people find prolonged education increasingly unsatisfactory but increasingly demand it' (Crouch et al. 1999: 6). Since then, evidence from the European Labour Force Survey (LFS 2013) has demonstrated a continuous and substantial 'education premium': higher employment rates are found with increased qualification levels in all countries

taking the working age population as a whole, and the position of the least educated deteriorated significantly with the unfolding economic and financial crises.

Other major developments, such as the European Credit Transfer System for higher education and its equivalent for vocational education, ECVET, and the European Qualifications Framework were principally designed to promote labour mobility within the EU but also contributed to ensuring graduates, both higher and vocational, were better 'future proofed' in being exposed to different cultures and institutional contexts (Winterton et al. 2006).

4.5 United States of America

The United States (US) is often used as a benchmark in EU employment policy, because the employment rate and productivity are both substantially higher than the EU average, even before the major EU enlargement of 2004. The Cardiff Process Report in 2000 showed the US employment rate at 74%, compared with 63% for the EU15, an employment gap of 11 percentage points, while EU productivity averaged 79% of the US, a lag of 21%. However, if US employment outcomes were seen as a model for the EU, American skill formation processes were not: while the OECD *Jobs Study* appeared to be advocating an Americanisation (raising employment rates and reducing regulation) of labour markets, there was a clear preference for a Europeanisation (raising overall skills levels and increasing high and intermediate skills) of training systems (Winterton and Haworth 2013b). The education and training system in the US traditionally produced a U-shaped labour force in terms of skills distribution, with similar proportions of the workforce having low-level and high-level qualifications and much lower proportions with intermediate qualifications, but, in common with other Anglophone countries, the increasing proportion of the labour force with intermediate and tertiary qualifications has dramatically altered the skills landscape. The OECD statistics reported in Table 4.1 show that the distribution of qualifications in the US is now quite close to that of Japan, with 45% qualified to tertiary level and only 11% of the labour force in the low skills category. Even if the OECD figures represent an over-estimation of intermediate skills, overall the American labour force has substantially higher qualifications than the OECD and EU21 averages. Against this backdrop of an increasingly highly educated American labour force, two parallel and apparently contradictory themes can be traced in the US literature relating to work-readiness: over-education and (lack of) employability.

The first issue can be traced to the seminal work of Richard Freeman (1976) who highlighted concerns that the average American was becoming 'overeducated' or qualified to a level beyond that which was required for the job vacancies on offer, or at least that the American labour market would be unable to absorb the increasing numbers of people passing through HE institutions. There was robust criticism of Freeman's work when it appeared, although Rumberger (1981) provided

corroboration of the rising incidence of over-education between 1960 and 1976. The high-tech boom of the following decades stimulated demand for graduates, but between 1980 and 2005 the steady increase in low-skill service sector jobs led to significant polarisation in the US labour market (Autor and Dorn 2013). The second issue, relating to the employability gap of those entering the labour force, took on greater prominence in the 1990s. The NCEE (1990) argued that productivity growth depended upon increasing the skills levels of the US workforce, influencing the SCANS (Secretary's Commission on Achieving Necessary Skills) initiative of the US Department of Labor, which sought to articulate the skills that schools and colleges should be developing to meet the needs of the American workplace (US Department of Labor 1991, 1992). Following the SCANS initiative, O'Neil (1997: v) edited an influential collection which highlighted the 'potential skill gap for the high-skill, high-wage, high-productivity jobs.' In an introductory chapter, O'Neil et al. (1997) contrasted the SCANS approach with four other studies that also addressed work-readiness and employability issues in America: a study for the American Society for Training and Development (Carnevale et al. 1990); research for the Michigan Employability Skills Task Force (1988, 1989), and Mehrens (1989); a study on basic and expanded basic skills by the New York State Education Department (1990); and a study reporting employers' views on future skills needs by the National Academy of Sciences (1984).

These five studies were all concerned with the implications for future workforce skills of changes in the world of work, particularly associated with lean production and flatter structures which were assumed to be driving the devolution of responsibility down the organisational hierarchy. O'Neil et al. (1997: 13) identified four categories of 'job-readiness skills' apparent in all five studies, with varying degrees of emphasis

- basic skills of literacy and numeracy, speaking and listening;
- higher order thinking skills, problem-solving skills, and learning to learn;
- interpersonal and team-working skills including, in various proportions, conflict resolution, leadership skills, ability to work with people from diverse backgrounds;
- personal characteristics and attitudes such as self-esteem, motivation and willingness to take responsibility.

It is worth noting that this last group frequently topped employers' lists of 'skills', even though these are not skills at all, demonstrating one of the universal difficulties in using employer surveys for skills needs. It is also interesting that these categories of 'job-readiness' skills remain remarkably similar to those discussed throughout this book in relation to the Asia-Pacific region and beyond.

The context in which those five studies took place was the subject of extensive investigation by Cathy Stasz and colleagues at the RAND Institute on Education and Training, who published a series of reports exploring the economic drivers of educational reform (Stasz 1995); generic skills and attitudes emphasised by employers (Stasz et al. 1995); and a more analytical approach to the nature of

workplace skills (Stasz et al. 1996a, b). In this work, the generic skills identified by employers were essentially the same 'work readiness' or 'employability skills' like problem-solving, teamwork and communications, which led to the revelation that while these are what employers say they want, they provide little training to that end and have little connection with schools to help in their development (Stasz 1997). Moreover, this work emphasised the importance of context for understanding workplace skills, concluding that it is rarely possible to transfer skills between different contexts (Stasz and Brewer 1999).

A high-profile report from McKinsey (Chambers et al. 1998) predicted a 'war for talent' as a result of the impending shortage of labour, especially skilled and professional labour. That argument was reinforced by the publication of a book with the same title by Harvard Business School Press (Michaels et al. 2001). Dychtwald et al. (2006) followed up with another Harvard publication, predicting a general shortage of labour and offering a formula for companies to deal with the assumed imminent workforce crisis and skills shortage. Throughout this period, however, there has been no evidence of any general labour or skills shortage.

> Despite the obvious problems with these labour shortage arguments, the Society of Human Resource Management (SHRM 2003) reported that large numbers of employers in the early 2000s were preparing for a skills shortage predicted to occur by 2010. None of these projections proved to be correct. Overall, the available evidence does not support the idea that there are serious skill gaps or skill shortages in the US labour force. The prevailing situation in the US labour market, as in most developed economies, continues to be skill mismatches where the average worker and job candidate has more education than their current job requires. Persistent, high levels of unemployment reflect the fact that job seekers still outnumber available job openings (Cappelli 2015).

With disregard for the analyses undertaken by Stasz and colleagues, subsequent American literature on employability returned to the basic question of whether the education system is producing graduates that are judged by employers to be work-ready (Carnevale et al. 2010). There was renewed concern that perceived problems stem from inadequate preparation at high school for entry to HE; although 70% of cohorts were graduating from high school, only 32% of these were qualified to proceed to 'four year colleges' (Greene and Forster 2003).

A study undertaken on behalf of ETS (Educational Testing Service) similarly predicted major problems by 2030 unless remedial action was taken as a result of the conjuncture of three forces: divergent skills distributions; economic restructuring; and demographic trends (Kirsch et al. 2007). The report similarly highlighted the gap in achievement of ethnic minorities and noted that a substantial proportion of the adult population was functionally illiterate and predicted literacy rates would be lower in 2030. Economic restructuring would continue to see job growth being driven by the college labour market, and the authors argued that immediate initiatives must be taken to increase the overall level of learning and skills and reduce existing gaps in educational achievement.

Another major study (*Are they Really Ready for Work?*) found the four skills cited as most essential by employers were: professionalism/work ethic;

teamwork/collaboration; oral and written communication; and critical thinking/problem-solving. When asked about new entrants to the labour market, employers reported serious deficiencies in work-readiness, especially for high school graduates entering employment, for whom employers reported deficiencies in all ten skills rated as very important for workforce success (Conference Board et al. 2006: 10). In particular, high school graduates were perceived as deficient in basic knowledge and skills of writing in English, mathematics and reading comprehension, as well as in applied skills of written communications and critical thinking/problem-solving, which may be dependent on inadequacies in basic skills. Whilst college graduates were viewed by employers as 'better prepared than high school graduates for the entry-level jobs they fill', they were also seen to be deficient in writing in English and written communication as well as leadership.

The results of the study were a cause for concern and reiterated in a further study three years later (Conference Board et al. 2009) which focused on what employers were doing to remedy the deficiencies identified. However, the weakness of such a generic approach, not taking into account specific job demands, was also evident. In a report proposing *A Better Measure of Skills Gaps*, ACT (2011: 5) noted that such studies of skill deficiencies in new workforce entrants were 'useful for providing the education system feedback on the employability skills of their recent graduates, but unfortunately they ignore the issue of addressing the significant skills gaps in the dislocated and incumbent workforce.' That report proposed a new approach to defining and measuring 'skills gaps' using a direct measure of skills as opposed to the proxy of educational attainment. A second report (ACT 2013a) redefined 'work-readiness' and articulated a method for determining empirically driven work-readiness standards and benchmarks for workplace success that would provide a more holistic indicator of factors preparing individuals for workplace success.

ACT (2013b: 4) undertook a more extensive and nuanced study of *Work Readiness in the USA*, concluding 'while individuals in the high-education group show greater levels of work-readiness skills, the data suggest that these skills aren't always enough to meet the work-readiness demands of the targeted occupations requiring a high level of education.' Finding significant gaps between the skills possessed by examinees with either a low or high level of education and those demanded for targeted occupations requiring a low or high level of education, the authors inferred that 'the required education level for these occupations does not fully equip individuals with the work readiness skills those jobs demand.' (p. 4). That study provided what is certainly the most comprehensive analysis of work-readiness in the USA to date, concluding, for example, that the majority of those tested were unable to demonstrate the requisite skill in locating information (finding, synthesising and using information from workplace graphics and instrument gauges). The analysis showed that academic achievement provides an inadequate measure of skills required for entering employment

> While extremely important, the knowledge gained in an academic setting does not guarantee that an individual is able to apply that knowledge in solving workplace issues nor to successfully perform job-related tasks. The analysis suggests that a more holistic view of an individual's knowledge, skills, attitudes, and personality characteristics should be taken into account when determining occupation fit. (ACT 2013b: 28)

Major initiatives arising out of the widespread assumption of skills gaps among new entrants to the labour market included attempts to build stronger industry-education linkages, particularly at high school level, for which support was provided by the School to Work Opportunities Act 1994 (Stull and Saunders 2003). That Act promoted employability testing, which Lakes (2012) viewed as a mechanism for allocating work opportunities in a labour surplus situation to workers intelligent enough to perform the tasks required and unlikely to challenge prevailing social structures of work.

4.6 Japan

As in many of the countries explored in this book, Japanese employers, students and their families, have traditionally favoured HE over VET qualifications for historic and social status reasons (Tsukamoto 2016). In addition, due primarily to the pervasive 'lifelong employment' ethos of many public and private organisations and Japan's characteristic internal labour markets, government and employers have only quite recently begun to recognise the value of work-integrated learning programmes in HE and VET systems. Companies have traditionally preferred external to in-house training, and there has been a significant reduction in overall on-the-job training budgets as a result of the economic situation (Tanaka 2015; Tsukamoto 2016). One observer suggested that companies 'do not expect much from universities as providers of a ready-to-work workforce' (Tanaka 2015: 1), regarding them as a 'leisure land' for students prior to undertaking lifelong employment.

Japan's economic decline and extended recovery period has been exacerbated by a dearth of functional graduates, and by the slowness of governments and industry to recognise that there are now serious work-readiness challenges with both HE and VET graduates. Until quite recently, both education sectors have been hampered by a lack of effective pathways between them, barriers to mature age enrolment—only 2% of students are over 25, in contrast to the OECD average of 18% (Tsukamoto 2016: 1); and an inadequate quality assurance framework for professional training colleges (Tsukamoto 2016: 1). However, recent Japanese government and industry initiatives responding to these key challenges illustrate cogent strategies, which may be transferable to many of the other regional economies included in this book. They are discussed later in this chapter, following a brief explanation of the structure of the Japanese education system, the relevant government agencies and key stakeholders and their overall responsibilities. Following junior secondary

school, students may choose to go either to a general or to a specialised upper secondary school. The latter schools focus on vocational disciplines such as engineering, commerce, agriculture, nursing, welfare and fishery, and are administered by the Elementary and Secondary Education Bureau (Ministry of Education, Sports, Culture, Science and Technology—MEXT); whilst the former are more academic. Graduates from specialised upper secondary schools may also enrol in a college of technology with programs in electronics, mechanics, health, architecture, civil engineering or biology, leading to an associate degree (5 years) or a bachelor's degree (7 years). Options exist to enrol in professional (or specialised) training colleges, with two year diploma or four year advanced diploma programs in culture and general education, personal care and nutrition, engineering, commerce, education, fashion, social welfare or agriculture.

The colleges of technology, of which there were approximately 57 in total in 2015, mostly in the public sector, are administered by the Technical Education Division, Higher Education Bureau. Specialised training colleges, numbering more than three thousand with most in private hands, are administered by the Lifelong Learning Promotion Division (MEXT). VET in Japan, as in some other regional economies, thus may begin at secondary school level and progress through colleges of technology or specialised professional training colleges towards certificate, diploma, associate, and bachelor's degree qualifications. In addition, there are approximately ten polytechnic colleges and one polytechnic university which complement more traditional universities by offering four year undergraduate degrees and additional two year master degrees in traditional disciplines such as mechanical and electrical engineering, architecture, electronics and information technology. The three key government ministries which determine education and labour market strategies, policies and quality assurance systems in Japan are the multi-faceted Ministry of Education, Sports, Culture, Science and Technology (MEXT), the Ministry of Economics, Trade and Industry (METI), and the Ministry of Health, Labour and Welfare (MHLW). MEXT and MHLW are primarily responsible for secondary schools and public sector vocational training and trade tests, and METI manages the transition from school to higher education, 'to improve students' job-readiness' (Tsukamoto 2016: 2).

Several recent reports have suggested that Japan has similar graduate work-readiness challenges to those experienced in the other regional economies discussed in this book. As examples, Zaharim et al. (2014: 5) found that many engineering graduates 'lack the initiative and problem-solving (and) effective communication skills' required by industry, as well as leadership; 'curiosity and flexibility'; optimism; 'desire for challenge'; sincerity; and vision. They cited an Education Special Committee of the Japan Federation of Employers' Associations which reported that 'new graduates are raw material … [but] they can become powerful components through continuous in-house training' (ibid). A JILPT (2011) report had similar findings, and further suggested that the growth in 'non-regular' (part-time, contract and casual) jobs in Japan had limited both graduate employment opportunities and employer investments in in-house training. In similar vein, an OECD report noted that three percent of Japanese students between 16–24 years

had inadequate reading skills, and that the government required a 'comprehensive range of measures to tackle the current youth unemployment crisis and to strengthen the long-term employment prospects of youth' (OECD 2014: 3). Graduate unemployment levels are currently reported as around 20% (Tsukamoto 2016: 2).

Two relatively recent reports on the usage of, and participation rates in, work-integrated learning programmes offered by Japanese companies and universities revealed that these strategies proposed to address graduate work-readiness challenges have not achieved their full potential, thus exacerbating the problem. First, Tokunaga's (2014) study, which surveyed more than four thousand companies, found that whilst three quarters of large Japanese (and multinational) firms offered such opportunities, only half of the medium size and less than seventy percent of small size companies engaged in such activities (p. 10). The most common functions undertaken in such programs were 'assistant' positions or managerial shadowing activities. He also discovered contrasting goals for such programs between the participating organisations and universities—'while universities are more concerned with students' personal development, companies are more concerned with direct benefit to themselves' (Tokunaga 2014: 12). The second study, conducted by MEXT during 2013, surveyed 748 universities and discovered that whilst seventy percent included (optional) work internships in their academic programs, only 2.2% of students utilised them in 2011, up from 0.6% in 1998 (Tanaka 2015: 9). More encouragingly, the proportion of universities offering internships had significantly increased from a low 23.7% in the same period. The majority of such schemes last between one and two weeks, with only a quarter extending beyond a month. More than 80% were unpaid internships (Tanaka 2015: 9). Thus, despite high levels of graduate unemployment and under-employment, and consistent complaints from employers about their lack of their work-readiness skills, attempts to redress these deficits have to date been largely unsuccessful due to the reluctance of employers to provide in-house training and an apparent lack of graduate enthusiasm for work-integrated learning schemes. The next section discusses more recent initiatives that have been undertaken by Japanese government agencies, in concert with the OECD, to address more effectively these significant labour market challenges.

In response to these challenges and the recognition of their long-term impacts on industry and the national economy MEXT developed a suite of new strategies designed to equip Japanese graduates with the skills required to smoothly transition from education to modern workplaces. These strategies have been complemented by an *OECD Action Plan for Youth* with the broad objective of implementing a 'comprehensive range of measures to tackle the current youth unemployment crisis and to strengthen the long-term employment prospects of youth' (OECD 2014: 3). Three key goals underpin this social and economic objective—namely, 'strengthening the education system and preparing all young people for the world of work'; 'strengthening the role and effectiveness of VET': and finally, enhancing 'the transition from education to the world of work' (OECD 2014: 3). In pursuit of these goals, a series of *Active Labour Market Programs* (ALMPs) with detailed processes

and clear measures have been implemented, including financial incentives for employers who expand their apprenticeships and internships; the development of skill enhancement training programs for graduates and other young people; and collaboration with the Japanese government to upscale the resources required for ALMPs. In particular, the OECD project focuses on establishing 'measures to tackle weak economic demand, boost job creation, and tackle demand-side barriers to the employment of low-skilled youth' (OECD 2014: 12).

The Ministry of Education, Sports, Culture, Science and Technology has also responded to the challenges by developing an integrated range of new educational strategies encompassing secondary schools, vocational and higher education systems. At secondary school level, for example, MEXT has established so-called Super Science High Schools based on a science, technology, engineering and mathematics (STEM) curricula; and Super Professional High Schools which receive dedicated funding for three to five year programs which focus on agriculture, technology, commerce, fisheries, nursing and welfare studies—'to deliver practical vocational education in order to develop job-ready professionals for further industry development' (Tsukamoto 2016: 2). A series of Super Global High Schools has also been developed in recognition of the need to prepare their graduates for global linguistic, cross-cultural and international business skills.

In addition, MEXT has begun to accredit new vocational and professional programs offered by private providers, promoted 'study abroad' opportunities, collaborated with Australian VET systems in order to refresh and upgrade similar Japanese institutions; and implemented new educational quality frameworks, tighter quality assurance criteria, revised curricula and closer industry engagement opportunities (Tsukamoto 2016: 2). Finally, and perhaps most importantly, in response to the high levels of graduate unemployment discussed earlier, MEXT has established 'professional universities' which provide pathways from the workplace and vocational to higher education, compulsory work placements and strict quality assurance criteria and monitoring systems (ibid).

4.7 Conclusions and Implications for the Asia Pacific and Beyond

Employability has been at the heart of European employment policy for two decades during which time there have been major initiatives to raise the overall level of workforce skills. Differences in institutional arrangements for training and in labour market regulatory mechanisms result in variations in the way in which EU policies are implemented in member states, but for the most part employers make the same comments on workforce skills, if to varying degrees. Throughout this time employers have criticised the work-readiness of new entrants, reporting skills gaps but also shortages of high-level skills. Labour market statistics, however, provide

little evidence of skill gaps or shortages, suggesting rather that there is a substantial demand deficit, prompting criticism of the policy focus on supply-side measures and a broader concern with skill mismatches.

In the USA, two contradictory discourses on work-readiness have continued in parallel. Employers report an employability gap of new entrants and shortages of skilled labour, the so-called 'war for talent' scenario. On the other hand, there is concern of continuing over-education, with labour markets showing no evidence of skills gaps or shortages. There is increasing concern over relatively low levels of educational attainment, especially for those from ethnic minorities, in the face of job growth predominantly for college graduates. At the same time, there is continued debate over the extent to which high school and college graduates are being adequately prepared for current, let alone future, opportunities in the labour market. It is interesting to note that Western employers continue to report skills gaps and shortages, whereas labour market indicators and workforce surveys consistently show under-utilisation of skills and over-qualification of a significant proportion of the workforce to be a more significant problem. There is also a need to reflect on why employers invariably cite deficiencies in attitudes or motivation when asked about skills, and prioritise soft skills over and above skills of a technical or functional nature.

Japan appears to be suffering similar graduate work-readiness challenges and their adverse impacts on the labour market and national economy to those experienced by many other countries discussed in this book. However, government, in concert with an international agency, has begun to identify and address these challenges, and to develop innovative approaches in order effectively to produce graduates who are 'work-ready' for increasingly dynamic local and global industries. The literature we have been able to access shows fewer contradictions and discrepancies than is evident in Europe and the USA. Whilst it appears that some of the issues of work-readiness and employability identified in the EU and USA are shared by Asia (UNESCO 2012), the implications of European and American policies for the experience for the Asia-Pacific region are anything but self-evident. The EU and the APEC (Asia Pacific Economic Cooperation) Forum are fundamentally different organisations, with the former involving substantial political integration between nation states on a formally equal footing creating binding policies, whilst APEC is a loose coalition of countries committed to promoting free trade, where the predominant relationships are donor–recipient in nature (Haworth and Winterton 2012).

The declaration of the ASEAN single market in December 2015 inevitably prompted discussion of whether there are lessons that ASEAN can draw from the EU. Of course, such a comparison is premature because European integration has a history spanning more than 60 years, but there are also fundamental differences between the EU and ASEAN as economic communities, as well as in terms of demographics (Winterton and Cafferkey 2018b). Membership of the EU is conditional on democratic government (which delayed the incorporation of three Mediterranean countries) and embodies a social model that includes social dialogue with trade unions as one of its pillars: there are no such requirements within ASEAN. The EU single market established free movement of capital, goods and

labour, prospects for which remain remote in ASEAN despite the declaration. Where comparisons might be valid is in relation to the problems of implementing policies designed at supra-national level in countries having diverse traditions and institutions. The institutional diversity of EU member states has always imposed limitations to the transposition of Commission directives and the diversity between ASEAN member states is even greater, making policy coordination more challenging (Agresano 2004). With respect to the USA and Japan, implications for the Asia Pacific are more obvious since these countries are major players in APEC and have substantial influence on ASEAN policies. That does not necessarily make it any less problematic to import American or Japanese policies or experience on work-readiness into ASEAN, although there have been notably successful interventions, sponsored by the Japan International Cooperation Agency, training Filipino graduates in Cebu in *monozukuri* production methods to raise their employability.

What can be concluded here is that, given the apparent contradictions in debates in Europe and the USA, there is little mileage in ASEAN emulating their policy initiatives, which may not even be appropriate for the originating countries. Further research into work-readiness issues within ASEAN and the wider Asia-Pacific region is essential so problems can be identified more accurately before appropriate solutions can be developed to fit the context.

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Part II
Country Studies

Chapter 5
The Future of Work in Australia: Preparing Graduates for Changing Work Patterns that Require New Skill Sets

Barbara Mumme and Roslyn Cameron

Abstract This chapter explores the key data and issues effecting Australian VET and higher education (HE) graduates' preparation for the transition from education to work. In particular, we investigate current data collection mechanisms which record aspects of graduate work-readiness (GWR) in Australia for both the VET and HE sectors. The chapter then addresses contemporary challenges for the future of work and GWR in Australia; this chapter also updates and builds on the Australian chapter presented in 'Transitions from Education to Work. Workforce ready challenges in the Asia Pacific', and examines GWR from the perspectives of each of the major stakeholders, namely, government, industry, education providers and the graduates themselves, including what current policies and programmes are in place to address GWR challenges.

Keyword Graduate work-readiness · The future of work · Digital disruptions Changing labour landscape · Stakeholder responsibilites

5.1 Introduction

As discussed in Montague et al. (2018), Australia's goal is to provide 'high quality skills training that will meet student needs, be valued by employers, and contribute skilled human capital in an economy in transition' (Braithwaite 2016, p. 1). Recently, there have been increasing calls for Australian government intervention to save TAFE (following a poorly executed privatisation initiative) with experts

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warning that it is on the brink of collapse with a 25% drop in enrolments (ABC 2017). Furthermore, pressure from industry calls for a revamp of TAFE to meet industry needs (ABC Radio 2017) and also to include new skill sets relevant for the future of work in both VET and HE (ILO 2017; WEF 2016). The discussion around the unprecedented pace of change associated with various digital disruptions continues (Schwab 2016); however, the dialogue is increasingly focusing on how human capital fits within this new paradigm and what changes stakeholders need to undertake to address these issues for both workers and graduates. In the short time since the previous chapter, there have been several government initiative changes, such as the education funding model has been revamped, with some arguing that it effectively freezes funding and will reduce student numbers (University World News 2017). Additionally, the government has overhauled the Australian visa system reducing the availability of skilled migrant labour, this potentially encourages the take-up of Australian workers including graduates (Australian Government 2017a, b; DJ&SB 2018a). Further to this, various proposed government initiatives to encourage industry to offer work experience and employ more graduates, through financial bonus incentives, planned for 2017 are now underway. Numerous challenges for stakeholders to meet the demands of GWR continue to emerge, and these are discussed in greater detail in this chapter. The chapter concludes with a set of three innovative case studies that attempt to address GWR in Australia. The first case study is from the higher education sector, followed by a case from the VET sector and one from an industry representative body.

5.2 Data Collections on Graduate Work Transition in Australia

The data on the dimensions and trends in higher education graduate work transitions has been collected for some time now by Graduate Careers Australia (GCA) up until 2015. GCA collected data utilising a series of online surveys of graduates from Australia Universities and from employers and recruiters up until 2015. After 2015 this was taken over by Quality Indicators for Learning and Teaching (QILT) which is funded by the Australian Government Department of Education and Training. Table 5.1 details these data collection instruments from 2007 to 2017. Please note the AGS has been conducted since 1972.

The response rates vary across the surveys; however, these surveys are uniformly utilised by Australian universities to benchmark their respective course and graduate outcomes. Employment of graduates is measured at 4 months from graduating (AGS) and so may be limited in providing a true picture of what constitutes 'employability'. In addition, the survey (AGS) does not collect data on whether this employment is commensurate with graduate entry level into the degree-related profession or whether this is unrelated to the graduate's degree.

Table 5.1 Graduate careers data collection instruments

Survey	Purpose and respondents	GCA/ QILT	Year/s
Graduate outlook survey (GOS)	Annual national survey of graduate recruiters and employers that investigates graduate recruitment practices and trends in Australia and New Zealand	GCA	Annual 2011–2015
Course experience questionnaire (CEQ)	Survey results on graduate satisfaction sourced from the Course Experience Questionnaire (CEQ) for undergraduate and postgraduate coursework level graduates The CEQ is completed by graduates of Australian higher education institutions approximately 4 months after completion of their courses. The surveys provide information about the quality of education provided at Australian institutions, by asking graduates to what extent they agree with a series of statements about their study experiences The CEQ is funded by the Australian Government Department of Education and Training, and in 2016 and 2017 was administered by the Social Research Centre	QILT	2016 2017
Employer satisfaction survey (ESS)	Information on the QILT website about employer satisfaction is sourced from the Employer Satisfaction Survey (ESS) The ESS is the first national survey that directly links the experiences of graduates to the views of their direct supervisors. The ESS is undertaken on a systematic basis by asking employed graduates who participated in the Graduate Outcomes Survey (GOS) 4 months after graduation to provide the contact details of their supervisor for follow-up	QILT	2016 2017
Australian graduate survey (AGS)	This is a national survey that examines new graduates' activities 4 months after completing their HE degree. The AGS comprises the Graduate Destination Survey (GDS), and the Course Experience Questionnaire (CEQ) or Postgraduate Research Experience Questionnaire (PREQ)		1972–2015
Beyond graduation survey (BGS)	Survey to follow up with graduates 3 years after they completed the AGS. The primary aim of the BGS is to investigate the impact that these interceding years have on graduates' post-study activities	GCA	Annually 2009–2014
University and beyond	Survey conducted on the expectations and perceptions of current higher education students in Australia is of key interest to organisations wishing to attract, recruit and retain graduates	GCA	2007 2008

(continued)

Table 5.1 (continued)

Survey	Purpose and respondents	GCA/ QILT	Year/s
Student experience survey (SES)	Student learning experiences are sourced from the Student Experience Survey (SES). The SES is the only comprehensive survey of current higher education students in Australia. Around 178,000 first and later year undergraduate students from Australian universities and non-university higher education institutions (NUHEIs) participated in the 2016 SES. The SES is funded by the Australian Government Department of Education and Training and in 2016 was administered by the Social Research Centre	QILT	2016

Source GCA (2018) and QILT (2018)

The 2017 Graduate Outcomes Survey reported the following results:

> In 2017, 71.8 per cent of undergraduates were in full-time employment four months after completing their degree, up from 70.9 per cent in the previous year. This continues the steady improvement in the full-time employment rate of graduates in recent years from the low point of 68.1 per cent in 2014. This is consistent with a modest improvement in the overall labour market over the period. Notwithstanding the shift to full-time employment among undergraduates in 2017, over the longer term there has been a pronounced trend towards part-time employment among graduates, in part, reflecting trends among the wider workforce. (Social Research Centre 2018, p. 3)

In relation to graduates from the VET sector, national data is collected by the National Centre for Vocational Education, Training and Research (NCVER). It has only been relatively recent (since 2014) that private VET provider, graduate data has been included in this data collection.

5.3 AVETMISS Data VET Sector

The Australian Vocational Education and Training Management Information Statistical Standard (AVETMISS) is a national standard for collecting and reporting vocational education and training (VET) data. Up until 2013, this data was collected from publicly funded VET providers only. In 2005 VET in Schools data was also collected and in 2014 data was collected from all VET providers. NCVER recently published a report Y*oung people in education and training 2016 which has sourced data from NCVER, the* Australian Bureau of Statistics and the Australian Government Department of Education and Training to provide data on students enrolled in school, VET and higher education. Below is a summary of that data collected for Australians aged 15–19 years who participated in education and training in 2016:

As of August 2016, there were 1.5 million young Australians aged 15–19 years, of which an estimated 83.2% participated in education and training. Of these, an estimated:

- 57.1% were at school,
- 14.3% were enrolled in a VET in Schools programme,
- 42.8% were at school but not participating in a VET in Schools programme,
- 16.2% were enrolled in higher education,
- 4.4% were undertaking an apprenticeship or traineeship, which was not part of a VET in Schools programme, and
- 5.5% were enrolled in other VET programmes.

(NCVER 2018, p. 1)

Employability for the VET sector graduates has been paid considerable attention since 1985. Wibrow (2011) has mapped the history of the development of employability skills as gleaned from NCVER publications and the Employability Skills Framework developed by the Australian Chamber of Industry and Commerce and the Business Council of Australia. Several reports were produced since 1985 that looked at key competencies for VET sector graduates (1985 Karmel Committee; 1991 Finn Review; 1992 Mayer Committee). In 2002, the Australian Chamber of Commerce & Industry and the Business Council of Australia developed the Employability Skills Framework. The National Quality Council then endorsed the embedding of these employability skills in VET training packages in 2005 and the reporting of these skills (in summary form) in VET qualifications in 2007 (Fig. 5.1).

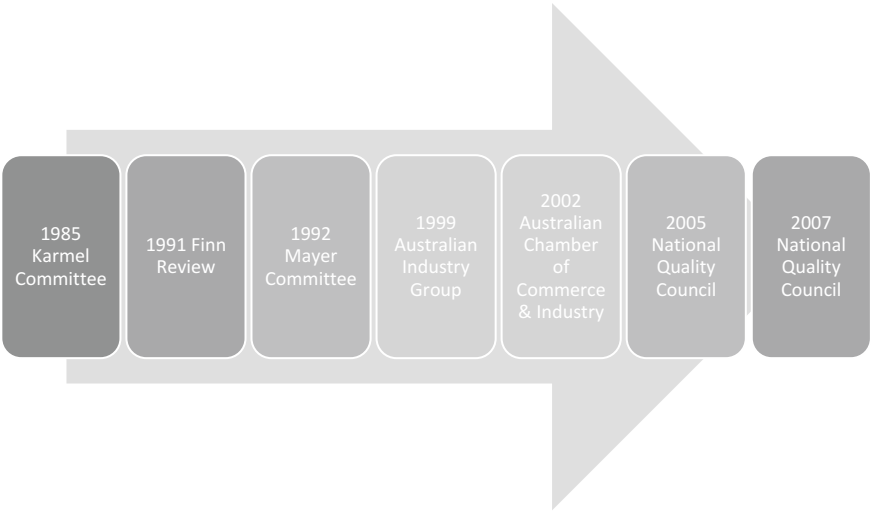

Fig. 5.1 Historical timeline in development and endorsement of employability. *Source* adapted from Wibrow (2011, p. 3)

Very little has been written on this since then, however, Newton (2015) has explored generic employability skills for young VET learners who are navigating global labour markets. Young VET learners were interviewed about their perceptions of their employability skills. The study concludes:

> Significantly, the participants reported that their qualification was only one of the sources from which they learnt their employability skills. Seen through their eyes, the findings call into question whether the present official employability skills and VET teaching arrangements for skilling young VET learners in employability skills are the best preparation of young vocational learners for their future careers. (Newton 2015, p. 1)

5.4 Contemporary Challenges for the Future of Work and GWR in Australia

Some might argue the future of Australian prosperity depends on its response to the changing technology landscape (Hajkowicz et al. 2016; WEF 2016). Advantages gained in the mining boom are fading, meaning Australia will be subject to the full pressures of international markets and while it is not possible to predict the future, it is possible to understand some of the influencing factors (CEDA 2015; Montague et al. 2018). A considerable number of jobs that exist today will not exist in 20 years from now and predicting what will replace these jobs and how best to prepare graduates for jobs that do not exist yet, remains elusive (CEDA 2015). Australia is on the cusp of a new era of work and job creation, which is forcing stakeholders to rethink their contributions.

Graduate work-readiness is an important factor for employment outcomes, and current high levels of graduate unemployment erode the ability of Australia and other countries to establish sustainable growth. As technology accelerates in Australia, more industry sectors are losing jobs than creating jobs, creating a new concept of technological unemployment (Ford 2009; Peters 2017; Summers 2016). It is proposed that by 2030, individuals, including graduates, will need to be open to several sources of income, temporary work, part-time jobs or adapt lifestyles to match lower paid jobs (Ford 2009). A report by the Foundation for Young Australians (FYA) states that:

> By 2030, automation, globalisation and flexibility will change what we do in every job. We urgently need to prepare young people with the work smart skills they will need most. (FYA 2017, p. 3.)

To counteract the challenges of technological unemployment, a study by Merchant et al. (2014) propose a range of interventions to protect employment, for example, work sharing, creating new types of work, redistribution of employment, flexible education and new social contracts. With regard to education, they suggest a focus on lifelong learning practices, revamping curriculums and providing flexibility to experimentation in education. Earlier chapters in this book discuss how uncertainty due to digital disruption calls for collaboration and constant

communication between the three major stakeholders, namely, government, employers and higher education systems (in Australia this includes both university and vocational educators). It is widely accepted that the labour landscape is changing and industry is pushed to its limits to keep pace with these changes, higher education providers are struggling to provide what industry demands and government policy has been slow to respond. An oversupply of underqualified graduates is causing concern for all stakeholders (Clarke 2017). In many developed countries, including Australia, the gap in graduate skill sets, coupled with some unrealistic expectations among employers and the graduates themselves is a concern (Heaton et al. 2008).

The Fourth Industrial Revolution and associated digital disruptions discussed earlier in this book is a global phenomenon, which is affecting Australia like so many other countries (Brynjolfsson and McAfee 2011, 2012, 2014; Deloitte 2017; ILO 2016, 2017; McKinsey 2012, 2017; Peters 2017; Schwab 2016; WEF 2016, 2017). The transition from graduation to work today is complex, as seen globally, with relatively high youth unemployment rates across nearly all countries (ILO 2017). In Australia, one of the reasons hindering graduate uptake is a lack of suitable employability skills, which can be attributed to a lack of work experience opportunities. Employers report that graduates do not have the desired skills (Manpower 2016a, b), however, very few employers are offering opportunities for these graduates to gain work experience. Concerns around attitudes, commitment and behaviour of graduates are other limiting factors (Manpower 2016a). In addition to current digital disruptions, Australia has seen a trend towards more contingent work, where employers want employees with experience on a short-term basis, leaving little room for the employment and development of graduates. Furthermore, a move away from traditional long-term career paths towards protean careers, in which employees take more responsibility for their own direction, is a daunting prospect for graduates who have not entered the workforce yet and requires different skills sets from previous generations.

The Australian labour landscape is changing, and the 'Foundation for Young Australians' (FYA) suggests that current high school students are more likely to have portfolio careers, 'potentially having 17 different jobs over 5 careers in their lifetime' (FYA 2017, p. 3). This can include being both self-employed and working for others simultaneously or separately. FYA's research shows that graduates are not being prepared for these changes (FYA 2017). It is clear that new skills sets are required and in 2012, Jackson and Chapman conducted an extensive study of undergraduate business programmes in universities in Australia and the United Kingdom and findings suggest that new graduate competencies are required 'to successfully and innovatively apply disciplinary knowledge in the workplace' (p. 541). Governments, industry and education providers in both Australia and the UK were slow to address many of the issues raised in the study. However, in the last few years, momentum has grown in Australia, and globally, raising awareness of the urgent need to address graduate work-readiness and identify the future skill sets that they require (WEF 2016, 2017; McKinsey 2017; ILO 2017).

5.5 Perspectives of Stakeholders and Initiatives to Address GWR

The following paragraphs will look at the main challenges and current policies and programmes in place, to address graduate work-readiness in Australia. Four key stakeholders are examined, Government, Industry, Education Providers and the Graduates themselves.

5.5.1 GWR Challenges and Policy Initiatives for Government

Policymaking in Australian higher education is centralised under the Commonwealth authority and similar to other developed nations, the Australian Government elects to have an educated nation. Higher education numbers have been increasing, with 645,000 people holding a degree in 1983 rising to 4.2 million in 2015 (population in 2015 was approx. 23 m) (AQF 2018). Higher education in Australia is a growing industry, with both domestic and increasing numbers of international students, attending 40 full universities and approximately 130 other higher education providers, consisting of colleges, institutes and schools that are authorised to provide qualifications approved to higher education standards (Norton 2016). Government requires all higher education providers to be registered with TEQSA (Tertiary Education Quality and Standards Agency), and the government sets out 10 levels of higher level qualifications as shown in Table 5.2.

In recent years, Vocational Education and Training (VET) in Australia has been through a challenging time, following a Government initiative to allow more private

Table 5.2 Australian higher education qualifications framework

Level	Australian higher education qualifications framework
1	Certificate I
2	Certificate II
3	Certificate III
4	Certificate IV
5	Diploma
6	Advanced diploma; Associate degree
7	Bachelor's degree
8	Bachelor's honours degree; Graduate certificate; Graduate diploma
9	Master's degree
10	Doctoral degree

Source AQF (2018)

providers enter the marketplace. Unfortunately, the supervision of these new providers was a failure with numerous providers misleading students, not providing adequate education and many went into receivership leaving students out of pocket and with no qualifications. The Australian Government makes a significant contribution to universities with approximately 60% of funding, the rest is raised through private means, largely revenue from overseas students (Norton 2016). In 2015–16, government contributions to higher education totalled AUD$15.7 billion; this is divided up between grants to higher education providers and loans to students to pay for their education, as well as income support to students while attending higher education (Norton 2016). At the end of 2017, the Australian Government announced a new scheme which will effectively freeze Government funding to universities for 2 years. From 2020 onwards, funding will be tied to Australia's working age population growth. Universities Australia suggests that this will force severe reductions in student numbers (University World News 2017).

Government initiatives such as the 'Employability Skills Training', from the Department of Jobs and Small Business (formerly known as the Department of Employment), provide young people with an opportunity to improve employability skills. It is believed that participation will help young people prepare for the recruitment process and set realistic expectations of what employers expect of them (DJ&SB 2018a). A number of other initiatives exist for Australians, such as 'Transition to work 2016–2020', 'Jobactive' and 'Youth Jobs PaTH' which provide opportunities and support to improve the work readiness of young people aged 15–21 (Australian Government 2017a, b; DJ&SB 2018a); initiatives also include tailored programmes for Aboriginal and Torres Strait Islander people (DJ&SB 2018a). The peak bodies for employment are the National Employment Services Association (www.nesa.com.au) and Jobs Australia (www.ja.com.au), as well as the Disability Employment Australia (www.disabilityemployment.org.au) (DJ&SB 2018a, b).

Early in 2017, the Government launched some initiatives to encourage opportunities for graduate placements in industry and government departments. A National Strategy for Work Integrated Learning (WIL) aims to get more students into industry work placements to benefit from hands-on experience and an opportunity to develop relevant skill sets. A study undertaken by four West Australian Universities and the West Australian Chamber of Commerce and Industry (Jackson et al. 2017) found that employers had a poor understanding of what universities have to offer in the way of WIL placements; inhibiting factors include difficulties for employers to come up with suitable tasks for students, unknown quality of students, finding students from relevant disciplines and their own capacity to supervisor WIL students. It is evident that the national programme needs to be promoted more effectively to increase WIL opportunities in Australia.

An example of a government graduate placement is the Victorian Government Summer Internship Program, in which they provide 12 weeks unpaid work experience for university undergraduates in their penultimate year, to be undertaken

during the university summer break (Victorian Government Careers 2018). Under the 12-week Government WIL scheme, young people get an extra $200 to top up their welfare payments, and businesses who subsequently employ the young person receive AUD 10,000 in a wage subsidy from the Government (ABC 2017). Exposure to the workplace is key to getting graduates work-ready and many more placements are needed.

5.5.2 *GWR Challenges for Industry Representatives, Employers and HR Managers*

One of the challenges for Australian industry is to build the workforce of tomorrow and employers report difficulty finding the quality of graduates and in some industries the quantity of graduates they require (Clarke 2017). To produce a sustainable Australian workforce, employers are tasked with supporting graduates transitioning from education to the workplace, by providing opportunities for work experience and training, as well as increasing recruitment and retention of graduates (Tomlinson 2017). Employers need to identifying employee skill sets specific to their industry and collaborate with higher educations to convey what these might look like for now and the future. Multinationals and Employer Associations can potentially assist through their extensive networks. Employers report poor retention rates of graduates, which in part, may be attributable to unrealistic expectations from both parties, employers expecting too much of young graduates and graduates displaying poor attitudes, commitment and behaviours (Manpower 2016b). This is compounded by the fact that finding appropriate supervision of graduates can be problematic. Technological advancements which make it easier for people to work remotely are a challenge for traditional HRM policies and do little to help transition graduates into the workforce. HRM plays an important role in both graduate and employee education with continuous learning central to the future of work. The World Economic Forum proposes that employers who promote on the job training and link learning with professional development will have improved success (WEF 2017). The Manpower Group (2016a) inform us that 1 in 3 Australian millennials are university educated and are embracing many of the new ways of working that are emerging. Millennials report that what is attractive to them to remain in their jobs is (1) a pay increase or bonus, (2) a new challenge or promotion, (3) improved work–life balance, (4) clear career paths and (5) recognition by peers and supervisors. 75% of millennials are working full-time and over half are open to other forms of work in the future, such as part-time, freelance/contract, casual, seasonal, gig works and more than one job (portfolio) (Manpower 2016a). Industry is tasked with collaborating with educators to improve skill sets and finding ways to effectively recruit and retain graduates to build a sustainable workforce for the welfare of all Australians.

5.5.3 GWR Challenges for Higher Education Providers

Australia fits with the global debate that education systems are not preparing students for the future of work, and like many other countries, this is further complicated by a lack of stakeholder preparedness (Smith and Anderson 2014). A UNESCO report 'Graduate Employability in Asia' (2012, p. 5) proposes:

> higher education institutions must reclaim their role as socially relevant institutions that produce graduates with the necessary attributes for a sustainable society.

The Committee for Economic Development in Australia (CEDA) suggests that higher education and vocational training in Australia needs to provide opportunities for graduates to develop a broader set of transferable skills, in addition to the more traditional role of teaching technical skills (CEDA 2015). A recent threat to higher education providers is from multinationals, with the likes of EY (2017) and PWC (2017a, b) actively recruiting innovative school leavers and providing a combined higher education and work experience programme. Higher education institutions are addressing challenges with changes to existing curriculums; however, there are growing calls to radically rethink the curriculum, including the type of delivery, length of delivery and content perspectives (WEF 2017). The World Economic Forum suggests that new curriculum design must allow for the unpredictable nature of AI (WEF 2017). Practices that potentially undermine higher education include the teaching of theory rather than practice; a lack of access to work integrated learning, student placements and internship opportunities; teachers with practitioner experience being replaced by researches; out of date facilities and curriculums; a move towards more generic degrees rather than industry-specific degrees; and a softening in assessment methods. New teaching delivery methods need to be evaluated such as 'Massive Open Online Courses' commonly known as MOOCs, one of the biggest changes to the delivery and teaching of higher education in Australia and Globally (Peters 2017). Also, gamification needs to be explored, particularly for its ability to provide students with real-life situations.

In an effort to address skills that fall outside of academic teaching, many universities now offer extra certificates to demonstrate proof of other aspects of university life not reflected in the academic transcript. These take many forms; however, more frequently universities are offering voluntary modules that students can undertake to help develop soft skills and obtain course-related work experiences. Other aspects reflected on these extra certificates, reflect roles as volunteers, and as representatives of university or industry student groups, student exchanges and so on. Australia has a relatively highly educated workforce (Table 5.3) which has been a source of advantage in recent times, the growth in educating domestic students, as well as the growth in foreign students, reflects a global trend for education providers. Ascertaining which industries will have demand for graduates is difficult to predict, and Table 5.4 shows the top five fields of study in Australia in 2016.

Table 5.3 Post-school qualifications by level of education in 2016

Top five fields of study in 2016	Population (2016)	Percent growth (since 2011)
Management and commerce	2,149,808	23.2
Engineering and related technologies	1,076,430	11
Society and culture	1,290,481	29
Health	1,076,430	23.2
Education	845,774	18.4

Source ABS (2017)

Table 5.4 Post-school qualifications: Top five fields of study in 2016

Qualifications by level of education in 2016 (Population in 2016 = 24.15 million people)	Population (2016)	Percent growth (since 2011)
Postgraduate degree level	921,029	45.9
Graduate diploma and graduate certificate level	377,539	27.0
Bachelor's degree level	2,882,838	23.2
Advanced diploma and diploma level	1,687,893	21.2
Certificate III and IV level	2,995,150	12.9
Certificate I and II level	215,505	1.7

Source ABS (2017)

The Australian Jobs 2017 Study reports that nine out of ten occupations, who are set to grow in the future, require Vocational Education and Training (VET) rather than university qualifications (DJ&SB 2017). This suggests the potential for future growth in the VET sector, after a turbulent few years, following a poorly executed expansion of the sector (Montague et al. 2018). VET graduates are reported to have a 78% chance of finding a job, compared to 69% of graduates who hold a bachelor's degree (Graduate Careers Australia 2017). Other benefits of VET are its flexibility and easy access, important considerations in a world that is changing so rapidly; also VET is increasingly important to the reskilling of the current workforce (Skilling Australia Foundation 2017).

5.5.4 GWR Challenges for the Graduates

It is reasonable to suggest that with the significant youth unemployment and underemployment rates in Australia, as well as questionable GWR, the students themselves need to be part of the solution. Spiralling costs of education and the length of time spent in education are raising questions among higher education students. School leavers often enter higher education with a lack of knowledge on

what is the return on their investment, they also, often leave higher education unaware of what industry expects of them. Arguably, to empower students to take control of their future careers and engage in lifelong learning practices, student education about the skills required for the future of work needs to start earlier, perhaps even in secondary school. In Australia, there is currently an expectation among employers in some of the more competitive disciplines that high flier graduates will take the initiative to develop and demonstrate skills sets outside of their academic coursework. Many of these skills are picked up through part-time and volunteer jobs, as well as taking on other responsibilities, such as roles representing university or community groups. It is imperative that graduates are given the opportunity to become familiar with the skill sets of the future early in their degree, so that they can develop these outsides of the academic coursework while they are still at university.

The days of solely relying on education providers to prepare graduates for employment are over, it requires all stakeholders Australia wide to ensure industry needs are met and relayed to graduates in a timely and productive manner. Current Australian graduate expectations may be unrealistic, given that they have lived through the excesses of the mining boom and not seen periods of wage stagnation, underemployment and higher rates of unemployment. Graduates may anticipate that the end of the degree is the end of learning; however, the workplace of the future requires an attitude towards continuous lifelong learning and the ability to embrace a labour market that is largely dependent on contingent employment, with graduate's post 2020 engaging in protean and portfolio careers. It is time to acknowledge that permanent, full-time employment, and the concept of a job for life is an outdated idea in Australia (CEDA 2015).

5.6 Case Studies of Innovative GWR Programmes

In this section, three case studies are presented, one from the higher education (HE) sector, one from the VET sector and the third from an industry representative body, the Business Council of Australia (BCA).

5.6.1 Case Study 1: Higher Education

This case study was funded through the Office of Learning and Teaching (OL&T) and the project was titled: *Supporting graduate employability from generalist disciplines through employer and private institution collaboration* (OLT 2018).

Partners

Bond University (Lead), Australian Council for Private Education and Training (ACPET), James Cook University, University of Southern Queensland. The project collected data from four key stakeholder groups: graduates, students, employers and

Table 5.5 Supporting graduate employability through employer and private institution collaboration

Case	Title
1	Multinational corporations
2	Competitive sports
3	Entrepreneurship
4	Government as employer
5	Private institutions
6	Career services
7	Indigenous employment
8	Commercial employment enterprises
9	Generalist disciplines
10	Graduate attributes
11	Emerging careers

Source OLT (2018)

educators/career development centre personnel. Data was collected through 821 returned surveys, 86 in-depth interviews/focus groups. The project collected a series of best practises of successful strategies used by employers and educators to support graduate employability. Eleven case studies of best practise were collected and disseminated along with a Good Practises Guide. Table 5.5 summarises these cases.

Employability strategies were identified, and stakeholders were asked to rate these. These strategies included: Capstone courses, careers advice, extracurricular activities, international exchange, mentoring, networking, part-time work, portfolios, professional associations, social media, volunteering and work experience.

5.6.2 *Case Study 2: VET Graduate Nursing Programmes*

This case study comes from a report published through NCVER titled *Graduate programs for VET students: is there a need?* (Wibrow and Jackson 2016). The report found very little evidence of graduate programmes for VET students, except in nursing. Graduate programmes are a type of employment aimed at recent graduates and are common for university graduates. They are very much employer-driven. The report concludes that the use of work integrated learning within VET courses would enable students to obtain exposure to workplaces and improve their employability. Good practice employing VET graduates was identified and the areas of focus being: timeframes, recruitment, induction, rotations, mentoring and continuing professional development. Employment programmes for nursing graduates (Diploma level) were identified as good practise. Common elements to such programmes which are offered across Australia in the public and private hospital systems include:

- orientation days (for example, an initial generic orientation, a nursing-specific orientation and orientation to each new rotation),
- designated programme staff (coordinators, support staff, etc.),
- six to ten study days,
- two or three rotations,
- supernumerary days at the start of the programme and beginning of each rotation,
- a graduate handbook or similar,
- quarterly reviews of progress and performance,
- evaluation of programme-related activities,
- a staged approach to the introduction of shift work, and
- main intake in February (Healy and Howe 2012, p. 10).

5.6.3 *Case Study 3: Business Council of Australia (BCA)*

The BCA is an industry representative body and includes CEOs of Australia's top companies: Members represent a range of sectors including mining, retail, manufacturing, infrastructure, information technology, financial services and banking, energy, professional services, transport, and telecommunications (BCA, http://www.bca.com.au/about-us/our-members). BCA produced a guide for graduates in 2017 referred to as *Work Ready: A Guide to what employers want.* They identify three sets of attributes that employers want: values, behaviours and skills. These are summarised in Table 5.6.

The BCA (2017, p. 4) also identifies the key stakeholders responsible for ensuring that graduates are work-ready and these include individuals, family, business, schools, VET providers, higher education providers and government. This represents a very proactive approach by this industry representative body. The Guide is for the use of some of these stakeholders that have been identified: individuals, students, people returning to work after extended leave from employment, career counsellors and teachers and families.

Table 5.6 Values, behaviours and skills employers want

Values	Behaviours	Skills
Accountability	Adaptability	Business literacy
Continuous Improvement	Authentic	Critical analysis
Honesty	Business-minded	Data analysis
Knowledge	Collaborative	Digital technology
Respect	Customer focused	Literacy
Tolerance	Flexible	Numeracy
Work Ethic	Globally aware	Problem-solving
	Self-aware	Technical skills
	Resilient	

Source BCA (2017, p. 3)

5.7 Conclusion

This chapter sheds some light on the challenges facing stakeholders for the effective transition of graduates from education to work, post 2020. In the prequel to this book based on data from 2016 to 2017, Montague et al. (2018) in their work on graduate employability in Australia concluded that both the higher education and VET sector needed urgent attention from key stakeholders. This included improvements to government policies, regulatory practices and funding; more innovative teaching from educators, and more opportunities for WIL from industry. These challenges remain, and urgency has intensified, spurred on by various technological disruptions and a changing labour landscape. As we enter a new era of work globally, Australian stakeholders are tasked with rethinking their contributions to remain relevant. This chapter builds on and expands the dialogue by examining the perspective of each stakeholder separately, and in addition, explores the role of the graduates themselves as part of the solution to achieving effective GWR. Examination of key data and issues in Australia, provides evidence of various initiatives geared towards finding a solution to GWR challenges but findings contend that many challenges persist, as outlined below:

- The Australian government has put in place several initiatives to help youth transition to employment and encourage industry to increase opportunities for work integrated learning and job placements of graduates. They are raising the profile on issues associated with GWR, although paradoxically, funding of higher education is stagnating.
- Industry states it would hire more graduates if quality and quantity (in some disciplines) were improved. Organisations are providing some opportunities for graduates to access the workplace to learn relevant new skill sets that are outside the realms of the classroom but many more are needed. Greater collaboration between industry and educators is required to identify skills sets. Industry may need to re-evaluate their expectations of graduates when work experience opportunities outside of the classroom are not provided.
- Universities are rethinking curriculums and other forms of delivery and many have already made changes, but on the whole, universities have been slow to implement. Concerns over spiralling costs of education are prompting graduates to ponder the rate of return on their investment. This coupled with industry complaints over a lack of quality graduates is forcing educations to address these concerns to remain relevant. Calls to revamp the VET sector, to meet industry needs, require greater impetus.
- Empowering graduates to be part of the solution is imperative, a changing labour landscape of contingent employment and future protean and portfolio careers will require graduates to take more responsibility. Skill sets are changing, and students need to look for opportunities outside of the classroom to develop transferable skills and gain the experience they need to succeed. Graduate expectations may need some adjustment to match the realities of the current labour market.

The chapter concludes with three case studies to demonstrate innovative initiatives, undertaken by higher education, the VET sector and an industry representative body. These initiatives along with numerous others are working towards constructive outcomes for GWR challenges in Australia.

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Chapter 6
Work-Readiness of Indian Graduates: A Multi-stakeholder Approach to Assess Competence Deficits and Causes, and Possible Solutions

Sanjeev Kumar, Parth Patel and Verma Prikshat

Abstract This chapter presents a comprehensive picture of work-readiness and employability among Indian graduates transitioning from university to careers in the Indian labour market. More particularly, it presents macro and micro data from various industry sectors in India to chart the dimensions and trends in graduate work transitions in India. Furthermore, the chapter presents an empirical view of three main stakeholders' (policymakers, employers and educational stakeholders) assessments of the work-readiness competence deficits of Indian graduates and their possible causes. Finally, it discusses recommended solutions by these stakeholders for making Indian graduates work-ready.

Keyword Gradauate work-readiness · Indian graduates · Work-ready comptencies Multi-stakeholder approach

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6.1 Introduction

Graduate work-readiness refers to the extent to which graduates are observed to acquire skills and attributes that provide them with the ability to succeed in the workplace and is increasingly being perceived as suggestive of graduate potential in terms of their job and career performance, and advancement (Caballero and Walker 2010). Preparing work-ready graduates is now seen by extant research as a major role of higher education (Green et al. 2009; Holmes 2013; Tomlinson 2010; Tymon 2011). As a construct, graduate work-readiness has become an important benchmark for making decisions relating to graduate recruitment and selection (Caballero et al. 2011). Accordingly, universities have engaged with the graduate employability agenda by re-examining what attributes their graduates should hold, and by focusing on imparting those skills that might make the students more appealing to employers across various industries and sectors (Bridgstock 2009). Although several studies have been undertaken on how graduate work-readiness and employability varies across various countries and their labour markets, most have been conducted from a developed country perspective (see Andrews and Higson 2008; Dacre Pool and Sewell 2007; Montague et al. 2008). Scant attention has been given to researching and understanding graduate work-readiness in developing countries (Tran 2015), including in less developed countries (Bhanugopan and Fish 2009). Although some studies from developing countries do exist, they have mainly looked at work-readiness from an international student mobility perspective; such as Chinese students in the United Kingdom (Huang 2013).

This chapter explores the issue of graduate work-readiness from an Indian perspective (Edakkandi Meethal 2014). India is one of the foremost developing countries in the world (Budhwar 2001). It ranks second after China in producing the largest number of STEM (science, technology, engineering and mathematics) graduates in the world (McCarthy 2017). This should be considered positive given India's 'demographic dividend'—that it has a young and growing population between 25 and 50 years old who are seeking white collar jobs (Khare 2014). However, despite this accomplishment, Indian graduates constantly struggle to get hired in the local labour market. For example, according to a report by the Wall Street Journal (2011), about 75% of technical graduates and more than 85% of general graduates are deemed unemployable by India's high growth industries. Although India has one of the largest education systems in the world, the employability of its graduates has remained one of the foremost challenges for the country (Khare 2014). As a result, this has impacted the transition of Indian graduates into their careers and the role they play in the labour market. A good supply of skilled and employable graduates is essential for national, economic and social well-being, and the failure to equip graduates with employability skills has far-reaching consequences (Wickramasinghe and Perera 2010).

6.2 Trends in Indian Graduates' Work Transition

Although the number of graduates with higher qualifications in India has been steadily increasing, the number of graduates who remain unemployed also remains relatively high. Accordingly, more and more graduates are registering themselves at the employment exchanges in the country, and a major share of these are those who are educated (Khare 2014). For instance, according to a report by the Labour Ministry in India, one in every three graduates up to the age of 29 is unemployed with the total employment rate being close to 12% (Sharma 2014). Accordingly, this has brought the problem of the quality and work-readiness of graduates in India to the forefront as the gross enrolment rates (GER) in higher education in India reached 21.5 percent between 2011 and 2012 (Mehrotra 2015). As such, there is a significant problem that India is likely to face in the future due to the lack of utilisation of its graduates, which will likely lead to major challenges associated with human resource skills and knowledge in the country (Prikshat et al. 2018). Interestingly, the Indian economy registered a high gross domestic product (GDP) growth rate during 2015–16 and is showing strong signs of growth in industrial and service sectors (ILO 2016), indicating that the country is ready to tackle the issue of the high levels of unemployment of its graduates. However, data indicate that this complex problem is far from resolved, as approximately 146 million of the workforce (of 485 million) in India were illiterate in 2012 (Mehrotra 2015). As illustrative examples, over 253 million of the labour force possesses education qualifications at secondary level, but only 15 million have a tertiary-level technical education which includes graduates with certificate or diploma-level qualifications (Mehrotra 2015). A recent report by the All India Council for Technical Education suggested that over 60% of students graduating from technical institutes remain unemployed (India Infoline 2017), while only 7% of graduates in top business schools are considered employable (The Economic Times 2016). Accordingly, there is a massive disconnect in the Indian education system between the demand and supply of graduates for employment resulting from the lack of work-readiness skills among university graduates (India Skills Report 2017).

6.2.1 Macro Versus Micro Trends in the Workforce

Although India today remains one of the fastest growing economies in the world, a major drawback of its labour market is that the majority of its graduates have been trained informally in their industry (Khare 2014, 2016). For example, in the agriculture sector, the most dominant source of informal training is hereditary (family businesses), while in the manufacturing sector training is conducted mainly on-the-job, and among the ones who are trained—i.e. 86% in agriculture and 91.7% in the manufacturing sector—many received no formal training (Khare 2016).

Table 6.1 Employability rates 2015–2016

Employability as per qualification	2015	2016
Engineering/MBA (%)	44.56	50.69
BA (%)	29.82	35.66
B. Com (%)	20.58	37.98
B.Sc. (%)	35.24	31.7
M.Sc. (%)	39.81	31.36
IT (%)	40.9	42.22
Polytechnic (%)	15.89	25.77
B. Pharma (%)	40.62	42.3

Source India Skills Report (2017, p. 18)

Table 6.2 Employability rates 2015–2016 (as per gender)

Gender wide employability	2014	2015	2016
Male (%)	34.26	36.01	40.12
Female (%)	37.88	39.95	40.88

Source India Skills Report (2017, p. 19)

On the other hand, there is a high demand for highly educated and formally trained employees, but it mainly in the fast-growing service sectors of India. As an example, information technology (IT) companies in India prefer hiring engineering graduates who bring with them strong analytical and technical skills including high levels of proficiency in problem-solving skills (Gokuldas 2010). Accordingly, it is the service sector of India that employs highly educated and formally trained workers and graduates, amounting to 60% of jobs in India (Khare 2016; Yang et al. 2014). Table 6.1 provides the employability rates for 2015 and 2016 as per the qualifications gained by Indian graduates; whereas Table 6.2 shows the employability proportions between males and females in India between 2014 and 2016.

Concerns about lack of work-ready graduates in India for both domestic and global organisations have sparked calls for reforms in its higher education system (Carter et al. 2016). Other observers have noted that there is also a need to change the curriculum in the Indian higher education system to tailor it more closely towards the requirements of industry–employer expectations (Chithra 2013; Gopalakrishnan and Sukumar 2013). Industry can also play a major role in shaping and reforming the Indian higher education system. For instance, some private companies in India such as in the IT sector now require potential candidates to sit for and complete aptitude and other skills-based tests to determine their work-readiness (Salmi 2017). However, a level of disappointment persists among employers and industry in the Indian labour market regarding the lack of graduates' work-readiness competencies and skills. A key component within the Indian higher education is the vocational education and training (VET) sector, which has been the blind spot for central and state governments in India for the past six decades (Gupta et al. 2016). According to a World Bank report on skill development in India, there are massive problems in the Indian vocational education system that relates to the

lack of private and industry participation in the management of institutions, their outdated curriculum, lack of funding models, and a significant mismatch between the demands of industry and the courses offered by VET institutes and colleges (World Bank 2008). Furthermore, from a societal perspective, Indian society has always traditionally seen the VET sector as suitable for those students who are academically poor (Kumar 2009), and this has created challenges for the planning and reform of this sector. The aim of the VET sector in India is to create employment opportunities and impart suitable skills for generating self-employment, especially in rural and unorganised sectors (Agarwal 2013).

6.3 Higher Education Policy Reforms

The Indian labour market has experienced persistent policy reforms, which have caused concern for policymakers and industrialists alike (Majumdar 2016). The Indian government's policy initiative for altering its education system reflected the shift in its economic ideology that includes an increasing reliance on market forces by emphasising liberalisation, with several national committees being established since 1980s to provide recommendations, ideas and policy proposals (Cloete et al. 2006). However, the main issue with the Indian higher education system is the lack of policy implementation, which lies in its failure to manage the trade-offs involved in pursuing various projects; such as not taking into account the institutional changes or not suggesting concrete measures for mobilising resources (Cloete et al. 2006). The Indian education system includes primary, secondary and higher education, with the latter commencing after passing the 12th standard, which in turn leads to 5 years undergraduate, 2–3 years of postgraduate studies (Gupta et al. 2016). The higher education system in India can be classified into three categories; namely, universities, colleges, and special institutes offering diploma courses (Venkatram 2016). Although there are several public universities in India that are funded by the country's University Grants Commission (UGC), there is also a major presence of private institutes offering specialist courses.

Presently, the Indian government is making efforts to improve its higher education system by implementing key macro initiatives to accelerate graduate work-readiness; namely, (1) adopting a public–private partnership model, (2) forming sector councils and the adoption of schools by the private sector, and (3) encouraging the private sector to participate in quality assurance systems (Majumdar 2016). In addition, changes are also being made through curriculum and examination reforms, and universities have adopted a semester system, while providing English language courses at the undergraduate and postgraduate level (Khare 2016). With the aim of enhancing graduate skills to capitalise on the 'demographic dividend', the government launched a comprehensive National Skills Development mission and an Inclusive Skills policy in 2009 to promote institution-based graduate skill development (Khare 2016). As such, an industry-wide approach and a shift from quantity to quality can be seen in all the reforms undertaken by the government to improve

higher education. In addition, several important initiatives have been undertaken at government level to address work-readiness concerns for graduates. They include the following:

- The Technical Education Quality Improvement Project (TEQIP-III) project signed between the Government of India and the World Bank aims to improve the quality of engineering education across several states at a cost of US$ 201.50 million to be implemented in a 3-year period until 2020.
- The All India Council for Technical Education (AICTE) has taken various steps to improve technical and higher education in line with the Central Government's initiative ('*Digital India*' and '*Skill India.*')
- Four new schemes—'*Unnat Bharat Abhiyan*'—for engaging with communities and using technologies for their upgrading; *'Trainee Teacher Scheme'*—recruitment of fresh graduate engineers as well-trained lecturers for the NITs, '*Adjunct Faculty Scheme*'—to have a strong and robust collaboration between the educational Institutions and industry, *and* 'Margdarshan or Mentorship scheme'—mentoring to institutes by a well performing Institute, have been launched to enhance the work-readiness of graduates.
- Other initiatives embarked upon by AICTE include *mandatory internships* for students (4–8 weeks during summer vacations), *training of teachers* (both induction and annual in-service training), *single entrance examination* for admission in undergraduate engineering programs, and *induction training* for first-year students (PCM, English, communication skills, ethics, values).
- *Regular revisions of curriculum* (annual feature); *industry interaction cells* in each institute; promoting innovation in study and startups; *exam reforms* with more emphasis on practical subject understanding and skills than mere subject knowledge; and *preparing perspective plan* for the country with inputs from all the states.

6.4 GWR Stakeholder Perspectives

Sin and Neave (2016) discussed the interpretations of work-readiness from the perspective of policymakers, academics, students and employers. Similarly, extant research has reported numbers of stakeholders in addition to the education stakeholders—employers and industry groups, government and policymakers, students and their parents/families (Crossman and Clarke 2010; Harvey and Shahjahan 2013; Jackson 2013; Kinash et al. 2016; Tran 2015; Walkington 2014). Different stakeholders may perceive work-readiness competencies differently in variable contexts (Tran 2015; Williams et al. 2016) resulting in inconsistencies between the perceived value and outcomes for students/graduates (Jackson 2013; Kinash et al. 2016; Male and Chapman 2005). It is important for all stakeholders to realise and develop a mutual understanding of the challenges and to work collaboratively to

enhance the work-readiness competence of graduates (Kinash et al. 2016; Tran 2015). Based on the above discussion, this chapter examines the work-readiness competence deficits of Indian graduates, the causes of these deficits, and possible strategies and solutions to improve them from the perspectives of three stakeholder groups; government policymakers, employers and educators.

The following research questions guided the study, based on graduate work-readiness (GWR) literature:

1. What are Indian graduates' requisite work-readiness competence deficits?
2. What are the causes of these deficits?
3. What possible strategies and solutions are appropriate to enhance Indian graduates' work-readiness?

6.4.1 Research Method

This study used a multiple design process of data collection and analysis involving three stakeholder groups—government policymakers, employers and educators—to contrast their views on Indian graduates' work-readiness status, causes and possible solutions. A qualitative research design was used to gain some preliminary insights and help shape future research. In-depth, semi-structured interviews were conducted to gain insights from the key stakeholders. Data generated were analysed in two stages according to key themes (Clarke and Braun 2013; Hesse-Biber and Leavy 2011). The researchers first examined each case on a stakeholder basis and used their experiences, insights and descriptions through words and written texts to find a pattern and themes discussed in the interviews (Creswell 2013). The transcriptions of the recorded in-depth interviews were analysed, followed by open coding and axial coding through close examination of the data; then aggregate themes were sought and subsequently reviewed, and for reporting purposes, these themes were defined and named. Particular quotations from interviewees are also presented, following conventions in qualitative research, throughout the main text to provide additional data to support our collated analysis in Table 6.4 (Pratt 2008).

To obtain data for the best possible information 22 participants in total, well placed to provide expert commentary on the current state of graduates, were selected. Due care was taken to include respondents from academia who had more than 10 years experience and were aware of the current work-ready issues faced by the graduates. The industry respondents comprised CEOs, managing directors and senior executive managers who were struggling to find work-ready graduates, and had formulated various strategies in their industry to meet this challenge. Most of the government respondents were involved in policymaking initiatives concerned with higher education. Of this sample, six responders were policymakers, eight were industry/employers and eight senior representatives from education sector. Semi-structured interviews were conducted with the respondents in the vicinity of

Table 6.3 Stakeholder participants

Stakeholders	Interview codes	Job title
Policymakers	PMD1	President, Industry Association of Uttarakhand
	PMD2	Director, Uttarakhand State Office Confederation of Indian Industry Uttarakhand
	PMD3	Vice-Chancellor (University)
	PMD4	Ex-Education Minister, State Government
	PMN1	Member, Technical Education
	PMC1	Basic Shiksha Adhikari (BSA), State Government
Employers	EN1	Chief Technology Officer (CTO), IT Company
	EN2	HR Head, IT Company
	EN3	General Manager, Textile Mill
	EN4	Vice President, International Bank
	EN5	Head-Institutional Sales and Online Sales, Beauty Products
	EC1	Country Sales Head, Capital Goods
	EC2	General Manager, IT Company
	EC3	Director, Export–Import Company
Education stakeholders	HD1	Professor & Ex. High Ranked Army Officer
	ND1	Assistant Professor and Training and Placement Head
	HD2	Dean-School of Engineering (University)
	HN2	Professor and Head of the Department (Management)
	HD3	Associate Professor and Adjunct Associate Professor (Foreign University)
	HD4	Senior Personality Development Program Trainer
	HD5	Professor and Head of the Department (Humanities)
	HD6	Pro-Vice-Chancellor (University)

the NCR (National Capital Region), Dehradun and Chandigarh in India during June and July 2017. These cities are education hubs and contain the offices of most of the well-known organisations in India (Table 6.3).

6.4.2 Research Findings

Table 6.4 outlines the various competence deficits identified by these stakeholders in Indian graduates.

It is evident from Table 6.4 that there was a consensus among all the stakeholders regarding the deficiency of soft skill competencies in recent Indian graduates. The communications skills of the graduates were the main area of concern for all the stakeholders. Government policymakers were specifically concerned about the practical orientation of graduates, whereas employers reported that the graduates

Table 6.4 Competence deficits in Indian graduates

Stakeholders	Competence deficits
Policymakers employers	Practical orientation (4), Lack of confidence (4), Communication skills (4), Conceptual understanding (3), Lack of innovation (3), Professionalism (2), Communication skills (5), Team-building skills (4), Interpersonal skills (4), Right attitude and aptitude (4), Lack of professionalism (3), Practical orientation (3), Lack of knowledge (2), Lack of global exposure (2), Lack of IT Skills (2), Personal hygiene or grooming skills (2), Lack of administrative knowledge (2), Perseverance (1), Not multi-skilled (1), Irresponsive (1)
Education stakeholders	Analytical skills (4), Decision-making skills (4) Communication (comprehension and English speaking) (4), Team-building (4), Practical problem-solving (3), Commitment (2) Business acumen (2), Attitude and Aptitude (2). Thinking out of box (1), Agile (1), Street smart (1), Discipline (1)

Note Numbers in brackets signify frequency of occurrence of competence deficit

were also deficient in team-building and interpersonal skills. The educators noted that graduates are not committed and dedicated enough to go through the courses in a planned approach to meet the demands of workplace requirements.

The following section presents the work-readiness competence deficits identified by all the three stakeholders, their causes and proposed solutions in detail.

6.4.3 Government Policymakers

6.4.3.1 Work-Readiness Competency Deficits

The key concerns raised by policymakers for the work-readiness of Indian graduates were in the competencies of practical orientation (being practically oriented towards accomplishing the tasks). Communication skills, especially English-speaking skills, were also highlighted as deficits in recent graduates. Policymakers also noted that graduates coming from remote areas usually lacked the communication skills and professionalism needed for the twenty-first century work culture. This also explained the lack of confidence of these graduates as they are not fluent in English, and usually, they are required to correspond and to some extent speak English for effective career prospects. Competencies of innovation and conceptual understanding were also reported as a deficit by the policymakers.

6.4.3.2 Causes of Competence Deficits

The main cause observed by policymakers for their lack of practical orientation was attributed to the fact that most of the universities' syllabus and teaching practices

are more theoretical in nature, and practical exposure relating to the industry is not provided to the graduates. This situation is further worsened with outdated an syllabus that has no connection with the practical needs of contemporary industries. Following are the observations of one of the policymakers regarding the old and obsolete syllabus:

> …is providing the syllabus, which is very old and doesn't conform to the standards of industry. Going through the course, following these obsolete syllabi, how you can train the graduates for industry.

Moreover, policymakers also noted that the higher education system also suffer from a resource problem, even if they want to develop the infrastructure needed to prepare students for industry. The policymakers also put some blame on graduates, as they observed that graduates are not willing to contribute to their educational institutions. Those graduates who excel in their studies and are successful in organisations usually do not contribute back to their alma mater in any way.

For the lack of communication skills and subsequent loss of confidence in graduates, the policymakers touched on the sensitive issues of national and regional languages. The medium of some graduate courses in regional languages, instead of English, was also mentioned as a possible cause for a lack of communication skills:

> So, if you are talking in a national language one should not feel shame in speaking national language starting from top to bottom level. But in India, if you see, extreme south people may not know Hindi, (whereas) when you come to the extreme north, the top official will only be comfortable in Hindi.

The ministerial system or minister responsible for education was another factor, which was brought up by the policymakers. They were quite apprehensive, considering that education portfolios are often run by ministers who are not educated themselves. This fact made their all efforts to increase the work-readiness of graduates redundant, as the ministers without any formal education do not understand their proposed innovations in the educational institutions. Following are the observations of one of the policymakers:

> Our education reforms largely depended on government systems. These systems are being ruled by ministers, who may be educated and who may not be educated. So obviously, such persons, if you are guided by such persons who don't know anything, so obviously they may not be able to understand these efforts because they don't have the requisite calibre.

The colleges affiliated with universities were also blamed for work-readiness issues. It was mentioned that though these colleges go through the accreditation process, and regulation processes are in place, but the quality of faculty as well as the quality of teaching offered is substandard. The following quotation reflects this view:

> On one hand, we have IIMs, IITs and NITs, and prestigious government universities, we have private universities, on the other hand we have got private universities and colleges affiliated to universities. There is a vast variation in our system education system that lacks consistency. There is a need for robust mechanisms to ensure consistency over all these institutions.

6.4.3.3 Strategies and Solutions

The policymakers generally favoured revising the syllabi of different courses according to the needs of industry, as well as the formulation of more innovative course designs based on the efforts of research and development (R&D) teams in universities and colleges. These teams must be funded by the government bodies and will ensure that state-specific indigenous courses can be developed that can cater to the industrial needs in those states. Following is the observation of one policymaker:

> The need is for enhancing the practically oriented infrastructure, through proper funding mechanism with the support of state or central governments so many ne innovative courses designed to fulfill the needs of the industry can be started based on the efforts of R&D teams.

Policymakers further observed that to address the work-readiness concerns of graduates, more innovative course-curriculum design is needed, and the faculty of universities and colleges should be instrumental and motivated to push that in their respective universities and colleges. Further, this type of initiative should be supported by government through a funding mechanism accompanied by regulations ensuring their accountability. To ensure proper implementation of regulations in affiliated colleges the need for more robust mechanisms and tight disciplinary action for those who do not conform to the regulations were suggested.

To address deficits in communication competence, ways to enhance the role of national language across different states and territories as a common language was emphasised. The policymakers were overwhelmingly in consensus when suggesting that only educated persons should be in charge of education portfolios so as to address the concerns of graduate work-readiness. Following are the observations of one of the policymakers:

> As governing bodies are supposed to make the system, therefore I will say before you assign education portfolio to a person, the ministry must ensure how much that person knows about global education, as well as aware about the present education system in the country.

6.4.4 Employers

6.4.4.1 Work-Readiness Competency Deficits

The employer stakeholders, while highlighting the existing demand–supply gap in employment, observed that there is perfect competition in the market for recent graduates to get good jobs. It was noted that, it is not that the jobs are not available, but the jobs are there for work-ready candidates and the number of these candidates is comparatively low. Reinforcing these observations, there was a consensus among all the employer stakeholders regarding the deficiency of soft skill competencies in

recent Indian graduates. A majority of them reported that most of the recent graduates employed by them were found to be deficient in communication, team-building and interpersonal skills. Following are the observations of a senior executive from a major organisation, which recruits fresh graduates every year:

> Every year, I face challenges in recruiting engineers who are good in soft skills. Almost all the fresh graduates lack basic professional writing skills, they can hardly write emails without making errors, they don't know how to work in teams and lack basic interpersonal skills.

Absence of the right attitude, a lack of professionalism and a practical orientation, and the absence of appropriate knowledge were other major competencies in which many Indian graduates were found to be deficient. Following are the views of one of the employers:

> They don't have practical knowledge, their basics are not clear, majority of the fresh graduates do not understand what they have studied and what are the implications of that in the industry, so the basic knowledge itself is lacking.

Some of the employers also reported that they were concerned about fresh graduates' lack of global knowledge, their personal grooming, lack of multi-skills and perseverance competencies.

6.4.4.2 Causes of Competence Deficits

The major causes for the lack of practical orientation and knowledge were attributed to the failure of educational institutions to upgrade and update the courses on a regular basis according to industry needs. They were blamed for not investing time in building their course-curriculum to industry standards, as well as lack of creativity and innovation in learning and teaching methodologies. Although the employer stakeholders observed that there has been a marked improvement in industry–education interaction, they asserted that more efforts are needed in this direction. Simply put, the students are not given adequate exposure to industry. Some of the employers mentioned a lack of competition among graduates to get admission in some professional courses due to the competition and mushrooming growth of private educational institutions. One employer observed:

> Initially there were competitive exams for entry into prestigious educational institutes, and only quality students could get into these programs ensuring good quality of graduates. These days the competition level is missing, any candidate can buy a seat regardless of his/her level, thus increasing number of non-work-ready graduates.

Moreover, it was noted that the employers, in the wake of stiff competition, do not have time to enhance the soft-skills of graduates. Another relevant point brought up by employers was the lack of work-readiness assessment measures for graduates leaving their institutions. Employers claimed that educational institutions seldom engage with graduates in identifying skills gaps. They felt that they do not seem concerned whether the graduate is work-ready and will be able to cater to the

needs of industry successfully. The priority of educational institutions appears to be on attracting the maximum number of candidates and passing them without taking seriously the work-readiness capabilities of their graduates according to industry needs. Another possible factor that might contribute to graduate skills deficiencies from the perspective of employers was their parents' role in influencing the career choices of college students. Many parents do not seem to appreciate what the college-level student is interested in, what are their aspirations, but rather force their wishes on their children to undertake studies in those fields in which they have no interest. They do not want to inspire their children to go for innovative and enterprising careers, but recommend that they choose more routine professional positions and career opportunities, thus limiting their choices. The employers also felt that many of the graduates who became new employees lack the qualities to survive and prosper in their industry and were not clear how to progress further in their careers. Note the remarks of one employer:

> Parents have a single agenda of proving in their society that that their kids are studying some prestigious courses, but they don't realise the interest and aspirations of their kids. They simply want to make them engineers or MBA graduates. Most of the graduates when interviewed lack the practical urge to sustain in their chosen qualifications.

6.4.4.3 Strategies and Solutions

The employers observed that the education institutions are often not training graduates in soft-skills and consequently many graduates have only academic skills. Following are the observations of one of the employers:

> If we can conduct small projects related to soft-skills, team-building exercises, then why can't it be done at graduate or post-graduate levels.

The need for more practically oriented curricula comprising internships, industrial visits and industry expert lectures was also suggested. Their emphasis was more on the length of internships (similar to those used in engineering and medical education), where the employers believed that the length of the internships should be around 6 months at least, so that the students can understand the challenges of their future job descriptions and grasp the details of industry competency requirements. One employer stakeholder observed the following:

> I think the internship duration should be of at least six months for every course as it gives chance to graduates to get connected to perspective employers and it improves the chances of getting the job. This can also generate many references for future job prospects.

The employer stakeholders observed that this is the time for all the stakeholders to synergise their activities, sit together and talk more frequently to solve the work-readiness issues of graduates. They suggested a need for frequent meetings between industry and educational institutions so that both parties can have the feel of what industry needs. Employers' roles could include conducting collaborative workshops with education institutions, walk-in lectures from industry experts; and

more active roles of key industrial experts in revising the curriculum of different offerings was recommended. Further, the stakeholders proposed that the teaching and learning processes need to be more practical and application-oriented rather than theoretical. Moreover, it was underlined that educational institutions should be aware of the competency needs of the industry in their vicinity and develop graduate skills according to the demands of that industry.

6.4.5 Educators

6.4.5.1 Work-Readiness Competency Deficits

The educational stakeholders, while observing that the knowledge base of students coming into graduate courses (MBA, Engineering) is very poor, also suggested that the general awareness of most of the graduates is very low. They suggested that the reading and comprehension skills of graduates are poor as they rarely read or go through newspapers and magazines to analyse current affairs. Most of the education system stakeholders believed that graduates are not committed and are not dedicated enough to raise their levels to meet the workplace requirements. That is why they get a shock while starting work and immediately put the blame on the education system. These stakeholders noted that most graduates lack analytical, decision-making, team-building and problem-solving skills, and are poor in communication skills. Other reported deficiencies in competencies were in the areas of business acumen, right attitudes, aptitude, being agile, 'street smarts' and discipline.

6.4.5.2 Causes of Competence Deficits

For the lack of proper analytical, decision-making and problem-solving skills, interestingly some of the educational stakeholders blamed it on the 'Jugaad' mindset of most of graduates, where they want to find quick-fix solutions to the problems instead of devoting time and learning the inherent capacity to solve life as well as business problems. Following are the observations of one of the stakeholders:

> I would blame it on the role of home and society on the development of students coming to us who have a 'Jugaad' mindset. Students want an easy way through short-cuts and without any hard work, thus impacting their critical analytical skills.

Moreover, partial blame for graduates' lack of work-readiness was put on parents as well. It was noted that the parents often discouraged work exposure by current graduates. It was suggested that parents seldom entrust any responsibilities to their children from the early stages, which hinders their abilities to cope with the real world. Most parents will not give a child the simple responsibility to go and buy vegetables or groceries from the nearby store as this is likely to interfere with

their studies. Moreover, educational stakeholders observed that in Indian society, working while studying in menial or routine jobs is considered a social taboo impacting the social status of families. Thus, the graduates become part of a system where they lack work exposure and have only academic knowledge. Following are the words of one educational stakeholder:

> Parents pamper their kids and don't encourage them to work while studying, and instead measure their success in terms of marks which they get. This ends up with passing graduates who have higher percentage of marks, but oblivious to work culture needed at industry level.

Lack of industry–academic interaction also resonated with these stakeholders. It was observed that just accommodating graduates for 2–3 months in the internship program without close mentoring and monitoring, does not serve the purpose, and industry must contribute more to this important activity.

Another important observation made by one of the education stakeholders in reference to a book by Prof. Srikant Datar (2010), '*Rethinking the MBA*', was considered the reason why educational institutions tend to focus on 'knowing' dimensions (theories, facts, models, definitions) of learning; and to neglect the 'doing' (developing the skills, capabilities, techniques which lie at the heart of practice of any field), and 'being' dimensions (taking responsibility for executing change, developing depth as a person, considering the balance between a career and commitment towards organisation, understanding one's own limitations, developing learning attitude) in their curriculum and pedagogy. Another prominent factor which was discussed was the absence of work-experienced faculty in many educational institutions. It was observed that most faculty members are academics or researchers and not business practitioners, as required in today's competitive business world.

6.4.5.3 Strategies and Solutions

All the education stakeholders were in agreement that a systematic and continuous interaction with industry is the key strategy that can considerably enhance graduates' work-readiness skills. They also suggested that course curricula and pedagogy should be designed in consultation with industry representatives. More fusion of the experience of academics (having industry experience) along with specialist industry personnel who can enhance exposure to graduates, is an important need. Further, they recommended that the Indian education system must move away from rote learning and memorisation of concepts and instead focus on the application of theories and concepts, complemented with meaningful work-related interventions.

More practical curriculum, intended to increase students' industry exposure, and involving more responsibility and accountability for graduates, must be incorporated in the mainstream educational institutions. Equipping them with lateral thinking and multi-tasking features and assignments will surely add more competencies and produce 'street-smart' graduates.

Following are the observations of one educational stakeholder:

> Today the country wants street smart graduates not professional course toppers. Get the graduates be absorbed in more practical curriculum having tasks involving lateral thinking and multi-tasking features around industrial mainframe duties to make them used to working under pressure with time bound tasks.

Some educational stakeholders asserted that the admission eligibility and process for some courses (MBA, Engineering) needed re-evaluation. It was considered that there is a dire need to assess the potential and suitability of the candidates for professional courses. The emphases during these professional courses must be on developing the analytical and decision-making skills of graduates. Shifts from classroom-based instruction to an industrial-experiential learning system were recommended. Further, they suggested solution-centred team and group assignments and activities in the course-curriculum, in order to enhance the analytical and decision-making skills of graduates, and more properly designed internship programs with suitable time-frames aimed at solid exposure to industry practices. Another innovative solution offered by education stakeholders was regarding 'inter-disciplinary integrated programs', jointly taught by academics from two or three different disciplines, thus enhancing integrated thinking for the graduates across organisational boundaries.

6.5 Discussion

The empirical analysis based on the observations of all the three main stakeholders showed many similarities concerning the work-readiness competence deficits in Indian graduates, their causes and recommended solutions. The stakeholders were in agreement that Indian graduates are way behind industry needs in terms of the development of soft-skills. Extant research has reported that soft-skills are an important predictor of employability (Gokuldas 2010; Lievens and Sackett 2012; Nickson et al. 2012), and new graduates who demonstrate soft-skills (effective communication and interpersonal skills) will be more competitive in the marketplace than those who do not (Finch et al. 2013). The results of the empirical analysis show that almost all the stakeholders are in agreement about the lack of communication, team-building and interpersonal skills in Indian graduates which considerably reduce their competitiveness or work-readiness. Often these competencies are considered as a pedestal at the point of appointment (Hinchliffe and Jolly 2011). Educational stakeholders specifically pointed out a lack of analytical and decision-making skills in recent Indian graduates. Policymakers and employers also observed a 'skills gap' between conceptual understanding and the practical orientation and application of these concepts towards the job tasks assigned to new graduates. The 'skills gap' concept sees the challenge of the university curriculum to be conceived largely in terms of a bridging of 'the disparity between industry needs and higher education provision' (Jackson 2013, 778). The primary

responsibility for employability rests with individual students and graduates (Leong and Kavanagh 2013; McQuaid and Lindsay 2005; Van Buren 2003). Education stakeholders were sceptical of graduates conforming to these responsibilities. Many observed that the recent crop of fresh graduates is not committed, lack agility and lack the capacity to think 'out of box' and are not 'street smart'. The need for them to be proactive in preparing themselves for a changing world by actively improving their knowledge and skills to meet the demands of the modern workplace (Bridgstock 2009) was emphasised. They considered that this ability for 'thinking out of the box' can give them more prominence and provide an edge over other graduate candidates. Employer stakeholders also felt that the graduates lack general awareness and global exposure, and at the same time they are not multi-skilled and are non-responsive to the needs of the business. Policymakers also brought to the attention that the graduates lack innovative skills and professionalism to make a transition to the workplace.

The most prominent reason for these competence deficits was attributed to a lack of industry–education interface, outdated syllabi and course-curriculum, the relatively poor quality of affiliated colleges, lack of employability assessment, the *'Jugaad'* mindset and attitudes of parents. Policymakers put the onus on resource challenges and the failure of alumni to cater to the needs of the educational institutions. Another important observation by policymakers concerned a lack of communication skills, due to the sensitive issue of national and regional languages. With more focus on the medium of education in their graduate courses on national languages, the graduates lack ability to write and converse in good English. Employers do give due consideration to language skills at the point of appointment (Hinchliffe and Jolly 2011) and similar expectations can be there in the case of Indian graduates. The substandard quality of education offered by university-affiliated colleges was also observed by policymakers. Employers were generally unsatisfied by the course-curriculum offered by educational institutions and the lack of creativity and innovation in the content matter and teaching methodologies. Another relevant point made by employer stakeholders was the absence of work-readiness assessments of graduates in their final year of study. The recommendation was for universities to encourage more employer involvement in the selection of employability criteria and for greater employment-based training and experience (Mason et al. 2009). They also held parents responsible for coercing graduates into popular courses without considering their children's aptitude and interest in these courses. Many educational stakeholders felt that some colleges and universities tend to focus on the 'knowing 'dimension instead of the 'doing' dimension, and that greater focus on the latter might give an extra edge to graduates to become work-ready. The relative absence of industrial experience of faculty members in many educational institutions was also highlighted by educational stakeholders.

All the stakeholders agreed that it is time to synergise their efforts and discuss these issues more frequently to enhance the work-readiness of Indian graduates. They all recommended a drastic change in course-curriculum of programs offered at graduate levels to meet the practical demands of industry, as well as greater focus

on more innovative and practical course design. This observation resonates well with Hager and Holland's (2006) observation that academics need to re-design their curricula and introduce new methodologies to enhance graduate capabilities. Greater employer involvement in curricula design and increased practicum experiences in employment was also suggested, which concurs with observations of Mason et al's (2009) study. A more active role of government in creating R&D teams across the ministry and education institutions, supported by sufficient funding arrangements, to boost innovative and indigenous courses (products) was envisaged. They also underlined the role of robust internship programs in all courses with proper time-frames, as in medical and engineering programs, together with frequent industrial visits and industry expert lectures to enhance the work-readiness levels of graduates. Moreover, they observed that admission eligibility processes needed tightening up, so that only quality candidates with the right aptitudes can get entry into professional courses thus ensuring better quality graduates.

6.6 Conclusion

Based on suggestions from the literature—that the significant gap which exists between what is provided by the university and what is expected from graduates in the labour market will be best addressed by the support and cooperation between the university and the employer (Artess et al. 2011; Lowden et al. 2011; Rust and Froud 2011)—this chapter investigates this gap in terms of the work-readiness competence deficits of Indian graduates, and further explores the support and cooperation among the three important stakeholders. Considering that the alignment of subjective work-readiness competencies between graduates and employers is vital for smooth transitions from university to work, this study found a range of competence deficits based on the observations of the stakeholders. In doing so, this chapter develops a foundational understanding of the perspectives of the three main stakeholders concerning competence deficits of Indian graduates, causes, and recommended solutions to address them. The findings are similar to those discovered in many of the other countries discussed in this book.

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Chapter 7
Graduate Work-Readiness Challenges in Indonesia—Findings from a Multiple Stakeholder Study

Soegeng Priyono and Alan Nankervis

Abstract This chapter provides an overview of work-readiness challenges in the context of Indonesian labour market. The chapter presents findings of qualitative research on stakeholders' perspectives of the work-readiness related issues. In addition, two case studies on innovative ways to overcome work-readiness challenges are discussed before making concluding remarks.

Keywords Graduate work-readiness · Higher education · Indonesia
Skills gaps · Stakeholders · Vocational education

7.1 Introduction

With a population of more than 263 million and a workforce of 132 million in 2017, Indonesia is predicted by PwC (2017) to be the fifth highest growth economy of the top 21 economies by 2030, after China, USA, India, and Japan. Asia is expected to remain the fastest growing region of the world overall, with Indonesia on course to become the world's 16th trillion-dollar economy, drawing attention away from the traditional hubs of China and India (PwC 2017). This chapter explores the scope of the graduate work-readiness (GWR) challenges which threaten Indonesia's continuing economic growth, and its aspirations to achieve developed country status over the next decade.

As in other chapters of this book, this chapter first provides an overview of the country's economy and its education system, the associated skills gaps or skills mismatches. It then presents the findings from a qualitative research study conducted in Indonesia between 2015 and 2016, including the perspectives of government, industry and educational institution representatives on three key issues

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—namely, the scope and nature of the GWR challenges; their causes; and some recommended strategies to address them, within a tripartite framework. The chapter builds on the conceptual discussions of GWR challenges in Indonesia, included in an earlier book (Cameron et al. 2018: Chap. 6), by providing complementary research evidence.

7.2 A Brief Snapshot of Indonesia's Economy and Education System

There are more than 3200 higher education institutions in Indonesia consisting of universities, institutes, schools of higher learning, academies, community colleges and polytechnics, more than 95% of which are privately owned. The major challenges are the standardisation of quality across these institutions; certification, accreditation, supervision and monitoring; lecturer and trainer qualifications. The number of new graduates per year is in excess of 900,000 (see Table 7.1). Typically, it takes 3 months for the fresh graduates to get their first permanent job, and only a small percentage of graduates have that opportunity (Hoeckel 2014).

Table 7.2 below suggests that university or academy graduates constituted approximately 12% of the total number of the unemployed in the past 3 years.

7.3 Graduate Skills Gaps

Several global reports have explored the key skills gaps across industry sectors in Indonesia. For example, a World Bank report (2010) noted significant deficiencies in the supply of senior managers and professionals (80 and 60% respectively), although unskilled jobs appear to have an over-supply of willing applicants.

Table 7.1 No of Graduates of public and private higher education 2014/2015

Graduates		Public		Private		Total
		Number	%	Number	%	
1	University	265,603	47.06	298,762	52.94	564,365
2	Institute	9485	25.07	28,347	74.93	37,832
3	School of higher learning	–	–	196,404	100	196,404
4	Academy	–	–	71,763	100	71,763
5	Community college	–	–	–	–	–
6	Polytechnic	17,803	52.20	16,302	47.80	34,105
	Total	292,891	32.38	611,578	67.62	904,469

Source Statistik Pendidikan Tinggi 2014/2015, Ministry of Research, Technology and Higher Education

Table 7.2 Indonesia open unemployment 2015–2017 (Feb)

No.	Description	2015	2016	2017 (Feb)
A	Indonesia population	257,563,815	260,581,100	263,510,146
B	Potential workforce	125,340,805	126,557,809	131,544,111
C	Working people	117,833,010	119,529,835	124,538,849
D	% to potential workforce	6.0	5.6	5.3
	(Highest education attainment):			
	No school	89,929	76,820	92,331
	Not completed primary	487,368	470,744	546,897
	Primary	1,162,677	1,127,343	1,292,234
	Secondary	1,512,153	1,304,149	1,281,240
	Higher secondary/general	2,021,220	1,748,663	1,552,894
	Higher secondary/vocational	1,372,028	1,434,438	1,383,022
	Academy/diploma/higher vocational	252,927	234,549	249,705
	University	609,494	631,270	606,939
E	% to open unemployment	11.5	12.3	12.2
	% to potential workforce	0.7	0.7	0.7
	% to working people	0.7	0.7	0.7

Source DevOne consulting—compiled from Ministry of Research, Technology, Education and Higher Education (RISTEKDIKTI); National Workforce Survey (Sakernas)

An APEC report identified the industry sectors with the most serious skills gaps—namely, agriculture, forestry, hunting and fishing; transport and storage, and a series of sub-sectors in the services industry (finance, insurance, real estate and business services—APEC 2015, p. 32). The report also suggested that 'Indonesia does not suffer from a lack of graduates, but it does suffer from a *lack of appropriately skilled workers*' (APEC 2015, p. 32). Occupational vacancies which are the most difficult to fill include executive managers, scientists, engineers. Environmental and aerospace engineers are particularly hard to attract and retain (ILO 2016). The OECD divided the nature of these skills gaps into three domains—namely, a qualifications mismatch, a skills mismatch, and a field of study mismatch (OECD 2016, p.132). The qualifications mismatch concerns the lack of alignment between the university and vocational education curriculum and graduate outcomes and the identified needs of industry, in both 'soft' and 'hard' knowledge, skills and capabilities; the skills mismatch includes educational institutions' failure to adequately prepare their students for future workplaces, and the corresponding negligence of employers in providing appropriate development opportunities; whilst the 'field of study' mismatch concerns the government's failure to adequately analyse the labour market's changing skills demands, and to ensure a congruence between industry demand and education system supply (Priyono and Nankervis 2018: 112). The latter mismatch has also been exacerbated by students themselves who often choose to undertake vocational and higher education programs which bear little relation to

industry needs. Table 7.3 illustrates the preferences of students which are not necessarily congruent with industry requirements.

As a recent OECD report concludes:

'ensuring a good match between the skills acquired in education and on the job and those required in the labour market is essential if countries want to make the most of their investments in human capital, and to promote strong and inclusive growth. It affects job satisfaction and wages, increases the rate of turnover and may reduce productivity and GDP growth' (OECD 2016, p. 129). With respect to the specific graduate work-readiness (GWR) challenges in Indonesia, UNESCO (2012) identified personal integrity, intellectual capacity, teamwork, analysis and problem-solving skills as key issues; with communication, writing and communication skills, a lack of self-confidence and 'character' of secondary importance (p. 19). The OECD report also found a number of GWR skills gaps, including literacy and numeracy (OECD 2016, p. 63), job flexibility, work sequencing, time management, cooperation with co-workers and willingness and ability to train others. In similar vein, the World Bank (2010), reported gaps in critical thinking, communication and independent working competencies, leadership, team orientation, creativity, English language fluency and information technology skills (p. xiii). A report from the McKinsey Global Institute (Oberman et al. 2012) summarises the scope of the GWR challenges thus: 'a number of measures indicate that graduate skills do not currently match those required by (Indonesian) employers… forty one percent report gaps in the ability of their skilled workers to think creatively and critically, and a further forty seven percent express the opinion that their skilled employees lack sufficient computer literacy. Even young Indonesians seem to agree… fifty six percent report that they feel only somewhat prepared or poorly prepared to enter the workforce' (p. 75).

Table 7.3 10 study programs with most number of graduates, 2016

No.	Study program	Graduates	Univ/academy
1	Primary school teacher	82,259	208
2	Management	66,617	822
3	Midwifery	47,294	643
4	Accounting	42,361	615
5	Information technology	34,768	440
6	Practical nursery	27,221	419
7	Information management	27,100	318
8	Science of nursery	25,527	308
9	Law	24,970	391
10	English language	23,929	296
	Total	402,046	

Source Ministry of Research, Technology, Education and Higher Education (RISTEKDIKTI)

7.4 Views of Stakeholders—Research Framework and Early Findings

7.4.1 Research Method and Sample

Consistent with the research methods adopted for all countries in this book, the Indonesian component comprised two stages—first, a preliminary overview of the government education and workplace skills framework and the responsible departments and agencies, provided by a local key informant; and second, interviews with representatives of government, industry, and vocational and higher education. In addition, to provide an in-depth snapshot of successful projects being undertaken to address the identified GWR challenges, two case studies were solicited. They appear at the end of this chapter. The interviews followed a standardised regional survey format which included questions on the scope and nature of graduate work-readiness challenges; the causes of these challenges; possible strategies to address them; and examples of innovative approaches to their resolution. Table 7.4 shows the positions of the nineteen (19) interviewees included in the research study.

Table 7.4 List of interviewees

No.	Position	Institution
1	Director of vocational study	Ministry of Education and Culture
2	Head of overseas cooperation	Ministry of Education and Culture
3	Director	Politeknik Negeri Jakarta
4	Director	Politeknik Aceh
5	Lecturer	Politeknik Bandung
6	Lecturer	Politeknik Bandung
7	Headmaster	Vocational high school, SMK Wikrama Bogor
8	Senior lecturer	Vocational high school, SMK Wikrama Bogor
9	Headmaster	Vocational high school, SMKN 6 Jakarta
10	Senior lecturer 1	Vocational high school, SMKN 6 Jakarta
11	Senior lecturer 2	Vocational high school, SMKN 6 Jakarta
12	Professor	Universitas Sriwijaya Palembang Sumatera Selatan
13	Vice dean	Universitas Islam Indonesia Yogyakarta
14	Assistant director of cooperation	Politeknik Negeri Jakarta
15	Secretary of department of computer and informatics engineering	Politeknik Negeri Jakarta
16	Head of CCIT project	Universitas Indonesia Depok
17	Resource coordinator	Fujitsu Indonesia
18	GM of services	Metrodata group Jakarta
19	Director	SS-trans logistic Jakarta

The preliminary findings from the local key informant revealed that Indonesia currently has a National Qualifications Framework (NQF) which is monitored by a board responsible to the Ministry of Education and Culture (MEC), the dominant government authority in relation to workforce policies in vocational and higher education. The Ministry of Labour (MOL) supervises the Centre for Job Training (BLK) which runs a limited program for assisting high school students who have dropped out of school, and there are some targeted programs for other minorities (Papuans, Ambonese), but there is no department wholly responsible for overall workforce/human capital development. Labour market groups targeted for some industry sectors—notably automotive, heavy industries, hospitality and geomatics—also have their own occupational standards, supervised by the BNSP (Bandar Standar Nasional Pendidikan—National Education Standards Agency).

Recognition of Prior Learning (RPL) is a relatively new concept in Indonesia, although the MEC is currently rolling out a rudimentary program. There is no lifelong, or continuous, learning imperative. The key industry sectors which have been identified as the most affected by graduate work-readiness challenges are (in order of importance) tourism and services; agriculture, forestry, fishing and hunting; construction; manufacturing, electricity and gas, and water supply. These sectors were also identified in the reports of global agencies such as the OECD, ILO and APEC discussed above. Typically, these sectors employ low or medium-skilled employees, and it is likely that the high-tech sectors will also suffer from similar labour supply difficulties in the future, as will management level positions whether in public, local private or multinational organisations. The Indonesian government does collect data on graduate work outcomes, but it is unclear whether this information is actively used in government workforce planning.

7.5 Specific Stakeholder Perspectives

The Indonesian findings are presented in accordance with those in all chapters—namely, the perspectives of stakeholders (government, industry and education providers) on graduate work-readiness challenges, their causes and implications; current programs used to address these challenges; and case studies of innovative GWR programs.

7.5.1 GWR Challenges

Government participants in our study highlighted a number of key challenges, some of which are consistent with those identified in global agency reports and others which are more focused. Thus, they indicated that there are problems with vocational and university curricula in terms of their lack of alignment with industry skills demands both currently and into the future. These problems were partly

attributed to the absence of regular communication and liaison opportunities between educational institutions and industry representatives, and partly to the inconsistent application of job competencies across Indonesia (O'Neil 2014; Priyono and Nankervis 2018: 110). The latter issue appears to be exacerbated by unclear responsibilities and sometimes problematic relationships between the three main government ministries (Ministry of Education and Culture, Ministry of Labour and Ministry of Manpower). Illustrative comments included

> communication between different government institutions is pathetic…is in existence to some extent, but its effectiveness is in question… minimal to none.

This problem is exacerbated by the numerous disconnected and geographically isolated provincial governments whose policies and practices are difficult to coordinate from Jakarta (Priyono and Nankervis 2018).

Industry research participants were less introspective, preferring to focus on the deficiencies of graduates. They reported that their skills needs are for graduates who are equipped with knowledge of the particular industries and organisations which they wish to join, the necessary competencies to 'immediately perform the job', positive work attitudes, willingness to relocate geographically and to work full time. Contradictorily, some industry participants also suggested that their preference was to initially hire graduates as temporary employees or on contract bases. 'Employee loyalty' was perceived as an important issue. Despite these expectations, the industry participants generally agreed that the extent of the GWR challenges is 'medium to high', and that 'demand outweighs supply by far'. Information technology, accounting, medical specialists, and nurses were identified as occupations in the greatest demand. The key problem is that the qualities of graduates are less than adequate to bridge the gap between demand and supply.

Educational institution participants criticised government curriculum requirements as 'too heavy' and largely unrelated to current industry skills requirements, too difficult to change, and there is a lack of funding and resources to support curriculum changes, especially with respect to laboratories and instructors. They also suggested that skills such as English and Mandarin fluency, creative thinking, interpersonal communication, teamwork and administrative skills are not encouraged in the standard government curriculum, and that they do not have sufficient funding to provide such additional training. In addition, some participants explained that education institutions in Java (particularly Jakarta) benefit substantially more from government assistance than their counterparts in more remote areas of Indonesia.

In summary then, there are clear and urgent GWR challenges throughout Indonesia, and in most industry sectors. The IT sector, for example, has an ongoing significant demand for programmers in Java, PHP, .Net, and C/C++, together with a growing need for graduates in occupations such as data mining, database administration, business intelligence, internet security, and fraud investigation, skills not presently taught in either vocational or higher education institutions. As in most other regional countries, the health sector continually requires more qualified and skilled care workers to meet the needs of the ageing population, as well as

radiologists and operators of new medical technologies. Very few vocational education institutions offer relevant programs, and only one university in the broader Jakarta district (Universitas HAMKA) provides such courses.

Finally, the oil and gas sector reports skills shortages in occupations such as underwater welding operators, remotely operated vehicles (ROV) engineers and subsea piping inspectors; and non-traditional agricultural operations (for example, organic, hydroponic and membrane cultures) also have growing workforce demands but problematic labour supply options. A somewhat disturbing trend reported across industry sectors is a discernible employer preference for vocational education rather than university graduates because they are cheaper to employ, usually more obedient to their supervisors, possess more practical skills and thus require less training time (and associated costs) to achieve desired work performance levels. The corollary of this (arguably) short-term perspective is that these graduates may prove to be less innovative, less adaptable and less equipped to progress to managerial roles in the longer term than their university graduate colleagues.

7.5.2 Causes and Consequences of these GWR Challenges

As in all of the other countries included in this book, the GWR challenges in Indonesia have arisen as the result of the introduction of new technologies in all industry sectors with their inherent implications for the nature of workplaces, jobs and work processes, together with significant failures on the part of the three key stakeholders (governments, employers and educational institutions) to recognise, and in combination, to adequately adapt to them. Government representatives suggested that the sheer size and complexity of the bureaucracy and the conservatism of many middle and senior administrators, together with the shared responsibilities for labour market and education systems across ministries, have contributed to a lack of national (and provincial) planning and coordination with respect to skills identification and development, and ongoing policy revisions. Both industry and government representatives suggested that university graduates have been generally favoured over vocational education graduates, despite identified skills deficits, due to traditional biases. However, both stakeholders also complained about the significant lack of practical industry-focused content and skills outcomes provided by most of Indonesia's universities. The higher education representatives suggested that the government has not undertaken appropriate labour market planning or implemented adequate skills upgrading programs; whilst employers have failed in their responsibilities for post-employment on-the-job skills development. One industry participant, more optimistically, reported that there is growing recognition that

> outputs one can produce are now regarded as far more important than one's academic qualification.

The key consequence of these GWR challenges was reported as serious constraints on the speed and competitiveness of businesses within increasingly aggressive local and regional marketplaces, due to their inability to attract and retain sufficient numbers of qualified, skilled and work-ready graduates. In particular occupations (see above), not only are skilled and work-ready professionals very difficult to find, but they are increasingly being lured to higher paying career opportunities in other Asia Pacific countries, in the middle east, Canada and the United States. Whilst large local or multinational corporations can afford to match such employment conditions, the core of Indonesian business (small and medium size companies) is unable to do so.

The available data supports this view. Only a relatively small proportion of VE and HE graduates are recruited by top tier multinational/local companies, with the remainder having to settle for jobs in smaller companies and SMEs or choosing to be self-employed. The SME sector is considered the driving force of the Indonesian economy, with almost 58 million micro-, small- and medium size local companies (99.99%), compared to only 5000 large companies (0.01%) (Ministry of Cooperation and SMEs 2015). In the current economic situation in Indonesia, many companies have ceased recruiting entirely or are actually reducing the existing workforce, exacerbating the difficulty for graduates to obtain employment. Ironically, highly skilled younger workers (especially IT) tend to be over-priced, and many of them appear to prefer to work as freelancers because they can earn more money by working on parallel projects.

7.6 Current Strategies, Policies and Programs to Address GWR Challenges

According to the study participants, the national government has recognised the communication and coordination difficulties between ministries but appears unclear about how to resolve them. The hierarchical public service culture constrains remedial actions by middle level administrators, and there are apparently no decisive policy directions provided by senior ministry officials (Wickramasinghe and Perera 2010). However, there have been some recent promising developments associated with culture change in the public sector. As an example, the special municipality government of Jakarta (*Daerah Khusus Ibukota*) has consciously and significantly increased the wages of civil servants on par with private sector managers and recruited more private sector professionals as middle level managers. It is anticipated that these initiatives will be adopted by local and provincial governments in order to modernise their administrations, enhance their efficiency and effectiveness; and encourage greater collaboration between government and industry in GWR strategy, policy and program imperatives. A report from the McKinsey Global Institute strongly supports these goals:

> the public sector in Indonesia needs to invest in developing a pipeline of future labour, and businesses have a key role to play in working with government to provide training and financing (Oberman et al. 2012: 83)

Many Indonesian employers (with some exceptions) appear to have a strong reluctance to invest resources in graduates' skills development after their recruitment, and only a mild interest in establishing collaborative ventures with local vocational or higher education institutions (Smith-Ruig 2013; Wickramasinghe and Perera 2010). Whilst this is understandable to some degree in the current economic climate in Indonesia, especially in the SME sector, there is a contradiction in their demand for qualified and work-ready graduates on the one hand, but an unwillingness to expend time or resources in strengthening the long-term skills and capabilities of their new employees in the longer term (Smith-Ruig 2013). Similarly, without close collaboration between industry and the educational institutions, their chances of aligning the curriculum and graduate outcomes with their present and future needs are slim. Some industry research participants suggested that their companies are exploring the viability of identifying proximate vocational and higher educational institutions with which to proactively develop mutually beneficial relationships to deliver 'perpetual sources of skilled human resources' to meet their ongoing skills requirements. Others already have some kinds of relationships, including occasional industry speaker inputs, membership of university advisory committees, student work placements and/or minor funding support. One industry participant also proposed that companies might consider setting up and funding their own private universities to ensure work-ready graduates, but this would necessarily only be possible for large local or multinational corporations, some of which already have such in-house 'universities' (for example, Trakindo, Astra, Pertamina). Expansion and broadening of these approaches were recommended by a McKinsey Global Institute report: 'greater private sector involvement in the education system by providing capital to helping to set up training institutions, (and) the government must find ways to help people understand what potential employers need' (Oberman et al. 2012: 79).

Both vocational and higher education institution participants also admitted that there has often been an unwillingness or inability to establish closer relationships with potential industry partners to enhance graduates' work-readiness skills. They recommended that all such institutions should actively seek opportunities to develop links with local government agencies and private companies, for the purposes of enhancing mutual communication about each other's needs; exploring options for greater student workplace experiences (including, but not restricted to, internships and apprenticeships); and providing opportunities for industry input into course curricula (for example, industry guest speakers, industry representatives on program advisory committees, work-applied student projects). A McKinsey Global Institute report recommended that Indonesia might adopt:

> the German dual system of apprenticeships in which young people can opt for classroom teaching combined with vocational training at a company. (Oberman et al. 2012: 79)

Case 1 in the next section of this chapter illustrates a similar option, namely the adoption of elements of the French approach to embedding work-readiness in both vocational and higher education curriculum.

7.6.1 Effectiveness of GWR Strategies

The following observation sums up the views of many research participants from all three stakeholder groups:

> Graduate Work-Readiness is a common problem and can only be improved if all stakeholders work together in synergy. Nothing can't be solved when there are good communications, openness, and a sense of moving toward the same direction, the same goal. Indonesia has a big chance to succeed!

However, all participants also agreed that, while the government, industry and education system strategies have been quite effective overall, they have to date only been adopted by a few municipal governments and companies; and that more success stories will hopefully entice other provincial governments, large companies and SMEs, and both vocational and higher education institutions, to follow suit hopefully in the near future.

7.7 Innovative GWR Programs

The following two cases illustrate the principles, processes and programs employed by two foreign agencies in assisting Indonesian GWR stakeholders to more effectively address the skills gaps between industry demands and current graduate outcomes. They were provided by the local program coordinators of the programs, and illustrate potentially useful approaches for governments, employers and educational systems in their own strategies and programs to address the GWR challenges.

7.8 Case 1: The Centre of Excellence Project—A Collaborative Project Between Indonesian and French Governments

The Ministry of Education decided to address the needs for up-to-date technicians in electricity production and renewable energies as one of the sectors most threatened by a skills gap in the coming years. The instrument for this pilot program would be a Centre of Excellence for vocational education, an educational institution based on an international partnership and multilateral funding for pedagogical and technical transfers of knowledge.

7.8.1 Objectives

Indonesia expects an increase in electricity production of 35 Gigawatts (GW) by 2019 (compared with only 9 GW today) and predicts that the proportion of renewable energy in the energy mix will reach 19% during the same period. This energy transition will require the training of competent industry professionals for the manufacturing, installation and maintenance of these new systems for energy production. The Centre of Excellence for training in the field of power generation, renewable energy and automation is an initiative of the French Ministry of Education; the Indonesian Centre is one example of a model developed world-wide in different economic and industrial areas, based on a partnership between the French Ministry of Education, private companies eager to consolidate their international development by investing in training, and another national government. It is a win-win operation based on a transfer of technology and of professional practices focused on the work-readiness of young students and teacher training.

7.8.2 Partner Contributions and Benefits

Each partner provides a specific contribution:

- The French Ministry of Education provides senior experts
- The Indonesian government provides the premises, teachers and logistics
- The company provides the technical training equipment, expertise and internship opportunities

Each partner also gains benefits

- The French Government strengthens international cooperation through its educational system and knowledge-sharing
- The Indonesian government receives the opportunity to modernise its vocational training system, especially in power generation and renewable energy
- The Training Centre provides the partner company with a comprehensive solution to business growth by allowing it to develop, alongside its products, the ad hoc training system.

In emerging economies like Indonesia, it is a key issue for industry to find a highly qualified workforce tailored to its needs. The Centre addresses this possible road-block of business-development while simultaneously contributing to a positive social and corporate image.

7.8.3 The Project

The Schneider Foundation, which has already partnered with the French Ministry of Education in other countries, will be funding the equipment costs for an initial state-of-the art Centre of Excellence in Indonesia, designed to develop curricula and methods which will then be disseminated through teacher training on site. The Indonesian Ministry of Education commits to covering the costs of accommodation and living expenses for teachers from across the country (there are more than 800 vocational high schools which specialise in electrical/energy maintenance and production), who will be trained intensively at the Centre by an expert seconded by the French Ministry of Education, and three Indonesian 'Master Teachers'. The trained staff will then disseminate the updated methods in their own schools which are in turn provided with newer equipment in their more limited specialty, funded by the Indonesian Ministry of Education and Schneider Electric Indonesia. Another objective of the Centre is the upskilling of existing technicians: ideally, teacher training and reskilling/upskilling takes place concurrently with the reskilling of professionals, so that the professional and educational community are put into contact through the process and can engage in peer-to-peer best practice exchanges. Thus, the Centre also becomes a hub for industry/education transfers of experience. Necessarily, the success of the Centre relies on the dedication of the Indonesian Ministry of Education, together with a substantial level of financial and human resource commitment.

(Case provided by Dr. Emilienne Baneth and Mr. Thierry Lextrait, Embassy of France, Jakarta, Indonesia)

7.9 Case 2: Sulawesi Economic Development Strategy

Graduating from university in Indonesia can be a daunting experience. The joy of graduation is often paired with an uncertain employment future. Indonesian higher education is frequently characterised by theory-driven and lecture-based curricula where students are passive recipients of knowledge. Upon graduation, those graduates who do not find employment within the public sector frequently do not have the applied skills necessary to successfully gain employment in the private sector. The Sulawesi Economic Development Strategy (SEDS) was a 5-year Canadian-funded project intended to address this issue in the provinces of North and South Sulawesi. Rather than focus on specific job skills, the project fostered the development of entrepreneurship capacities within students. Building entrepreneurship skills prepares students, regardless of their discipline of study, to start and manage their own small businesses upon graduation. These businesses, in turn, provide further employment for others. Key to the SEDS strategy was a focus on entrepreneurship programming that is applied in nature. Such programming provides students with real world skills through curriculum that bridges theory and practice and is delivered in a way that enables students to learn by doing.

7.9.1 The Applied Entrepreneurship Education Strategy

Seven Indonesian universities and one Canadian college were the vehicle for implementing the SEDS applied entrepreneurship education strategy. Humber College, the Canadian partner, used a train-the-trainers approach to build the capacity of lecturers from the Indonesian university partners to design and deliver applied entrepreneurship programming. This included both the design of applied curriculum to be delivered as university courses across multiple disciplines, and the development of business support services to be delivered outside the classroom environment. Most of the SEDS partners chose to require their students to actually start businesses or develop a product prior to graduation as part of the applied process of learning by doing. Business support services provided ongoing support to these student entrepreneurs upon creation of their businesses and after graduation. Greater self-employment, higher incomes and increased local economic development were the project's intended results.

By the end of the SEDS project in late 2017, over 12,000 students had taken an applied entrepreneurship course across the seven Indonesian university partners. More than 50% were women. Twenty-five percent of these students, many of whom are now graduates, continue to manage a business. An evaluation of the project showed that these SEDS entrepreneurs overwhelmingly identify the applied nature of SEDS programming as the reason for this situation. In particular, the applied courses provided students with general entrepreneurial skills needed to start a business, including business planning, marketing and financial management. Business support services delivered by the university partners, and business coaching in particular, further provided students with specific technical knowledge needed for the ongoing management of their businesses. The SEDS courses and business support services therefore worked together to provide a full package of support across both business start-up and management. Just as importantly, the applied approach to entrepreneurship education provided students with not only applied business skills but with self-efficacy, or the confidence that one can become a successful entrepreneur. Many SEDS entrepreneurs claimed that the self-efficacy they gained was in fact more important than the actual skills they learned. It gave them the confidence and motivation to start their businesses.

The combination of applied skills and increased self-efficacy drove one further outcome. SEDS entrepreneurs used their business skills and new entrepreneurial confidence to start and manage businesses consistent with the collectivist values of Indonesian culture. Entrepreneurship, including entrepreneurship education, is frequently rooted in western individualist values that emphasise competition and growth. SEDS entrepreneurs, however, understand entrepreneurship differently. Business growth and profit remain important, but they are tempered by the perceived necessity to use businesses to drive collective social good. This was no mere exercise in corporate social responsibility, but a sense that there is a collective social purpose of entrepreneurship that is just as important as its role in generating personal wealth. The SEDS entrepreneurs demonstrated this through the kinds of

businesses they chose to start, their hiring practices and how their revenue is used. This is an intriguing development that illustrates a cultural adaptation undertaken by students themselves once they were equipped with applied entrepreneurship skills. It ensures they are better prepared to enter the world of entrepreneurship in a manner that is culturally relevant.

7.9.2 Challenges and Solutions

The applied entrepreneurship approach used by SEDS was not without it challenges. Some student entrepreneurs are so enthusiastic about the applied education they received that they now reject the value of theory in the learning process entirely. This is a significant issue for universities whose role in society is not only to equip graduates with workforce skills but with critical thinking skills that recognise the reciprocal link between theory and practice. Other challenges also emerged. Student and graduate businesses often lack innovation, have difficulty accessing capital and, for student entrepreneurs who have not yet graduated, experience difficulties in balancing the twin burdens of being a student and entrepreneur at the same time. These kinds of challenges are not insurmountable. They require attention be paid to the nature of program design at the beginning stage of programming as well as ongoing review and revision of curriculum and business support services. Doing so will further enhance the ability of applied entrepreneurship education to prepare university graduates to successfully step out of the classroom and into the world of Indonesian entrepreneurship.

(Case provided by Dr. Kent Schroeder, Director, International Development Projects, Humber College, Toronto, Canada)

7.10 Conclusion

This chapter explores the extent, scope, causes and consequences, of the graduate work-readiness (GWR) challenges impacting the productivity and competitiveness of many large-, medium- and small-size organisations in the public and private sectors across the sprawling Indonesian archipelago. The relevant literature, largely in the form of research reports from various global agencies (ILO, McKinsey Global Institute, OECD, UNESCO), together with the findings from our recent study of stakeholder perceptions, confirm that (as in other regional countries discussed in this book) Indonesia is experiencing a significant and growing skills mismatch between the demands of industry and the capabilities of graduate employees from both vocational and higher education institutions. Whilst the current Indonesian government is developing infrastructure to bridge these skills gaps, in the forms of a national qualifications framework, a basic recognition of prior learning (RPL) mechanism, and a rudimentary labour market/human capital

planning system; all key stakeholder representatives (national government, industry, the vocational and higher education sectors) agreed that more efforts are required to proactively address these GWR challenges.

In particular, the lack of integration and coordination between the associated government ministries; the absence of regular communication between industry, educational institutions, national and provincial governments on issues such as specific graduate skills requirements, curricula, internships and work-applied learning options; and the need for greater flexibility, enhanced funding, and more innovative pedagogies in educational institutions, were reported as key factors in resolving these GWR issues and thus supporting Indonesia's future economic and social development. The challenge has become even more urgent following the formation of the ASEAN Economic Community in recent years. The chapter ends with the presentation of two cases which demonstrate the principles, processes and programs which might be emulated in different industry or educational contexts to more effectively address the GWR challenges discussed throughout this book.

Several limitations of the study should however be acknowledged. First, our research consciously focused on only three key stakeholders—governments, industry and educational institutions—because we considered them together to have the primary responsibilities for determining the required GWR competencies, skills and capabilities, on the one hand; and the resources to deliver the expected outcomes to meet their dynamic needs. Whilst we recognise that graduates, and their families are also important stakeholders, they were not included in this study, as their role is primarily as consumers of vocational and higher education services. This limitation might be addressed in subsequent studies.

The second limitation of the study is its sample size and representation. Whilst only a modest number of key informants and interviewees were included in the study (albeit carefully chosen for their specific GWR knowledge and responsibilities), we acknowledge that they cannot fully represent all the GWR challenges in such a complex and geographically dispersed nation as Indonesia. Future researchers might find it useful to conduct more focused research on particular regions, industries, and diverse educational sectors to provide a more comprehensive picture of the GWR challenges. Given the threats posed by these challenges to the Indonesian economy, its political stability and social development, ongoing research leading to practical solutions to the issues raised is a crucial imperative.

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Chapter 8
Graduate Work-Readiness in Malaysia: Challenges, Skills and Opportunities

Noorziah Mohd Salleh, Jabil Mapjabil and Rafeah Legino

Abstract This chapter provides an overview of graduate work-readiness (GWR) challenges in Malaysia in the light of various stakeholders' perspectives. On the one hand, it is evident that the growing manufacturing, agricultural and domestic services sector in the country that are characterised by low pay, low skill and low productivity work with tough working conditions and limited career development opportunities do not appeal to locals, especially graduates, and are mostly filled by migrant workers. On the other, the low level of work-readiness among Malaysian graduates, despite continued government initiatives to facilitate human resource development, remains one of the major challenges. It is in this context, issues associated with transition from graduation to work as well as innovative GWR initiatives currently being undertaken are discussed.

Keywords Work readiness · Malaysian · Challenges · Skills · Opportunities

8.1 Introduction

The Malaysian economy has grown steadily after independence from the United Kingdom in 1957 and remains resilient to external and internal market pressures. Twenty-seven years on, since Malaysia's then Prime Minister, Mahathir Mohamed, declared in 1991, that the country should aim to be 'fully-developed' and 'industrialized' by 2020—and two years to go away from the target date—Malaysia's

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economy has undergone profound transformation, incomes have risen, and extreme poverty has been virtually eliminated (Lim 2017). According to the World Bank, a high-income economy is defined as a country with gross national income per capita of at least US$12,236. In 2016, the Malaysian gross national income per capita figure was estimated to be at US$9850. The economic growth accelerated in thorough 2017, with year-on-year growth projected at 5.8%—the country's highest annual growth rate since 2014—and expected to remain strong, projected at 5.2% for 2018 (World Bank 2018). This growth is result of improved labour market conditions, wage growth, as well as improved external demand for Malaysia's manufactured products and commodity exports (World Bank 2016). The World Bank's projected growth rate for Malaysia is slightly pitched higher than Bank Negara Malaysia's official forecast for growth of between 5.2 and 5.7%, which is expected to be primarily driven by domestic demand with the prospect of stable inflation and low unemployment. It is pertinent that, for attaining the status of a high-income economy, Malaysia needs to boost its labour force output and carefully calibrate the development of citizens' skills as per the demands of the labour market (ICEF Monitor 2017). It is in this context; this chapter explores the issue of graduate work-readiness from a Malaysian perspective.

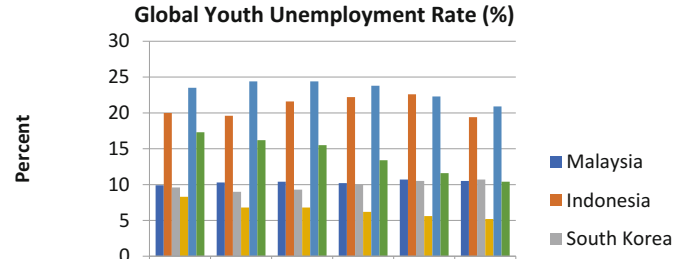
The chapter is structured into three parts, beginning with an overview of the labour market in Malaysia. This is followed by GWR challenges, stakeholder perspectives, and innovative GWR initiatives. Next, main issues associated with transition from graduation to work as well as innovative initiatives currently being undertaken are discussed, before ending with concluding remarks.

8.1.1 Malaysian Labour Market

Skill shortages and mismatches in the Malaysian workforce are still major challenges in boosting productivity, which will be crucial in promoting sustainable economic growth and high-income status in year 2020. However, although Malaysia managed to sustain its labour productivity growth in 2016, more rigorous efforts are needed to propel productivity growth towards the 3.7% annual growth target under the 11MP (Malaysian Productivity Corporation 2017). Interestingly, Economic Report (2018), points out that the major challenges in boosting productivity are skills shortage and mismatches in the workforce. Moreover, the report also observed that employers face difficulty in finding talent, primarily because of a lack of required soft and interpersonal skills as observed in the extant literature (Mohd Salleh et al. 2018; Prikshat et al. 2018). To meet the target of improving national productivity growth, the competency gaps that are critical for highly skilled jobs requiring knowledge in specialised engineering and technical fields, problem-solving, people-to-people skills and English proficiency need to be seriously addressed (Malaysian Productivity Corporation 2017). Although the labour market appears to be strong, the local economy has focused on mid-level skilled jobs as domestic industries stay in low-value added activities that emphasise cost

efficiency and dependence on cheap labour, rather than pursuing innovation and capital-intensive production as a source of growth (Lim 2016). This has resulted in limited high-skilled job opportunities and an inadequate supply of industry-ready graduates. Despite the high economic growth rate of 5% plus 2017, the unemployment rate of youth has remained high (10.5%)—around three times the national unemployment rate in 2016 (MIDF 2017a, b). The subsequent mismatch between the employers' requirements and graduate attributes could have possibly contributed to the high youth unemployment rate (which is to be distinguished from the overall unemployment rate mentioned above) and hence, moderate performance of the national economy (Mohd Salleh et al. 2018). In fact, Malaysia had the third highest youth unemployment rate in the Asia-Pacific region after Indonesia and South Korea (Malaysian Industrial Development Finance 2017a) (See Fig. 8.1). The governmental policy of extending the civil servants' retirement age to 56 from 60 in 2013, resulted in—unemployment of 160,200 (3.2%) people aged between 25 and 34 years in 2016 due to the ageing labour force and the fewer job entry positions in the public sector as retirement age was extended.

The manufacturing, agricultural and domestic services sector in Malaysia are characterised by low pay, low skill and low productivity jobs with difficult working conditions and limited career development. These jobs do not appeal to locals, especially graduates, and are filled by migrant workers. The major sectors which provide job opportunities (see Table 8.1), reflect the dominance for elementary workers in manufacturing, agriculture, forestry, and fisheries. With the ongoing growth in low skill and low productivity jobs, the high-skilled job such as technicians and supervisors in the manufacturing sector are being taken up by foreign



	2011	2012	2013	2014	2015	2016
Malaysia	9.9	10.3	10.4	10.2	10.7	10.5
Indonesia	20	19.6	21.6	22.2	22.6	19.4
South Korea	9.6	9	9.3	10	10.5	10.7
Japan	8.3	6.8	6.8	6.2	5.6	5.2
Euro Area	23.5	24.4	24.4	23.8	22.3	20.9
United States	17.3	16.2	15.5	13.4	11.6	10.4

Fig. 8.1 Global youth unemployment rate 2011–2016. *Source* Malaysian Industrial Development Finance (2017a) http://www.midf.com.my/images/pdf/research-Report/MIDF-Economics/Econs-Msia-2016-Youth-Unemployment-Rate-Remain-High-MIDF-090517.pdf

Table 8.1 Number of job vacancies by job type ('000)

	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sept-17
Total	101.6	116.2	97.6	143.9	155.6	145.2
Legislators, senior officials and managers	0.5	0.4	0.3	2	0.7	1
Professionals	3.5	3.2	2.6	4.9	4.2	2.8
Technicians and associate professionals	1.3	1.2	1	2.2	1.1	1.1
Clerical workers	1	1.3	0.8	1.2	1.2	0.8
Service, shop and market sales workers	5.2	4.5	3.1	6.1	6.6	4.5
Skilled agricultural and fisheries workers	2.1	0.8	0.8	0.7	2	0.5
Craft and related trades workers	2.5	2.3	2.1	3.2	4	3.5
Plant and machinery operators and assemblers	11.7	12.7	6.6	17.5	16.5	14.2
Elementary occupations	73.8	89.8	80.5	105.9	119.2	116.9

Source Adapted from Malaysian Industrial Development Finance (2017b)

workers (Bachtiar et al. 2015) due to non-availability of skilled workers within Malaysia. In September 2017, the manufacturing and service sectors had 93,600 vacancies, however the majority were so called 'dirty, dangerous, and difficult', low skill and low productivity jobs. Such occupations are unattractive to the local graduates owing to parental disapproval and graduates' unwillingness (Mohd Salleh et al. 2018).

8.1.2 GWR and Sectoral Challenges

The World Bank (2014) argued that in order to improve the work-readiness of Malaysian youth, it was necessary to explore the matrix of skill mismatches and to survey the gaps between industry expectations and the outcomes of tertiary education institutions. Although the services and manufacturing sectors are expected to have the highest rates of productivity growth (Department of Statistics Malaysia 2017a, b, c), a 2016 study by Bank Negara (2014) found that job opportunities have remained concentrated in the low- and mid-skilled jobs (ICEF Monitor 2017). More importantly, the job opportunities and the economy are highly segmented. For example, the manufacturing, agricultural and domestic services sector are characterised by low pay, low skill and low productivity jobs with difficult working conditions and limited career development. These jobs do not appeal to locals, especially graduates, and are mostly filled by migrant workers. The major sectors that provide job opportunities reflect the dominance for elementary workers in manufacturing, agriculture, forestry and fisheries. With the ongoing growth in low

skill and low productivity jobs, at the other end of the spectrum skilled jobs such as technicians and supervisors in the manufacturing sector are being taken up by foreign workers (Bachtiar et al. 2015). In September 2017, the manufacturing and service sectors had 93,600 vacancies, however the majority were 'dirty, dangerous, and difficult' low skill and low productivity jobs. Such occupations are unattractive to the local graduates owing to parental disapproval and graduates' unwillingness (Mohd Salleh et al. 2018). As a consequence, there were 1.78 million unskilled foreign workers in these 3D jobs nationwide in 2017 (Carvalho and Rahim 2017).

The growing demand in elementary occupations partly explains why people without tertiary education are more likely to secure jobs as compared to those with tertiary education. Only 5.4% of the total number of vacancies in Malaysia are for highly skilled occupations, examples of which include legislators, senior officials and managers, professionals and associate professionals, as well as skilled agricultural and fisheries workers. However, these competitive jobs are frequently taken up by expatriates. For instance, the chief operating officers (CEOs) of the Malaysian Airline System (MAS) and Maxis are Irish and Norwegian respectively. The presence of 151,687 expatriates in high-skilled jobs in Malaysia in 2015 demonstrates that there is a need for highly skilled professionals, but that local graduates are unable to fill the gaps as they lack the relevant attributes to fill vacancies (Chin 2016). In addition to the different sectoral skill demands and the allocation of high skill jobs to migrant workers, Malaysian graduates are regarded as lacking in employability attributes. Malaysian graduates are reportedly lacking in certain personal characteristics (attitudes, strong will, communication skills, critical thinking skills, and problem-solving abilities), technological know-how (technical skills), and other attributes (particularly, the multi-tasking capacity). In order to meet the target of improving national productivity growth, the competency gaps that are critical for highly skilled jobs requiring knowledge in specialised engineering and technical fields, problem-solving, people-to-people skills and English proficiency need to be seriously addressed (Malaysian Productivity Corporation 2017).

8.2 GWR Stakeholder Perspectives

It is evident that low, moderate and highly skilled jobs are in high demand in Malaysia, but the former two are not favoured by the local graduates, while the latter is beyond the capabilities of graduates. GWR is still a major issue and there is a need for enhanced cooperation and effective communication between all the stakeholders in coming out with innovative and productive solutions to overcome this problem. For example, one of the major initiatives is to encourage graduates to pursue self-employment by starting their own businesses. Support for this entrepreneurial strategy includes funding, physical infrastructure, trade advisory and support, and entrepreneurship education, to ensure that challenges in the national and global markets can be faced and abated with provided knowledge and support (Kamaruddin et al. 2017). However, it has also been reported that local graduates

and entrepreneurs are often unable, or possibly not confident enough, to embark on entrepreneurial activities that require high technical skills (SME Corporation Malaysia 2016). It is in this context, an examination of key stakeholder's, i.e., employers, educational institutions, government, and policy makers, perspectives to tackle this situation is pertinent.

8.2.1 Employers

Malaysian employers have contended that the current university curriculum does not inculcate the skills required by the students, and that the graduates' lack of communication skills, creativity, critical thinking, and problem-solving competencies is a significant obstacle (Mohd Salleh et al. 2018; Prikshat et al. 2018). Some observers have reported that employers required basic mathematics and communication skills for middle managerial positions, and that they were reluctant to offer the level of remuneration expected by young applicants. Consequently, employers prefer to hire foreigners to fill professional positions and source labour for unskilled or semi-skilled jobs from neighbouring countries such as Indonesia, Vietnam, Myanmar, and Bangladesh. The Hays Asia Salary Guide revealed that in 2017, 97% of the employers in Malaysia were still struggling to find the skilled individuals they needed ('Employers Face Skill and Talent Shortage Challenge' 2017). Less than 10% of companies have collaborated with universities to develop curriculum (Shanmugam 2017). In terms of career prospects and remuneration, employers generally offer unattractive salaries and benefits, especially during the early stages of an employee's career in the manufacturing sector. Due to budgetary constraints, organisations are reluctant to invest in training, and this makes it more difficult to prepare graduates effectively. Those organisations which do provide training face the prospect of losing their workers to other (usually larger) organisations. Moreover, fresh graduates often demand unrealistic remuneration (Bailey and Ingimundardottir 2015). Despite facing these challenges, it is to the credit of employers that many of them have made genuine attempt to organise various programs such as career expos and seminars to enable graduates to get access to job opportunities in the final year of their study (Alias et al. 2017; Ramakrishnan and Yasin 2012).

8.2.2 Educational Institutions

Educational institutions generally report that their collaboration with industry is still weak, leaving students without the opportunity to develop the skills which employers want (Mohd Salleh et al. 2018; Prikshat et al. 2018). The educational institutions struggle to find sufficient internship places, as most of the organisations tend to approach them only when they need workers. Thus, short-term needs are

given more precedence over the long-term development of human capital. In Sabah, especially, limitations in both the quality and quantity of internships for industrial training have been a major cause for the non-work-readiness of graduates. Moreover, socio-economic factors further accentuate this situation, as most of graduates prefer being unemployed rather than accepting a low salary job or leaving their comfort zones. In addition, the attitudes, knowledge application abilities, and communication skills of the graduates are still major challenges with which the educational stakeholders need to struggle.

In terms of career prospects, a recent *Graduate Tracer Study* (MOHE 2015) has reported that 88% of the 273,000 students who graduated from Malaysian tertiary institutions in 2015 had either undergraduate degrees or diplomas. Of these, 53% have been reported to start employment, 18% chose to pursue further studies, and 24% were still unemployed six months after graduation. Across all disciplines, bachelor's degree-holders registered the highest unemployment rate—namely, just under 28%. Not surprisingly, the results pertaining to graduates aged 21–30 years have revealed that 65% of respondents felt that it was difficult to enter the job market given the current employment trends, so that they are not left with any other option but to pursue further studies at master's levels.

Some practical approaches and strategies have been implemented by educational institutions. One approach followed by some educational stakeholders is the provision of a certain period of practical training in an industry to expose the graduates to the work culture and professional environment. This measure was a form of collaboration with the industry, designed to enhance the work-readiness of students and enhance their capacity to obtain jobs. Higher education institutions also organise programs such as career expos to enable graduates to have access to job opportunities before they finish studying. Some colleges and universities have also capitalised on their alumni base to organise motivational sessions and explore avenues for further job opportunities for graduates. Inculcating creative and innovative elements into the academic curricula to foster the creative and innovative skills sought by employers are some other initiatives which have been by adopted by various education institutions.

8.2.3 Government

Malaysian government perspectives of these GWR challenges generally conform with those of both employer and educational institutions, and there is evidence that they are being taken quite seriously, notably in the context of the job impacts of the looming Fourth Industrial Revolution. Thus, various studies report that government representatives have raised concerns about the paucity of labour demand and supply data for planning purposes; educational institutions' failings with respect to outdated course syllabuses, the relative absence of lecturers' industry work experience or industry connections, a scarcity of opportunities for industry internships or work placements and appropriate career guidance options (Makki et al. 2016;

Ramakrishnan and Yasin 2012). In addition, government representatives appear to concur with both employers' and educators' views that students themselves have contributed to the problems due to their reluctance to acquire (casual or part-time) work experience, their unrealistic expectations of workplaces and salaries, and often their unwillingness to relocate from rural to urban areas to seek employment (Bailey and Ingimundardottir 2015; Makki et al. 2016; Ramakrishnan and Yasin 2012).

The impact of these challenges on the Malaysian labour market and overall economy is expressed succinctly by the chairman of the Malaysian Institute of Economic Research thus

> As far as the structure of the economy is concerned, we are still not producing economic growth that will generate quality employment. The focus should be directed towards the development of skills instead of churning out graduates with degrees, as the economy is very much dependent on the highly-skilled intensive manufacturing sector which makes up about 30% of the gross domestic product (GDP). It is important to track quality investments which provide high quality and high-skilled job opportunities for our graduates. We should focus more on skills training because this is what the industries want.

The following section describes some of the practical programs adopted by the Malaysian government to address these challenges, but perhaps the most important is the Malaysian Education Blueprint for Higher Education (2015–2025) which provides a national learning framework including such outcomes as innovation skills, information and media competencies, and life and career skills. It is based on five 'aspirations' (access, quality, equity, unity and efficiency) and '4Cs'—namely, critical thinking, communication, collaboration and creativity (MOE 2015: 18).

8.3 Innovative GWR Programs

This section presents some of the innovative programs designed to address the GWR challenges in Malaysia. Given that work-readiness is a major problem for graduates, supporting self-employment may potentially create job opportunities for graduates (Rahim and Chik 2014). The Malaysian government is actively encouraging graduates to be self-employed, mainly by organising programmes that develop entrepreneurial skills (Bank Negara Malaysia 2014). Further the graduate employability data collected through Centralised Tracer Study enabled better coordination in reporting program outcomes of TVET institutions. A total of 582 National Occupational Skills Standard (NOSS) and 16 Occupational Analysis were developed for reference by TVET institutions during the Tenth Plan. The National Dual Training System (NDTS) which provides industry-oriented workplace training has benefited 63,000 employees since its introduction in 2004. 38,000 employees benefited during the Tenth Plan including 12,835 youth who had newly entered the labour market (11MP: 2016–2020). Accordingly, the government, industries, and institutes of higher education have collaborated to improve the employability of the local graduates under the 11th Malaysian Plan (11MP).

8.3.1 The Human Resource Development Fund

Another innovation has been the programs carried through the Human Resource Development Fund (HRDF) which since 2016 have benefitted some 32,850 workers. Loans totalling RM8.6 billion have been channelled to entrepreneurial agencies like *Amanah Ikhtiar Malaysia* and *Tekun Nasional* to help SME owners finance their businesses. Also, about 10,812 youths have participated in programmes such as *Program 3K, Belia Bestari* (Smart Youths), *Outreach Usahawan* (Entrepreneur Outreach), and *Smart Partnership Usahawan Belia* (Youth Entrepreneur Smart Partnerships; SME Corporation Malaysia 2016). More services and sub-sectors have been liberalised, to the extent that 100% foreign equity is allowed. As productivity led to growth, the HRDF has continued to undertake plans to increase the quality of the Malaysian human capital. To overcome the skill mismatch issue among the graduates, RM539.77 million has been allocated under the 11MP for the execution of various skill-enhancement, educational, and training programmes. Other efforts of the HRDF included the promotion of lifelong learning and provision of financial incentives to encourage education and training, facilitate retraining, upgrade the labour quality, as well as improve the Science and Technology (S&T) and Research and Development (R&D) areas. Also, the Electronic Labour Exchange (ELX) website acts as a link between labour offices and registered job-seekers, through which information about the labour market is disseminated to provide the former with suitable workers and the latter with the relevant occupations and skills.

Table 8.2 above shows the innovative measures that have been taken by government to overcome the employment issues faced by the stakeholders. Training and assistance have been provided by the government to new and unemployed graduates. In order to sufficiently equip their employees with the correct set of skills, industries have come up with initiatives like centralised training programs, talks, speaker's clubs, CEO Awards, continuous observation, providing facilities and head-hunting. Some of educational institutes of higher learning have provided their students with practical training in different companies to expose them to actual work culture and professional environment. These efforts implemented by HRDF,

Table 8.2 Number of job vacancies by sector ('000)

	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sept-17
Total	101.6	116.2	97.6	143.9	155.6	145.2
Agriculture, forestry and fishing	15.3	20.2	15	26.8	25.8	23.4
Mining and quarrying	0.1	0.2	1.3	0.2	0.1	0.2
Manufacturing	44.4	50.4	42.1	56.7	62.7	75.6
Construction	18.9	24	19	25.1	30.6	18
Services	22.9	21.4	19	25.1	30.6	18

Source Adapted from Malaysian Industrial Development Finance (2017b)

have achieved a certain degree of success considering the rise in number of graduates who are undertaking training in different industries. Career expo and job fair programmes have shown some positive outcomes as well, based on the number of unemployed graduates who have successfully been absorbed into jobs during these fairs. Overall, job fairs have successfully provided work to 6527 graduates and 11,250 non-graduates (Human Resources Development Fund 2017). Online assistance provided by job service programmes (JSP) has resulted in 10,053 participants being interviewed for 12,682 vacancies and 3013 candidates getting the final job offers. The main reason for the effectiveness of these programmes could be due to the fact that the organisers have directly approached the unemployed youths. Conversely, the GENERATE program appeared to be less effective as only 648 unemployed graduates have been trained. The several reasons for its ineffective could be (1) the courses which were offered under the program had high skill requirements as per the industries' demands, (2) the participating employers must be able to offer good-paying jobs to the trainees upon the latter's completion of the program. These have resulted in most employers and graduates being unable to comply with the requirements.

Since 2016, the HRDF has undertaken many different approaches under the 11MP mentioned above. These have mainly focused on the listing of both small and large organisations which require re-skilling and up-skilling of their workers. The programmes are summarised in Table 8.3. One of the key challenges facing Malaysia in up-skilling, re-skilling and providing job opportunities to graduates is to ensure that its economy is robust and sustainable. As mentioned earlier, Malaysia has prospered as its GDP growth averaged 6.2% in 2017, underpinned by mega infrastructure projects that are expected to stimulate public and private investment in 2018. Stronger economic development is the main source needed to fund youth unemployment plans. As such, the government has implemented a programme that focused on providing job opportunities and generating income simultaneously.

8.3.2 The TUBE Programme

An initiative taken by the government recently was launching a programme called Tunas Usahawan Belia Bumiputera (TUBE) programme, which aims to help young entrepreneurs to venture into entrepreneurship, and RM155 million has been allocated for the programme purposes and will benefit 90,000 students (Haziq 2017). The programme's main aim is to increase youth participation in entrepreneurship and is limited to those who are between 18 and 30 years old. The Small and Medium Enterprise Corporation (SMEC) is the trusted organisation in monitoring the programme. Freedom, flexibility and work–life balance are the key reasons why this entrepreneurial activity is being encouraged. The modus operandi of the TUBE programme is to provide a 3-week course that combines a boot camp concept and an intensive entrepreneurship course, and participants who succeed will be given a RM15,000 grant to start a business. Before joining the programme, graduates have

Table 8.3 Programmes for re-skilling and up-skilling workers

Purpose	Programme	Approach	Results
Up-skilling graduates	Graduate Enhancement Programme For Employability (GENERATE)	Equip graduates with high-end skills and competencies required by industries	648 unemployed graduates have been approved for training, with a budget of RM1.7 million
	Industrial Training Scheme (ITS)	Enables employers to obtain financial assistance at the rate of 100% if they sponsor students from universities, colleges, or training institutions for practical training at their premises. However, the assistance is subjected to a maximum of 20% of total levy balance at time of application. Employers must obtain prior approval from HRDF before commencement of training programme	For SBL, ITS, and OTJ schemes, the results of the programmes were as follows: Financial assistance approved: RM220.179 million. Levy collection: RM262.93 million
	Training Assistance Scheme (SBL)	Employers have the freedom to organise suitable training programmes and collaborate with other employers for this purpose	
	On-The-Job Training Scheme (OTJ)	Helps SME workers to acquire skills	Skilled staff will train new staff. Skills acquired through this scheme will become the baseline for the development of skills by staff in the future
Upgrading skills	National Dual Training System (NBOS-1MASTER) (introduced in 2009)	Strategy 1: Incorporate 1MASTER modules into existing Training, Education, Vocational, and Technical (TEVT) programmes Strategy 2: Online and onsite career counselling to boost the employability of participants Strategy 3: English language training to boost employability of participants	In 2014, the target participant count was 2000. The actual number of participants was 2355 (117.8%) More than 113 NBOS initiatives have been successfully implemented across a wide range of economic and social impact areas

(continued)

Table 8.3 (continued)

Purpose	Programme	Approach	Results
		Strategy 4: '1MASTER mobile advisors' to offer tailored practical advice to boost SME productivity	
	TalentCorp	Focuses on three main strategic areas for professionals, students or graduates, and employers or partners Focuses on three areas: optimise Malaysian talent, attract and facilitate global talent, and build networks of top talent	The Returning Expert Talent has been effective in attracting skilled people who were needed by Malaysia. In terms of monetary returns to the country, net fiscal benefits were about RM27,000 (US $ 9000) per applicant who returned to Malaysia. The second programme—Structured Internship Programme—that offered tax credits to employers to recruit Malaysian university students as part-time interns has apparently been well-received
Providing job opportunities	Job services	Provide assistance to the public for employment, and to the employers to get workers	Nine programmes have been held in 2016, which have been participated by 314 firms, training providers, and governmental agencies The services have provided 12,682 vacancies, of which 10,053 participants have been interviewed and 3013 have been offered jobs
	Job fairs	Provide occupational information to the public	The program has been successfully implemented and employed a totaled of 6527 graduates and 11250 non-graduates

to study or do some research on the businesses they have interest into ensure suitability to the current market. The participants are also encouraged to seek advice from experts who are working in SME offices across the country with no costs involved. The office has also recently modified to become a mobile hub for participants' convenience as it can be placed at expos, carnivals or exhibitions.

Participants are also offered a software application that is available on their mobile phone to search for more information regarding funding and incentives (SME 2018).

According to the Chief Operating Officer of SMEC, 99% of 1435 participants have opened their own businesses and 3420 jobs have been created, with a collective sale of RM39.8 million since the programme's establishment in 2014; while in 2018 SME Corp recorded a RM54.6 million in sales while creating 4414 jobs in the same period (Haziq 2017). The number of participants increased in 2018 from 500 to 2000 and SMEC is anticipating more a positive performance from potential participants in the future. Besides SMEC's involvement, there are 16 ministries and more than 60 agencies that are carrying out similar programmes to foster small and medium enterprise development in Malaysia (Haziq 2017; Vincent 2018). Among the youth who participated in the TUBE programme, a successful entrepreneur and his company which does electrical and instrument installation, control and maintenance, has received an ISO 9001 certification. He has built his business to its current worth of RM2 million from the RM15,000 grant provided by TUBE programme. He mentioned that his success was due to the programme—'*(It) both taught me how to run my business systematically and reach my potential, as well as use grants when I needed to expand my business*' (Vincent 2018).

8.3.3 The 1Malaysia Training Scheme

The Government-Linked Companies (GLC) and private companies are also participating in curbing the graduate unemployment issue by introducing a programme called 1Malaysia Training Scheme (SL1M). SL1M was first established by Bank Negara Malaysia on June 2009 and it was being implemented as part of corporate social responsibility programmes before being absorbed into the Economic Planning Unit (EPU) 2 years later. This Corporate Social Responsibility (CSR) programme is regulated by the Economic Planning Unit in the Prime Minister's Department with collaboration and active involvement from Government-Linked Companies (GLCs) and private sectors (to date, 210 have participated). The training programme cost is fully sponsored by the GLCs and the participating private companies. This program helps graduates to prepare themselves in the aspects of skills, knowledge and working experience in order to get employed. More than 140,000 graduates have so far benefited and found jobs after they attended the program (Yimie 2018). The participating companies are allowed to claim either Double Tax Deduction Incentives or HRDF-SL1M incentives after the program ends. Under the SL1M programme, more than 10,000 graduates have been trained and hired by small and large companies. Trainees are given an allowance of RM1000 per month and an accommodation allowance (Yimie 2018).

8.3.4 *Other Initiatives*

Numerous other measures have been undertaken to overcome the employment issues faced by the stakeholders (Table 8.3). Training and assistance have been provided by the government to new unemployed graduates. In order to adequately equip their employees with the correct set of skills, industries have come up with initiatives such as centralised training programs, talks, speakers' clubs, CEO Awards, continuous observation, providing facilities, and head-hunting. Meanwhile, some institutes of higher learning have provided their students with a period of practical training in a particular company to expose them to actual work environments. With reference to the results of the programmes executed by the HRDF, there has been some degree of success when the number of graduates being trained is taken into account. Job services and job fair programmes have shown some desirable outcomes as well, based on the number of unemployed graduates who have successfully been absorbed into jobs. Overall, online assistance provided by job service programmes has resulted in 12,682 vacancies, following which 10,053 participants were interviewed and 3013 offered jobs. Likewise, job fairs have successfully provided work to 6527 graduates and 11,250 non-graduates (Human Resources Development Fund 2017). The main reason for the effectiveness of these programmes could be due to the fact that the organisers have directly approached the unemployed youth. Conversely, the GENERATE program appeared to be less effective, as only 648 unemployed graduates have been trained. The reason for this could be because (1) the courses which were offered under the programme had high skill requirements according to industry demands, as well as (2) the participating employers must be able to offer good-paying jobs to the trainees upon the latter's completion of the programme. These have resulted in many employers and graduates being unable to comply with the requirements. Many of the programs listed in Table 8.3 have been organised by the Government since 1993. Although 24 years have elapsed, the up-skilling and re-skilling programmes have shown little to moderate improvement. The Hays Asia Salary Guide revealed that in 2017, 97% of employers in Malaysia were still struggling to find the skilled individuals they needed ('Employers Face Skill and Talent Shortage Challenge' 2017).

8.4 Discussion and Conclusion

It is clear from earlier discussion that all three Malaysian stakeholders are aware of the graduate work-readiness challenges and issues and are attempting to deal with them more effectively at both macro- and micro-levels of the economy. As discussed above, various initiatives have been taken by different stakeholders to overcome the graduate work-readiness and youth employment problems in Malaysia. The Human Resource Development Fund (HRDF) programs accounted

for training of 28% of skilled workers in year 2014. Moreover, 895,610 training slots were created for graduates in 2016, and the total amount of financial assistance for arranging these training programs was up to the tune of RM568.77 million. More onus on collaborative strategies between universities can go a long way to address the root cause of skill mismatches, and also building a functional feedback mechanism between both parties to boost work-readiness of graduates. The development of more websites that support job-seeking students for finding jobs as per their skills should be given due emphasis as well. Malaysian government's efforts in encouraging the involvement of youths in entrepreneurial activities have shown some effectiveness. More focus should be towards entrepreneurial and innovation programs for cultivation of an entrepreneurial culture in the youths so that an increase in the number of self-employed young people will improve the country's socio-economic sector and hence, economic growth. In the long term, there is a dire need to frequently review different programs and policies concerning enhancing the work-readiness of Malaysian youth and to overcome youth unemployment. Considering that the business performance of SMEs has remained stable as per SME survey in 2017, there is a need to develop these SMEs further. In fact, many SMEs entrepreneurs were unable to expand their businesses overseas mainly due to inadequacies in international market information, global demands, and financial resources, apart from the multitude of exporting procedures and existence of competitors. Specially designed programs to assist SME owners to equip themselves with the relevant knowledge to overcome the mentioned challenges should be launched to enhance the potential of SMEs.

Youth unemployment is a global problem, and it requires active cooperation by the governments, educational institutions, industries, and the youths themselves. Although many programmes have been being implemented by the stakeholders in Malaysia to rectify the same, the unemployment rate is still high, and this has negatively affected the socio-economic sector of the country. In fact, the local economic growth has shown little improvement since the global recession in 1998. As a result, the industries have been forced to undertake cost-reduction measures to ensure their survival. One of these measures was the recruitment of cheap foreign labour. To encourage companies to employ locals, the government should implement schemes whereby incentives are given to companies which do so, apart from imposing high levies for the hiring of foreigners. On another note, overseas investments by the Government-linked companies should be encouraged to create more jobs for the locals. As for the aged workforce, their skills and experiences should not be ignored; rather, these people should be retained as guides for the younger workers. The former's expertise will also be handy in the development of industry-relevant university curricula. Human capital is the foundation of a strong country. The production of work -ready Malaysian graduates, who meet the industries' requirements can resolve the youth unemployment problem. There have been noted efforts on the part of educational stakeholders to revamp their syllabi in order to provide their students with both technical and theoretical knowledge. But still, there is an ample room for educational institutes to improve, but at the same time, the youths themselves should be conscious of equipping themselves with

sufficient relevant skills to succeed in the future careers. To produce work-ready graduates with high levels of competencies and provide them with sufficient job opportunities, active participation and cooperation by the stakeholders are paramount. By collaborative efforts of all the stakeholders concerned, it is hoped that Malaysia's aim to become a high-income nation will be realised in the near future.

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Chapter 9
Graduate Work-Readiness Challenges in Mauritius

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Abstract With the country aspiring to become a high-income economy, it is evident that graduate work-readiness is even more pertinent for the socio-economic development of Mauritius as a Small Island Developing State (SIDS). Several GWR issues are highlighted in this chapter. The overly academic education system is accused of being one of the main causes, as it does not sufficiently prepare fresh graduates for a smooth entry into the work environment. A survey of employers and educational institutions revealed that fresh graduates have more intellectual and meta skills as opposed to personality and job-specific skills. Despite genuine endeavours from stakeholders (government/regulatory bodies, educational institutions and employers), the results are still mixed. The lack of synergy between the three main stakeholders appears to a major constraint to successful graduate work-readiness initiatives. Nonetheless, some initiatives have had a positive impact.

Keyword Skills mismatch · Graduates · Employers · Government Educational institutions · SIDS

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9.1 Contextual Background

Situated at the heart of the Indian Ocean, Mauritius is an island of 1865 km^2 with a population of 1,348,242 (Central Intelligence Agency 2016). Since its independence in 1968, Mauritius has grown into an African role model with progression from a low-income to a middle-income economy. From being primarily dependent on a mono-crop (sugar) industry, the island has moved to a diversified and knowledge-driven economy dominated by its services sector, more specifically finance, tourism and Information and Communication Technology (ICT). For 10 consecutive years (2006–2016), the island has sustained its first position on the Mo Ibrahim index of African governance (Republic of Mauritius 2016), and since 2001 Mauritius has maintained a stable GDP annual growth rate, with an average of 3.89% (Trading Economics 2017). Like other Small Island Developing States (SIDS), Mauritius is constrained by limited resources, small economies of scale and a strong dependency on international trade. The island's strength thus lies in the 70.3% of the Mauritian population found within the 15–64 working-age bracket defined by the World Bank (ArcGIS 2016). Investment in the human capital including quality education for sustainable employment prospects is, therefore, key for the continued development of Mauritius (UNDESA Division for Sustainable Development 2014).

9.2 Labour Market Issues

According to The World Bank's Country Diagnostic Report for Mauritius (2015), 54% of enterprises across all employment sectors of the island are unable to hire suitable candidates. Such difficulty in recruitment persists despite unemployment rates exceeding 7% since 2011 (Statistics Mauritius 2016). In addition, more than 75% of the 43,100 unemployed Mauritians in 2016 were reported to have stagnated on the job market for more than a year (Statistics Mauritius 2016) indicating a skills mismatch. With more than 50% of its university graduates preferring to live and work abroad as of 2010, Mauritius also tops the list of African countries suffering from brain drain (Harvard Business Review 2017). Labour shortage in the island is particularly acute in its tourism and ICT industries (Googoolye et al. 2013). With rising competition from cruise lines and hotels from other countries in the region, the lack of trained local skills reported by the Mauritian tourism sector results in increased costs and the need to recruit foreign labour (World Bank 2015). The ICT industry also grapples with skills availability issues and is forced to turn to expatriates to fill required posts (Googoolye et al. 2013). According to Statistics Mauritius (2017), the number of foreign workers in the Mauritian ICT industry increased from 330 in 2014 to 342 in 2015 and 387 in 2016. ICT GDP contribution has mostly plateaued since 2010 with a slight decline from 5.8% in 2015 to 5.7% in 2016 (Statistics Mauritius 2017). Further growth in the sector is dependent on the

promotion of advanced ICT value-added services predicted to create an additional 11,000–15,000 high-skilled jobs (World Bank 2015). Without relevant graduate training in the ICT sector among others, the skills gap in the local labour market is expected to further widen.

9.2.1 *Industry, Educational Institutions, Culture and Graduate Work-Readiness*

Yet, both the quality and significance of the qualifications produced by the local education and training system to support the service-inclination of the new knowledge economy are questioned (World Bank 2015). Universities provide qualifications which are not always aligned with job market requirements, and employers view graduates as being overly academic and lacking vital soft skills including teamwork, reading/writing and communication (Business Magazine and Verde Frontier Employability Survey 2016). University enrolment rates also dropped from 50,608 in 2014 to 48,970 in 2015 (Statistics Mauritius 2016), and the World Bank (2015) reports poor collaborations between higher educational institutions and industry. In addition, the Technical and Vocational Education and Training sector remains minimal. Notwithstanding a spread of more than 350 Technical Vocational Education and Training (TVET) institutions (International Trade Centre 2017), full-time enrolment rates are less than 3% of total secondary enrolment as compared to 8% in Sub-Saharan Africa and 17% in East Asian countries (World Bank 2015). Employers also find it difficult to gauge the level of vocational training provided, and the lack of communication between TVET institutions and industry further widens the wedge between the curriculum and current needs of the labour market. Qualified trainers are rare, equipment used are often obsolete, and TVET graduates are not sufficiently tracked for valuable feedback (World Bank 2015).

The Mauritian culture also has a role to play in the work-readiness of the island's graduates. Known as the gateway between Africa and Asia (Kumar 2015), Mauritius shares a strong bond with Asia dating back to the nineteenth century with the immigration of indentured labourers (Aapravasi Ghat Trust Fund, n.d.). With 60% of the population consisting of Asian descendents (Marriott 2016), Asian cultural traits are firmly ingrained in the Mauritian culture. As a consequence, the uncompromising Asian parenting style centred on high academic performance (Watkins et al. 2017) finds its way into the attitude and mindset of many Mauritian parents (Bornstein and Bohr 2011). Upon entering school, Mauritian children are pushed into the fierce 'rat race' of a highly competitive education system (United Nations Educational, Scientific and Cultural Organization [UNESCO] 2015) where parents encourage their children to focus predominantly on academic excellence to the detriment of soft skills.

It is therefore not surprising that an inadequately educated workforce ranks third on the list of reasons hindering business in Mauritius (World Economic Forum 2015). This is supported by the Global Competitiveness Report 2015–2016 in which Mauritius ranks 52nd in the Higher Education and Training pillar compared to countries such as Malaysia (36th) and Chile (33rd) (World Economic Forum 2015). It is thus critical that Mauritian graduates be better trained to develop the right skills sought by industry for economic sustainability. This chapter analyses the Mauritian graduate work-readiness challenge through different stakeholder lenses, and discusses strategies implemented to address the issue, before making recommendations for the way forward.

9.3 Stakeholder Perspectives

9.3.1 Research Framework

Aligning with the stakeholder model presented in Chap. 3, government, educational institutions and employers of Mauritius were surveyed using a mix of qualitative and quantitative approaches.

First, senior representatives from governmental entities involved with graduate work-readiness were interviewed. These include interviewees from three ministries (Ministry of Education and Human Resources, Tertiary Education and Scientific Research; Ministry of Labour, Industrial Relations, Employment and Training; and Ministry of Finance and Economic Development), two regulatory bodies for higher and vocational education (the Tertiary Education Commission (TEC) and the Mauritius Qualification Authority—MQA) and the Human Resource Development Council (HRDC) which is responsible for the promotion and development of the labour force on the island. All interviews were face to face with group interviews conducted where more than one interviewee was present. Interviews were also semi-structured and covered themes which included the nature of GWR challenges experienced by the interviewees, their consequences and strategies developed to address them. Data collected were analysed using thematic content analysis.

Employers and educational institutions (both higher and vocational) were surveyed next. The aim of the survey was to gather their views on the issues discussed during the interviews. The questionnaire was designed, pretested and refined prior to administration. The top 100 companies by profit were targeted and a survey was emailed to their respective Human Resource departments. The questionnaire was also sent to the directors of the 11 largest public and private institutions identified from the Mauritian Tertiary Education Commission. Thirty-seven employers and six educational institutions responded to the survey. Such a response rate aligns with the acceptable range of 35–40% recommended by Baruch and Holtom (2008) for high-level institutional respondents. The data collected were then cleaned and analysed before presenting the findings.

9.4 Research Findings

The identified stakeholders realise that they need to put up a united front to fight the problem of graduate employability. Nevertheless, interviews of government and higher education regulatory bodies in Mauritius, along with further survey analysis of Mauritian employers and relevant educational institutions, revealed numerous issues which appear to hinder the effectiveness of this tripartite relationship. These are presented as follows: GWR challenges; their causes and implications; and solutions designed to address the challenges including three case studies of innovative GWR programmes.

9.4.1 GWR Challenges

Employers in Mauritius appear to experience great difficulty in finding the right skills in the job market (Ministry of Finance and Economic Development [MFED] 2015). They condemn an absence of essential soft skills among many young graduates. Fresh talent with a strong willingness to learn and adapt to the organisational culture and its work ethics is also rare. Employers perceive new graduates as inexperienced, overly academic and restricted by attitudinal barriers, which greatly inhibit their performance at work (MFED 2015). Mauritian universities are accused of being too content focused with little emphasis on soft skills (Ministry of Labour, Industrial Relations, Employment and Training [MLIRET] 2014). Graduates are not sufficiently exposed to authentic and valuable work experiences to shape their career-readiness, and the preparation of graduates by local tertiary institutions is perceived as inadequate as compared to their overseas counterparts (Business Magazine and Verde Frontier Employability Survey 2016).

As illustrated in Table 9.1, the results of the survey of Mauritian employers and education institutions reveal that there are a number of similarities in employer-sought skills between the university and vocational education graduates. Among the top five skills required from HE and VE graduates, four appear common to both. These include soft skills (such as social skills, character traits, conflict

Table 9.1 Main graduate skills required by Mauritian employers

	University (%)	Vocational education
Interpersonal/communication skills	14	5%
Self-management (social skills, character traits, conflict management and time management)	13	19
On-the-job training	8	10%
Technical skills	17	7%
Teamwork	7	13%

management and time management), on-the-job training, in-depth technical skills and teamwork. However, employers seem to rate communication and interpersonal skills as less important for VE graduates as opposed to HE ones. This could be explained by the more prominent technical focus of jobs secured by VE graduates as compared to their HE counterparts, who, on top of needing sound technical expertise, are also required to communicate effectively on the job.

Using the conceptual framework outlined in Chap. 2, the survey results in Table 9.2 also indicate that Mauritian graduates primarily acquire intellectual skills (foundation skills and cognitive capabilities) followed by meta skills (IT skills, communication skills, teamwork and political skills and system thinking skills) during their studies.

This ranking reflects the strong academic focus of the Mauritian educational system, which emphasises the development of cognitive and foundation skills. In addition, although the respondents see both higher education and vocational graduates as lacking communication skills to be work-ready, they nonetheless rated the graduates' communication skills as above average. Graduates, therefore, appear to have some communication skills, but these need to be further developed to rise to employers' expectations. Further analysis indicated in Table 9.3, shows that graduate personality and job-specific skills are rated low. This aligns with the general perception of skills mismatch between employer expectations and graduate abilities. Insufficient graduate personality and job-specific skills could also be attributed to the overly academic focus of Mauritian education.

Table 9.2 Ranking of graduates skills and competencies

		Mean	Standard deviation
Meta-skill resources	IT skills	3.8	0.679
Intellectual resources	Foundation skills	3.6	0.867
Intellectual resources	Cognitive capabilities	3.3	0.728
Meta-skill resources	Communication skills	3	0.921
Meta-skill resources	Teamwork and political skills	2.9	0.841
Personality resources	Self-management skills	2.8	0.972
Meta-skill resources	System thinking skills	2.8	0.919
Personality resources	Innovation and creativity skills	2.8	0.86
Job-specific resources	Core business skills	2.6	0.859
Personality resources	Leadership abilities	2.2	0.791

Table 9.3 Mean and standard deviation of integrated dynamic capabilities

	Mean (M)	Standard deviation (SD)
Intellectual skills	3.5	0.65
Meta skills	3.1	0.61
Personality	2.6	0.71
Job specific	2.6	0.86

9.4.2 Causes and Consequences of These GWR Challenges

As is the case for many other countries discussed in this book, the Mauritian education system thus appears to lie at the core of the island's GWR challenges. This view is shared by representatives of government and educational regulatory bodies, as well as employers and some HE/VE institutions. Not only are curricula criticised for being overly theoretical, but teaching also appears to remain primarily one-way, with little focus on authentic work experiences and career-readiness skills such as independent learning and teamwork. Employer and higher education institution survey results also confirmed a gap between industry requirements and the academic system in place (12%), resulting in a mismatch between graduate skills and the needs of industry (13%). The lack of effective training of graduates prior to their entry to the labour market (39%) is also strongly emphasised, followed by the perception of insufficient focus on extracurricular activities that assist in self-development (17%). The current educational curriculum is yet again stated to be too academic.

According to government and educational regulatory body interviews, this issue is further exacerbated by the lack of synergy and dialogue among higher education institutions, industry and government. Despite an effort from the Mauritian government to set up advisory committees uniting all three parties, these lack effectiveness due to insufficient communication. For example, universities often fail to establish a good working relationship with industry to implement structured internship programmes. Inadequate industry input in course designs and evaluation is also deplored. Surveys carried out by higher education regulatory bodies to better understand industry needs for tailored courses are usually met with poor response rates. Such an exercise is often perceived as futile by industry, as actions rarely follow. Higher education regulatory requirements also fail to consider employability in their course audit requirements. Instead, they focus mostly on discipline content and assessment with little regard for soft skills.

Student attitudes also appear to be at the root of work-readiness issues. According to government and educational regulatory body representatives, many higher education students shun the additional work required to be career-ready and limit their focus to developing academic skills. This perception is reinforced by the employers' and higher education institutions' survey analysis, which indicated that one-quarter of the respondents perceive insufficient work experience of fresh graduates as a prominent work-readiness issue. Such disinterest in industry exposure during graduate studies often stems from Mauritian family values. Right from primary school, many parents drive their children towards achieving high examination scores, with little emphasis on employability skills. What does not count for exams is thus often ignored. This behaviour appears to emerge from a societal belief that graduates will secure a highly paid job solely based on their academic results. Academic achievement has also fuelled a culture of competition which,

unfortunately, hones individualistic behaviour to the detriment of teamwork. The issue of poor graduate attitudes is further reinforced by the survey of top 100 companies and tertiary level institutions, which showed that young graduates find it difficult to accept job realities and are often impatient to climb the ladder without taking the time to acquire precious on-the-job experience. For example, there is a strong perception that fresh graduates are reluctant to learn from seniors (16%), fail to adapt smoothly to the work environment (12%) and take too long to adapt to the workplace (11%). Their lack of focus on the development of their communication and soft skills (17%), and inadequate work performance (11%) also point towards prominent work-readiness deficiencies.

As a result of all these GWR challenges and their causes, Mauritius is faced with several consequences. While around 7000 Mauritian graduates leave university every year (Business Magazine and Verde Frontier Employability Survey 2016), 3000 were reported as unemployed in the 2015–2016 Mauritian Budget (MFED 2015). Graduates are thus insufficiently absorbed by the island's labour market, and many find themselves underemployed as their degree does not align with the requirements of job vacancies (Kisto 2015). Due to insufficient industry consultation and engagement, the local education system remains inadequately tuned into changing business needs, and, consequently, fails to provide the relevant quality training and skills sought by employers (MLIRET 2014). This is particularly apparent in the ICT and financial sectors which report significant skills shortages, as well as the manufacturing sector where plant and machinery workers are scarce (World Bank 2015). These industries often find themselves with no other option but to recruit from overseas at salaries which are often at least twice as high as those of local employees (Kisto 2015). This view is supported by Googoolye et al. (2013) who identify the ICT, financial and manufacturing sectors as hiring the most expatriates for professional level jobs requiring HE/VE qualifications (24, 22 and 20%, respectively). Business expansion is thus constrained, in spite of the boom of economic opportunities in Mauritius and other parts of Africa. Such dearth in the Mauritian workforce is reflected in the island's global economic performance. Despite maintaining its position as the most competitive economy of Sub-Saharan Africa, Mauritius dropped seven places from 39th to 46th on the global competitiveness scale in 2015–2016 (World Economic Forum 2015).

The Mauritian government is under pressure to reduce unemployment and ensure that graduates are appropriately trained. HE/VE institutions and employers included in this study also value GWR. More than ever, government, educational institutions and employers of Mauritius realise that they need to put up a united front to fight the problem of graduate employability. Some of their strategies and programmes designed to address the issue of graduate work-readiness in Mauritius are discussed next.

9.5 Current Strategies, Policies and Programmes to Address GWR Challenges

Set up under the aegis of the Mauritian Ministry of Education, the Human Resource Development Council (HRDC) designs GWR remedial programmes in collaboration with other ministries and industry (HRDC 2015). One such programme is the Graduate Training Employment Scheme (GTES), which aims at enhancing the work-readiness of unemployed graduates through industry certifications, professional courses or training courses jointly designed by industry and training institutions (HRDC 2015). Others include placement programmes at secondary school level (lower six placement programme) to provide authentic work experiences and boost self-confidence before they join either higher education institutions or the workplace. This placement initiative was complemented by the Career3 project, a series of career talks at secondary schools to inculcate a career mindset through a strong focus on employability (HRDC 2015).

Other Mauritian ministries have also implemented GWR programmes. For example, the Ministry of Finance and Economic Development (MFED) launched the Service to Mauritius programme in 2008 to attract university graduates who qualify for job scarcity areas including ICT, engineering and finance for a 2-year internship in the public sector. These young graduates have the opportunity to serve the Mauritian government, while gaining work experience and mastering essential employability skills (MFED 2016). Additional benefits of this programme include a possibility to fill some vacancies in job scarcity areas and discourage potential brain drain. In addition, the Ministry of Labour, Industrial Relations, Employment and Training (MLIRET) joined forces with the HRDC and industry to develop a Dual Training Programme (DTP), which blends classroom training with workplace experience to address the skills shortage while developing greater work-readiness. This programme was implemented with the support and participation of the MFED, the Mauritius Employers' Federation (MEF), the private sector and tertiary education institutions for its smooth operation. The MLIRET also teamed up with the MFED and the private sector to introduce the Youth Employment Programme (YEP), offering Mauritian youth the possibility of acquiring essential skills sought by different sectors of the economy. Both the DTP and YEP are discussed in more detail in the following section of this chapter.

Many higher education institutions (HEIs) in Mauritius are also committed to producing employable graduates for the country's economic growth and social well-being. They have adopted various initiatives to assist in bridging the gap between graduate skills and labour market expectations. These range from counselling support and training to internships. For example, industry work placements are mandatory for full-time students studying at the University of Technology Mauritius (UTM) to provide them with pre-professional work experience aligned with their chosen field of study (UTM 2016). Similarly, the University of Mauritius (UOM) implemented the Work-Based Learning programme, 6 weeks credit-based

training in a company or institution pertinent to their field of study, for students to enhance their readiness for work (UOM 2016). For courses not requiring a mandatory internship, the UOM also provides the Student Work Experience Programme (SWEP), a 6–8 weeks' training programme offered during vacations (UOM 2016). Another credit-based initiative includes the Employability Skills Development programme (ESD) of the UTM, integrated within all undergraduate course curricula to provide students with fundamental employability skills such as communication, self-management and teamwork (UTM 2016). The Charles Telfair Institute (CTI) of Mauritius, partner of Curtin University, Australia, also provides internships to all its final year undergraduate students. The programme is well structured with the allocation of both CTI and industry mentors for a productive work placement experience. Closure of the programme is marked by reflective sessions for transfer of learning (CTI 2017). CTI's internship programme is only a small part of its wider Work Integrated Learning (WIL) strategy to provide students with authentic learning experiences both within and outside the curriculum. This is discussed in more detail in the next section of the chapter.

Many HEIs also organise employability and career events every year. For example, the University of Mauritius collaborates with its student union to organise graduate employability workshops. The students benefit from the insight of private sector experts on topics including labour market expectations, discipline and ethics at work (Employability and Career Forum Employability 2017). The Mauritian Branch Campus of Middlesex University provides coaching, weekly employability drop-in sessions and organises employability skills workshops in areas such as leadership, networking and presentation skills. Several other events including Graduate Prospect Day and employer presentations provide students with the opportunity to meet with employers to become aware of employment, graduate training schemes, internships or volunteering opportunities (Middlesex University 2017). Furthermore, HEIs in Mauritius also participate actively in organising and attending career fairs to ensure continued networking with industry partners with a view to enhance employability of future graduates. An example is the annual Career Day organised by the Charles Telfair Institute where students have the opportunity to network with the largest employers in Mauritius to better gauge their expectations (CTI 2017).

Several employers also play an active role in addressing the GWR issue in Mauritius. For example, employers registered on GTES, DTP and YEP programmes are required to provide their input in the design of training curriculum and have their share of responsibility in the selection of graduates for placement with the possibility of future employment (HRDC 2015; MLIRET 2015). Many employers also actively participate in reskilling programmes in collaboration with government bodies. An example is the Graduate Innovative Learning (AGILE) programme, which aims at training unemployed graduates with the essential 'attitudes, knowledge and skills' required to secure a job at middle management level in the hotel industry (HRDC 2015). Similarly, four big ICT companies have designed a postgraduate diploma course in IT to develop IT graduates' technical expertise in line with the needs of the industry (Le Roy 2016). Many employers have also

developed self-initiated projects. For instance, the Barclays bank implemented the 'Ready to Work' programme, a free online platform, to equip fresh graduates and young job seekers with employability and job readiness skills (Travail: La Barclays 2015). Successful candidates can also benefit from internship opportunities for professional experience. Adopting a unique approach, companies like Adecco have launched the 'Way to Work' initiative, whereby, apart from the possibility of benefitting from traditional internships, career guidance and training, graduates also stand a chance of becoming the CEO of Adecco for a month ('CEO for one month', 2017). Figure 9.1 provides a summary of the stakeholder initiatives and collaborations as discussed above. Three of them, YEP, DTP and WIL programmes, are discussed in the case studies which follow.

Fig. 9.1 Summary of programmes for graduate work-readiness improvement in Mauritius

9.6 Some Innovative and Successful Programmes

9.6.1 Youth Employment Programme

Launched in 2013, the Youth Employment Programme (YEP) is an example of a public–private partnership set up to boost employability and address the issue of graduate work-readiness in Mauritius. The programme is an initiative of the MLIRET and MFED in collaboration with the private sector. It is managed by a Skills Working Group (SWG) comprising of both government and private sector representatives. Young Mauritians (including graduates) aged between 16 and 35 register on the programme online for training or placement over a period of 1 year with possibility of employment based on performance (MLIRET 2017a, b). Registered employers can either recruit the participants directly or can select their candidates from the YEP database, and stipends, as well as training costs, are partially refunded by the SWG (MLIRET 2017a, b). Since its inception in 2013 until June 2016, a total of 1004 and 14,984 YEP applicants were placed in the public and private sector, respectively (Republic of Mauritius 2016). By June 2017, 1600 employers had participated in the programme, and a completion rate of 62% was noted among its graduate participants (MLIRET 2017a, b). Dropouts were primarily attributed to securing better jobs or opportunities for further studies. Nevertheless, the programme remains effective as a significant 82% of graduates who completed their 1-year YEP programme was offered permanent employment. As with dropouts, reasons for not providing employment include better job opportunities or a preference for further studies (MLIRET 2017a, b).

9.6.2 Dual Training Programme

Inspired by the success of apprenticeship programmes in Europe (Petmesidou and Gonzalez-Menendez 2016), the MLIRET, HRDC and private sector worked jointly to implement the Dual Training Programme—a mixed approach where learning happens both in the classroom and on the job. Any company or association of companies with a dearth of employees in a specific field would register on a training programme, recruit DTP participants and partner with a training institution for course delivery. Companies would be involved in the course curriculum design, delivery and assessment. Trainees on the programme would spend a few days of the week learning on the job under the close supervision of their company mentors, and some days at an educational institution for in-class training. The recruiting organisation sponsors both the training fees and the monthly stipend of Rs 3000 prescribed for each DTP trainee. The latter is fully refunded by the HRDC along with 40 % of the trainee fees or Rs 45,000, whichever is lower (MLIRET 2015). Young DTP graduates are exposed to excellent conditions for work-readiness, as they not only follow a classroom course co-designed by industry, but they are also

trained at the workplace. Companies enrolled on the DTP are able to contribute to the employability of the young Mauritian workforce, while addressing the issue of skills mismatch and retaining good talent for their organisation. From 2015 when the programme was first introduced until February 2017, 25 companies registered on the DTP for courses ranging from Management to Mechanical and Electrical Engineering, IT, Communication, Banking and Logistics. By February 2017, a total of 130 trainees had registered on DTPs from which 16 dropped out and 3 failed (MLIRET 2017a, b). Reasons for dropout range from health issues, difficulty in adapting to the French system (where training institutions were French), problems coping with the work environment and wrong choice of study field and permanent employment opportunity from another company (MLIRET 2017a, b). The programme thus appears to have been applied by several companies and to benefit from low dropout and failure rates.

9.6.3 Work Integrated Learning

Work Integrated Learning exposes students to a multitude of authentic work experiences aimed at forging their career-readiness. Traditionally, this has been implemented by HEIs through industry internships and employability coaching. However, WIL transcends the traditional work placement (Billett 2009) to embrace an array of real-life projects, both within and outside the curriculum (Ferns and Lilly 2016). Driven by the need to produce more work-ready graduates, the Charles Telfair Institute of Mauritius embraced this challenge by creating its WIL committee in 2016. The committee mandate was to set up a WIL strategy, as well as facilitate and monitor its implementation. The CTI WIL framework illustrated in Fig. 9.2 was thus developed, and, under the strong leadership and commitment of CTI senior management, adopted by academics, students and industry.

Since then WIL has become an integral part of the CTI DNA. Within the curriculum, industry visits and guest lectures from industry experts have become a

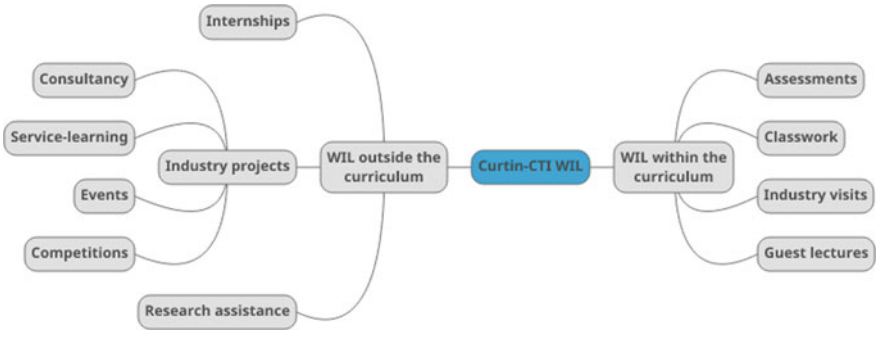

Fig. 9.2 The CTI WIL framework

regular feature at CTI to bring a real-life dimension to classes. Assessments and classwork are also increasingly viewed from a more authentic angle, as they are designed to produce deliverables, such as marketing plans and advertising campaigns, for actual industry clients. Outside the curriculum, apart from internships, industry CTI WIL projects have gained remarkable popularity. Supervised by mentors from both CTI and industry, these projects require students to work closely with organisations on consultancy work, community projects, national events and even industry-based competitions. Students are thus able to enhance both their discipline knowledge and soft skills such as communication, teamwork, self-management and problem-solving (CTI 2017). Community-based or service-learning projects additionally help them develop a more inclusive mindset, and the altruistic values required to give back to society (Beatty 2010). Research assistance as an outside-the-curriculum WIL endeavour is also well-anchored into the CTI WIL philosophy. Advocated by Xia, Caulfield and Ferns (2015), research participation is an excellent avenue to enhance student learning and develop their employability skills. This is particularly relevant for the Mauritian labour market, since the island aspires to turn into a full-fledged knowledge-based economy. Students on CTI WIL research projects are thus able to contribute to the researcher's attempt to solve real-world problems, while honing their employability skills such as problem-solving and critical thinking. Outside-the-curriculum CTI WIL project closure is marked by a student reflective report or presentation for students to better understand their strengths and weaknesses in terms of career-readiness (CTI 2017). As specified by Jackson (2015), such reflection also facilitates the transfer of both discipline and employability knowledge to future, similar work experiences. Since the introduction of WIL at CTI in 2016, the number of student employability experiences increased exponentially (CTI 2016). The CTI WIL committee continues to strive in collaboration with the whole institution and its industry partners to maintain the sustainability of the CTI WIL programme for improved graduate work-readiness.

9.7 Conclusion

Graduate work-readiness is a global issue and Small Island Developing States like Mauritius are not spared. With the country aspiring to become a high-income economy, it is evident that graduate work-readiness is even more pertinent for the socio-economic development of the country. Several GWR issues are highlighted in this chapter. The overly academic education system is accused of being one of the main culprits, as it does not sufficiently prepare fresh graduates for a smooth entry into the work environment. This was supported by a survey of employers and educational institutions, which revealed that fresh graduates have more intellectual and meta skills as opposed to personality and job-specific skills. Graduate attitudes are also considered inadequate. Despite genuine endeavours from stakeholders (government/regulatory bodies, educational institutions and employers), the results

are still mixed. The lack of synergy between the three main stakeholders appears to a major constraint to successful graduate work-readiness initiatives. Nonetheless, some initiatives have had a positive impact. For example, the Youth Employment Programme, where 82% of graduates were offered permanent employment at the end of their 1-year training. Similarly, the Dual Training Programme has been a flagship programme involving all three major stakeholders. Although limited in its reach, the programme offered the possibility for trainees to spend time in an educational setting but also have hands-on experience within the workplace. Another successful graduate work-readiness initiative is Work Integrated Learning, which provides students at higher and vocational education institutions with authentic work experiences during their studies. The success of this initiative resides mainly in the strong relationship between educational institutions and industry. As stated by Verma et al. (2016), bridging the gap between higher education institutions, employers and graduates is key to aligning demand and supply on the job market.

The graduate work-readiness issue can only be addressed through strengthening links in the tripartite model. Although it appears that the link between industry and institutions is getting stronger through initiatives such as Work Integrated Learning, such programmes are not widespread. Government links primarily to public education institutions since they are the main source of funding. The link between government and private institutions is mostly through the regulatory bodies. However, this does not provide sufficient grounds for promoting graduate work-readiness. Such relationships do not help either party and are not conducive to making graduates work-ready. It is therefore imperative that this relationship be further strengthened, while preserving the interest of all parties involved. The relationship between government and industry needs further development. Although there is an effort through the YEP and DTP to fund traineeships, the scale and reach of the programme is still not sufficient. The nature of the DTP is such that it might be difficult to have a bigger outreach. The number of industry graduate sponsorships and university capabilities for customising courses for the industry remains limited. It is, therefore, important that other avenues of collaboration be explored between government and industry, while keeping the interest of graduates' work-readiness at the centre of any such initiatives. Despite their common concern about graduate work-readiness, government, industry and tertiary education institutions need to strengthen the links within the tripartite model and, instead of developing remedial and isolated initiatives, a holistic approach needs be adopted when implementing graduate work-readiness initiatives.

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Chapter 10
The Transition from Graduation to Work: Challenges and Strategies in Singapore

Peter Waring, Christopher Vas and Azad Singh Bali

Abstract While historically Singapore has not experienced an employability problem, in recent years the reduced availability of foreign labour, and the political–economic imperative to increase domestic labour force participation has underscored issues surrounding work-readiness, skills and competencies and the transition from education to employment. On the demand-side, the government has responded to this by encouraging small- and medium-sized businesses (particularly in the manufacturing and construction sectors) to automate and mechanise to the extent possible through generous grants and subsidies for investing in technology. On the supply-side, the government has introduced reforms to upskill and expand the competencies of the domestic workforce. This chapter explores all these issues and presents several innovative case studies which illustrate how Singapore is addressing these issues.

Keywords Graduates · Employability · Singapore · Work-readiness

10.1 Introduction

The transition from graduation to work has occupied the minds of policymakers in Singapore in recent years as a result of a public discourse that unfolded at the beginning of the twenty-first century. At that time, Singapore's strategy was to become a 'Global Schoolhouse'—a magnet for world-class educational institutions, which would be invited to establish branch campuses in the city state, and for talented foreign students who would study and hopefully stay on in Singapore to

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contribute to its economic dynamism (Waring 2014). This strategy was consistent with the founding father's (Lee Kuan Yew's) view that Singapore with its then 3.5–4 million strong population would not be able to find sufficient talent within its borders to remain globally competitive and significant. Thus, a target of recruiting 150,000 foreign students to Singapore by 2015 was set and selected foreign universities were invited to establish local operations. By 2012, the Singapore Government had changed tack—largely abandoning the Global Schoolhouse Project and the target of recruiting 150,000 foreign students. The catalyst for the about-face was the 2011 General Election in which the ruling PAP party performed unusually poorly at the ballot box. The party in its election post-mortem concluded that widespread concern around the role of foreigners in Singapore society generally led to changes in policy. Collectively, these policies seek to reduce the number of foreigners in Singapore and also the perception if not the reality that foreigners were unduly privileged by the Singapore Government (Low and Vadaketh 2014). Since 2011, the Singapore Government has straddled awkward and sometimes competing policy positions. On the one hand, the government announced more places at public universities to allay concerns that foreign students were taking the places of locals. On the other, they have also sought to warn of an impending glut of graduates and the need for young Singaporeans to properly consider careers in vocational employment. For instance, former Minister for Manpower Tan Chuan-Jin warned in 2014 of a graduate glut that might result in 'over-educated and underemployed' graduates like that experienced in South Korea and Taiwan (Boon 2014).

In this chapter we engage with the issues surrounding the transition from graduation to work in the Singapore, paying particular attention to the views and policies of the key stakeholders and the nuances of what is widely considered an important discourse. The rest of the chapter is organised as follows. Section 10.2 describes the dimensions and trends in graduate work in Singapore and is followed by a review of graduate core competencies in Sect. 10.3. Section 10.4 focuses on the views as expressed by stakeholders while Sect. 10.5 outlines recent government efforts to enhance graduate transitions. The final section offers concluding observations of the potential impact and limitations of the government's recent efforts.

10.2 Graduate Work Transitions in Singapore

10.2.1 Labour Market Issues and Trends

Singapore has experienced robust long-term economic growth since its independence in 1965. This sustained economic growth has resulted in the city state enjoying almost continuous full employment except for very short spells in 1973–74, 85–86, 1997–98 and 2008–9 (Pang and Lim 2015). Singapore's age-specific labour force participation unemployment rates are provided in Tables 10.1 and 10.2. The 'youth' in the labour force are defined as those between the ages of 15

Table 10.1 Age-specific labour force participation rates

	2000			2006			2016		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Total	68.6	81.1	55.5	65	76.2	54.3	68	76.2	60.4
15–19	19.1	18	20.1	12.4	12.6	12.1	15.3	18	12.4
20–24	77.4	75.9	78.7	70.7	71.4	70	62.3	62.6	62
25–29	91.1	96.5	84.9	89	94	84.5	90.3	90	90.6
30–34	87.1	98.3	73.6	87.2	98	77.7	90.8	97	85.3
35–39	82	98.3	63	83.8	98.2	70.4	89.7	97.8	82.3
40–44	79.8	97.6	60.7	82.5	97.7	67.7	88.2	97.2	80.2
45–49	77.3	96.3	57.4	81.4	96.5	66.2	86.3	96.3	77.2
50–54	69.1	91.2	46.7	76.8	93.3	59.5	81.4	92.9	70.3
55–59	51.7	74.4	29.6	63.5	81.9	44.7	75.8	88.7	63.1
60–64	31.7	49.6	15.3	43.9	62.5	26.2	62.8	76.9	48.8
65 and above	10.4	18.5	4.1	14.3	22	8.3	26.5	37	18

Source Ministry of Manpower (2017, 2005)

Table 10.2 Age-specific unemployment rates

	1995	2000	2005	2010	2016
15–19	5.9	8.9	14	5.5	5.5
20–29	3.4	4.3	5.3		
30–39	1.7	3.1	3.1	2.3	2.3
40–49	1.6	3.7	3.6	2.6	2.4
50 and above	1.8	3.4	4.1	2.7	2.7
Total	2.2	3.7	4.1	3.1	3

Source Ministry of Manpower (2017, 2005)
Note data for 15–19 and 20–29 age groups were subsequently merged after 2005

and 24. For those aged between 15 and 19, the global labour force participation was 30.1%, almost twice of that in Singapore (see Table 10.1). The corresponding numbers for those between 20 and 24 were 64.7%, again higher than that of Singapore. Even when compared to advanced economies, Singapore's youth labour force participation is relatively smaller. In a report published by the Ministry of Manpower in 2011, this is attributed to a larger proportion of the youth pursuing education (Ministry of Manpower 2011).

There is limited disaggregated data on youth unemployment publicly available which makes international comparisons challenging. For those aged between 15 and 24, the unemployment rate was 8.8% in 2009 (Ministry of Manpower 2011: 44). In recent years (2016), data are only available for those between 15 and 29 (5.1%). The findings of the Ministry of Manpower's (2011) report on youth labour market are summarised below. First, the proportion of youth pursuing higher education such as a degree or a polytechnic diploma increased from 34 to 41%

during 1990–99. Second, more youth are pursuing PMET (professionals, managers, executives, and technicians) jobs than other job profiles. This however, could, in part, be explained by Singapore's high dependence on relatively cheap foreign labour in the low-skilled sectors of production, transport and cleaning. Third, the share of working students (those pursuing part-time or full-time work while employed) increased from 9 to 24% between 1999 and 2009. Third, unsurprisingly, youth were more likely to be engaged in part-time or temporary employment relative to other age groups. Fourth, in addition to the decline in the number of youth participating in the labour market, there was a decline in the number of hours worked. Fifth, most youth were hired in the hotel, food and beverage sectors; and the services sector accounted for 90% of youth employment in Singapore in 2009.

As evident in Table 10.3, the proportion of graduates employed has reduced over the past decade. In 2016, 35% of those unemployed were degree holders. This is up from 18% in 2006 (Ministry of Manpower 2017: A13). This can be attributed to, in part, to the increased educational attainment of Singaporeans in recent years (see Waring 2014), and that graduates now account for a third of the labour force compared to about a fifth in 2006 (Ministry of Manpower 2017: A6). Among graduates aged below 30, 7.9% were unemployed in 2013. The corresponding numbers were 1.9% for those in their 30s, 2.5% for those in their 40s and 3.1% for those above 50.

While the reduction in graduate work-readiness might be considered marginal in most other developed countries it is of concern to Singapore's Government for three reasons (Cai 2013). First, Singaporeans have become accustomed to near full graduate employment, so any reduction is considered unwelcome and may have implications for how the populace view the government's effectiveness. Second, the authorities consider an oversupply of graduates to be a waste of human resources that might be better channelled to vocational employment. Finally, there is a concern, not always openly expressed, that large numbers of unemployed graduates could quickly become disenfranchised, leading to social and political challenges. Thus, the Singapore Government is anxious to ensure that graduates have the core competencies they need to find graduate employment—competencies that are discussed in the next section.

10.3 Major Challenges—Graduate Core Resources and Competencies

To discuss graduate competencies and attributes in the Singapore context, it is at first necessary to provide a brief explanation of the education and training system and identify what is meant by 'graduate'. Singapore's education and training system is and has been very deliberately moulded by the State to support the country's national developmental and economic goals, and to provide the labour and skills required to attract foreign direct investment.

Table 10.3 Employability of graduates: 2007–15

Institutions	2007	2011	2015
Universities			
Proportion of graduates employed (%)	94.5	91.4	88.9
Full-time permanent	89.8	86.4	82.4
Part-time/temporary	4.7	5.0	6.6
Median gross monthly starting salary	2750	3000	3300
Polytechnics			
Fresh graduates			
Proportion of graduates employed (%)	93.0	92.1	88.9
Full-time permanent	75.3	67.0	57.9
Part-time/temporary	17.7	25.1	31.0
Median gross monthly starting salary	1700	1850	2100
Post-Ns graduates			
Proportion of graduates employed (%)	92.7	94.7	91.5
Full-time permanent	82.3	80.1	70.8
Part-time/temporary	10.4	14.6	20.7
Median gross monthly starting salary	2000	2100	2500
Institute of technical education (Ite)			
Fresh graduates			
Proportion of graduates employed (%)	92.9	84.1	83.2
Full-time permanent	71.1	63.5	48.4
Part-time/temporary	21.8	20.6	34.7
Median gross monthly starting salary	1217	1300	1700
Post-Ns graduates			
Proportion of graduates employed (%)	93.9	89.6	86.8
Full-time permanent	79.8	79.7	63.0
Part-time/temporary	14.2	10.0	23.8
Median gross monthly starting salary	1400	1600	1950

Source Ministry of Manpower (2017)

As can be observed from Table 10.4, Singapore's education system has resulted in high levels of educational attainment. Some 32% of the resident labour forces are degree-qualified with a further 19% holding a diploma level qualification. Thus, when 'graduate attributes and competencies' are discussed in Singapore, it is generally in relation to graduates of universities and the polytechnics. It is important to note that there is not one universal set of graduate attributes for either graduates of polytechnics or universities. For instance, Nanyang Technological University (NTU) refers to the 5 'C's of an NTU graduate—those being:

Table 10.4 Educational attainment of Singapore's resident labour force, 2014

Highest qualification	Total	%	Males	%	Females	%
Total	2185.2	100	1202.6	55	982.6	45
Primary and below	250.8	12	143.1	57	107.7	43
Lower secondary	168.9	8	101.5	60	67.4	40
Secondary	390.1	18	197.7	46	192.4	44
Post-secondary (non-tertiary)	250.4	11	153.8	61	96.5	39
Diploma and professional qualification	426.1	19	230.5	54	195.6	46
Degree	699	32	375.9	54	323	46

Source Ministry of Manpower (2017)

- Character
- Creativity
- Competence
- Communication
- Civic-mindedness

At the National University of Singapore (NUS) (which in 2017 ranked 17th in the world for producing the most employable graduates), NUS graduate 'attributes and resources' have been identified by the university's Centre for Future-Ready Graduates (CFG). CFG's 2-017 'Future-Ready Report' undertook a large study to identify the graduate attributes that companies operating in Asia look for. Following a series of focus groups with senior executives and a survey of 315 industry professionals, the NUS Centre identified 'nine domains of soft skills' which they claimed employers 'found essential' (CFG 2017: 5). These included:

- Resilience—ability to bounce back from adversities or stress
- Curiosity—desire to seek new experiences and embracing of novelty, uncertainty and unpredictability
- Adaptability—ability to adjust thoughts and behaviours to changing circumstances
- Insight—clear understanding of one's thoughts, feelings and behaviours
- Emotional Sensing—ability to read and manage emotions in self and others
- Entrepreneurial Thinking—an entrepreneurial mindset to spot and seize opportunities
- Pursuing Convictions—pursuing what you believe in, and overcoming obstacles
- Vision—seeking to contribute and to improve situations of self and others

This singular focus on soft skills reflects a consensus within what might be described as the 'educational elite' in Singapore that the rising tide of automation and artificial intelligence adds greater piquancy to innately human qualities that ought to be refined through university study (Sung et al. 2013). For instance, the Minister for Higher Education, Minister Ong suggests the need to rediscover the attributes that are uniquely 'human' and which are unlikely to be perfected through technology. He argued that:

> The more robots and AI enter our work and lives the more human we need to be. To keep our jobs and stay relevant we need to work like humans—exercise judgement, show empathy, deliver service with a human touch. We encourage students to go overseas on exchange programmes or to perform community service in developing countries for the exposure, experience, to develop a sense of compassion, and to hone their inter-cultural skills. Ong (2017)

Another graduate attribute that is often emphasised in the Singapore context is 'Intercultural Competence'. In a comparative study of the attributes identified as being important in graduates of communication studies, Fitch and Desai (2012) found that employers had an expectation that graduates would have 'inter-cultural competence'. Fitch and Desai drew upon Paige et al. definition of this attribute which they explained in the following terms:

> Intercultural competence embraces both "culture-specific and culture-general" knowledge, skills, and attitudes required for effective communication and interaction with individuals from other cultures (Fitch and Desai 2012, page 3)

As a result of Singapore's position in the global economy, and the large number of multinational companies that have located regional headquarters, it is little surprise that employers have emphasised this as an important graduate outcome. To shape skills and competencies, and to identify deficits in specific occupational categories, in recent years the Singapore Government has developed a skills framework, Singapore's Workforce Skills and Qualifications (WSQ), which is designed on principles of 'open access, competency-based training and assessment' (Bound and Lin 2011). There are 34 WSQ frameworks covering industry sectors as diverse as aerospace, floristry and tourism through to generic occupations and skills areas such as leadership and people management, service excellence and human resources. Willmott and Karmel (2011: 1) observed that Singapore's WSQ system was heavily influenced by the vocational and continuing education system of Australia, especially the Australian Quality Training Framework (AQTF) and the National Vocational Qualifications. Perhaps, the only key difference is that the apprenticeship system which has long been a feature of Australia's system of vocational training is not present in Singapore (Willmott and Karmel 2011: 9).

For each framework, there is an 'Industry Skills and Training Council' with representation from employers, unions, industry associations and training organisations. Each Industry Skills and Training Council has responsibility for developing an 'industry competency map' designed to chart the employability skills, occupational skills and industry knowledge required for that particular industry. In addition to the industry-specific skills and knowledge mapped within each framework, there are also common 'Foundational Skills' which are described as 'skills, knowledge and attributes' designed to assist individuals to improve their 'employability' and which are portable across industries. These Employability skills are offered at three occupational levels—PME (Professional, Manager, Engineer) and Operations and Supervisory Levels. And covers five broad categories which include:

(a) Analytical, Conceptual and Evaluative Skills
(b) Informational and Communication Technologies Skill
(c) Interpersonal Skills
(d) Personal Management and Development Skills
(e) Manage Job Safety Skills

Additionally, these foundational skills also include workplace numeracy and literacy competencies. The strong demand for skilled labour combined with the comprehensive and first-class education and training system has resulted in comparatively high levels of graduate work-readiness in Singapore.

10.4 Stakeholder Perspectives

The fall in the proportion of all graduates in employment (although marginal by international standards) has not gone unnoticed in Singapore. Indeed, the issue gained particularly prominence when in July 2016, a communications graduate from the National University of Singapore, Ms. Elizabeth Boon (24) gained notoriety after she posed in a rather bleak graduation photograph in the Central Business District of Singapore (Fig. 10.1).

Although the picture was designed by Ms. Boon to attract maximum attention (an objective which she clearly accomplished) it also sparked a public discussion

Fig. 10.1 Ms. Elizabeth Boon. *Source* Ho (2016)

around graduate employability. The media for instance, suggested that a 'skills gap' lay at the heart of the graduate work-readiness challenge. Quoting employers and recruitment firms, Singapore's *Straits Times* noted that '… a major problem is the growing skill gap between graduates and the jobs they are applying for ….' (Ho 2016). The largest union organisation in Singapore, the NTUC has also expressed concern regarding graduate unemployment and underemployment although from a different angle. The NTUC Assistant Secretary-General Mr. Patrick Tay, citing anecdotal evidence, has argued that there are many instances in which graduates are taking jobs which do not require degrees although he also acknowledged a lack of 'hard' data supporting this claim (Boon 2014). These comments are also consistent with those of Singaporean cabinet ministers since 2013 who have argued publicly that a university degree is not vital for success. Minister Khaw Boon Wan for instance, was quoted as remarking to a group of 160 young Singaporeans that 'You own a degree, but so what? That you can't eat it. If that cannot give you a good life, a good job, it is meaningless' (Toh 2013). This reflects the government's wish to prevent a 'graduate glut' with the attendant underemployment issues, but also their desire to see additional younger Singaporeans enter vocational employment.

This consensus among the key stakeholders has inspired forthright views on the kinds of competencies and skills graduates need to enhance their employability consistent with the State's economic blueprint. For instance, Singapore's Committee on the Future Economy (CFE) has weighed into this public debate. The Committee is a key policy generating mechanism to help steer Singapore into the future. This 30-member committee drawn from government and industry—national and international—focused on five key pillars to future proof the economy—corporate capabilities and innovation; growth industries and markets; connectivity; city; jobs and skills (Gov.sg 2016). These five pillars emphasise innovative capacities in organisations; creating value through partnerships and international business models; and building a smart and connected city; and are all linked through one key element—a future-ready workforce. The final report of the Committee published in 2017 argued that Singaporeans needed to 'go beyond the pursuit of the highest possible academic qualifications' to acquire deep skills which can be refreshed over time. The Committee also argued that training providers and Institutes of Higher Learning (which include universities) needed to offer more 'modularised courses' that were 'technology-enabled'. This view was reiterated by Minister Ong (Singapore's Higher Education Minister when he stated that:

> We live in a world where information and knowledge can be googled and available online. Skills are what carry a premium now, and skills need to be honed throughout our lifetimes. Second, degrees don't earn us a living, and don't make our dreams come true. We do – our ability to keep pace with changing needs of the economy is what helps us earn our keep. It is the dedicated pursuit of a discipline that makes dreams come true. (Ong 2017)

The Government's ministers with education portfolio responsibilities have been quite specific in their comments on the kinds of skills, competencies and attributes that young Singaporeans should strive to acquire. For instance, Minister

Puthucheary (2017) has argued that, '*We need to put at the heart of our post-secondary education core learning skills, such as learning to learn, information processing and decision making*'. Putcucheary (2017) has also been a strong advocate of work-integrated learning arguing that it is important that:

> That we push students early in their undergraduate career out into the industry either through applied learning programmes, industry attachments, internships, or work study programmes. This gives students information on what the job landscape and the skills training landscape is like today. What can we do to prepare you for the coming years? You need to be able to manage uncertainty. You need to be comfortable with change.

Underpinning the government's discourse on skills and graduate attributes is the persistent concern over the impact of technology and the potential for automation and artificial intelligence to disrupt not just traditional vocational occupations but also increasingly graduate employment. The focus on skills has become almost a mantra of the Singapore State—a whole-of-government ambition to ensure that not just university graduates but all Singaporeans remain employable in the face of significant technological disruption. The central vehicle for this effort is the Government's 'SkillsFuture' initiative which is detailed in the next section.

10.5 Singapore's Policy Response to Work-Readiness—SkillsFuture

The *SkillsFuture* initiative announced in 2014 has evolved with industry, training providers, individuals and the community warming up to its vision. One of the key drivers for *SkillsFuture* is the growing recognition by policymakers that economies are starting to thrive on innovation and creativity; and the new jobs are less structured and more complex. Acting Education Minister Ng Chee Meng in his parliament speech in April 2016 acknowledged that there was a need to help youth make better choices about 'education and career pathways based on their aptitude and aspirations…to be ready for the future' (Teng and Yang 2017). Consequently, Singapore continues to evolve its education system including removing aggregating scoring at the primary level from 2021. SkillsFuture maintains four key thrusts—helping individuals make well-informed choices in training and education; ensuring a responsive and integrated high-quality system of education and training is in place; promoting career development based on skills mastery and employer recognition; and, encouraging lifelong learning (Skillsfuture.sg 2017a). To support this direction, as indicated earlier in the chapter, the Singapore Government has restructured its machinery of policymaking and implementation with the creation of SkillsFuture Singapore (SSG) to operate under the imprimatur of the Ministry of Education. This is a clear signal from the government indicating that it sees training, education and industry as having an important interconnection.

As much as SkillsFuture is a human capital retooling and reskilling agenda, it is also linked, if not directly positioned, as a key plank of an industry innovation and

competitiveness vision. This was evidenced in the 2017 budget speech by the Singapore Finance Minister referring to the need to take a 'learning and adaptive approach'. The budget saw the initiation of 23 Industry Transformation Maps (ITM), a commitment of an additional S$26 million annually to a Lifelong Learning Endowment Fund, a Skills Development Fund, and in excess of S$100 million set aside to a Global Innovation Alliance and a SkillsFuture Leadership Development Initiative (Ong 2017). The two latter ideas mooted by the Committee on the Future Economy (CFE) witnessed the creation of an Innovators Academy to help tertiary students to network and deepen skills by gaining exposure overseas; and the opportunity for companies to send individuals who demonstrate promising leadership capabilities overseas on specialised courses and postings (Channel NewsAsia 2017a, b). The Future Economy Council (FEC) oversees the implementation of the CFE recommendations including the ITMs and, also has a charter to build on the work of the previous Council for Skills, Innovation and Productivity (Murdoch University 2015).

In this instance of implementing SkillsFuture and the government making significant resources available to the programme, the response has been lukewarm. For instance, in 2016 about 126,000 Singaporeans utilised their SkillsFuture credit, at an average of S$400, to reskill or upskill. The utilisation rate is a mere 5.7% of the available resident labour force of which only 34% utilised the scheme more than once. While the usage is probably much less than the government would have hoped for, the domain areas in which the scheme is most used provides a reason for optimism. The information and communications technology (ICT) courses such as those in areas of data analytics, web design, programming and search engine optimisation were most popular, followed by courses relating to productivity and innovation. Institutions have also responded favourably by expanding the supply of courses to over 18,000 courses and with over 700 training providers participating in the scheme (Loh 2017). The launch of SkillsFuture has also seen industry engagement and involvement improve over time. For instance, the SkillsFuture Earn and Learn Programme (ELP) provides fresh graduates at the polytechnic level an opportunity to participate in a structured work-learn programme with a participating employer enabling a smooth transition into work. Employers receive a grant of up to S$15,000 per individual to defray development and on-the-job training costs (SkillsFuture.sg 2017b). For instance, Singapore's Khoo Tech Puat Hospital has participated in this programme wherein it created a structured programme for its pharmacy technicians to prepare them for demanding positions of medical reconciliation, automation and management. Furthermore, the expectation is that such programmes would prepare pharmacists to deliver personalised care to patients suffering complex diseases (Choo 2017).

The positive impact of this initiative is evident in the growth witnessed from 2015 to 2017 wherein the number of ELP programmes have grown from 15 in 12 sectors to 62 in 28 sectors (Hio 2017). At the tertiary level, a SkillsFuture Work-Study Degree Programme is being put in place with institutional and industry partners (SkillsFuture.sg 2017c). For instance, one local institution (Singapore Institute of Technology) has partnered with large national and multinational

employers such as Singapore Power, Singtel and Accenture to enable a Work-Study Programme for its Bachelor of Engineering graduates. Students can choose to spend alternate terms in-company or alternate work-and-study days in a week (SkillsFuture.sg 2017c). To illustrate further the efforts underway in Singapore to ensure work-readiness, it is prudent to deep dive, discuss and reflect on the developments shaping industry sectors particularly via the Industry Transformation Maps (ITM). We use the food services sector as a case study here. The Singapore Government's investment of $4.5 billion for industry transformation is supported by the development of ITMs, which comprise a growth and competitiveness plan built upon by four pillars—productivity, jobs and skills, innovation and trade and internationalisation. (Media Factsheet—Industry Transformation Maps 2017). Central to the philosophy of the ITMs is the creation of an integrated system of training, education and industry to support the shift to higher economic value capture for people and businesses. This is thus underpinned by a strong partnership between government, firms, educational institutions and industry trade associations. Six clusters—manufacturing, built environment, trade and connectivity, essential domestic services, modern services and lifestyle—encompass the 23 ITMs. The food manufacturing and food services sector along with the retail and hotels sector come under the lifestyle cluster. In achieving the aspiration of a fully integrated work-study system it is also envisaged that the ITMs will act as a vehicle to future-proof the economy. The case study discussion supports this argument.

10.6 Case Study—Food Services Sector

Singapore has set its sights on becoming a food and nutrition innovation hub by 2025. A greater emphasis on research and development (R&D), food technology and manufacturing using high technology advancements; functional food processing; fostering local food science; engineering and entrepreneurial talent are some aspects of this ambition (Spring.gov.sg 2018). The activation of this vision is evident with the recent establishment of state-of-the-art facilities in Singapore by world leading companies such as Mondelez International. Over 75 science and engineering experts will work in this facility, which comprises a packaging creative studio and a range of research labs (Sregantan 2018). While efforts are clearly underway in the sector to focus on the high-value end of the spectrum, the government has been cognisant of the need to retool the human capital resident in the sector, particularly in the food services area.

Consequently, the Food Services ITM was the first industry roadmap released in September 2016. With a contribution of 0.8% to Singapore's GDP and employing about 4.5% of the workforce, the key focus for the sector going forward as outlined in the ITM is the need to adopt innovative business models and technology. The ability to retail ready-made meals, exploring the launch of food vending machines, technology adoption at front of house and options such as the automation of dishwashing at the back of house, were some suggested approaches in the ITM.

Adoption of such approaches in particular can help address one critical challenge—reliance on workers. To support job redesign efforts and technology adoption, the government, through its Transform and Grow initiative, has made available up to S $300,000 to firms. The sector has also been set with an annual productivity growth target of 2% for the next 5 years. In heightening a focus on reducing reliance on workers, what the ITM encourages is the reduced reliance on low-skilled labour and at the same time addresses the challenges of an ageing workforce. It does so, in particular, through the Skills Framework launched in August 2017 (Spring.gov.sg 2017, 2018).

The Food Services Skills Framework (SF) is a vital support mechanism, promoting skills mastery and lifelong learning, to the ITM jointly developed by three government agencies—SkillsFuture Singapore, Workforce Singapore and the Standards, Productivity and Innovation Board (SPRING) Singapore. The SF is an all-encompassing structure (see Fig. 10.2) that provides guidance on the sector, emergent trends, career pathways to move laterally or vertically within the sector,

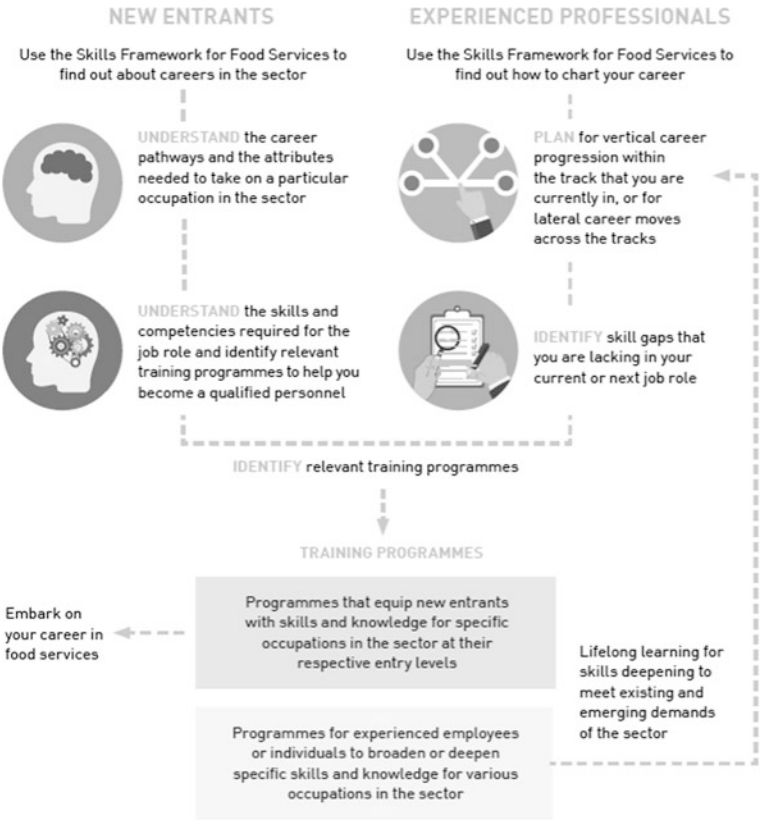

Fig. 10.2 Skills framework for the food services sector. *Source* Skillsfuture.sg. (2017d p. 15)

desired skill sets for each occupation along with training programmes, and it also provides a wage trend for the different occupation types.

The seven career tracks—beverage, food and beverage, pastry and baking, culinary arts, central kitchen production, quality assurance and research and development—covering front and back of house and central kitchen functions are accompanied by 52 career occupations, skills and competencies. The career occupations (see Fig. 10.3) incorporate roles from kitchen assistants to servers to head bakers all the way to a R&D chef, executive chef and managing director (SkillsFuture.sg 2017d).

In the context of skills category, the SF outlines three key emergent trends—productivity, innovation and job redesign—and the underlying skills that will be in-demand as the industry evolves. These skills include the need for innovation with product prototyping and trialling new culinary ingredients, using technology to manage high volume operations, increased automation in back-of-house operations and implementing digital services solutions. Industry partnerships and associations have been important in preparing the SF. Industry sees the skills development as being complementary to human capital enrichment, and in doing so being able to gain exposure to new technology-enabling productive operations. In the food services sector, over 15 large businesses have signed on as participating employers including businesses such as McDonald's and Singapore's BreadTalk Group (Spring.gov.sg 2017). In recognition of its investment in skills development and skill-based career pathways, BreadTalk, a 17-year-old company which employs around 7000 people has grown steadily to over 1000 stores locally and internationally, and was one of the recipients of the SkillsFuture Employer Award.

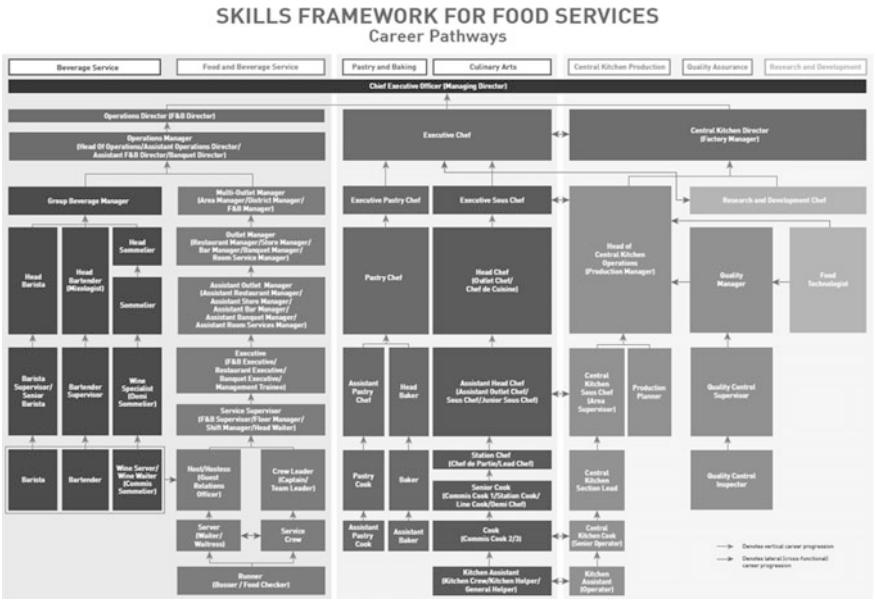

Fig. 10.3 Skills framework for food services. *Source* Skillsfuture.sg. (2017d p. 104)

While there are good news stories for graduates where industry and institutions have worked together under the SkillsFuture initiative there is a long way to go to fully engage industry. A survey by the Institute of Singapore Chartered Accountants (ICSA) revealed that several challenges still exist with having a support system in place including getting employers on board the SkillsFuture (Singapore Business Review 2016). Efforts are underway to address some of these challenges. For instance, Singapore's Nanyang Technological University (NTU) has elevated its Food Science and Technology programme by building into it a 2-week immersion programme to the Netherlands wherein students spend time in practicum sessions as well as engaging with food companies. In a short span of 3 years, NTU has managed to attract over 140 students into its programme (Boh 2018). Consequently, well-experienced food science graduates from Singapore universities fetch about $3300 in starting pay and enjoy close to 100% placement rate upon graduation. Similarly, across the polytechnic institutes in Singapore annual enrolments in food-related courses has been steady averaging more than 400 enrolments (Education in Food-Related Area in Singapore: Challenges and Opportunities 2014). Singapore has been diligent and disciplined in carving out a path for its vocational and tertiary qualified graduates to prepare for work. Not only is the SkillsFuture initiative starting to demonstrate positive results via uptake but graduates are being made aware, through industry-based SF, of emergent trends, skills gaps and the way in which these gaps can be addressed.

10.7 Conclusion

Singapore has historically not had an employability problem as its domestic labour force was supported by a buoyant economy which enjoyed high long-term growth rates. The relatively free flow of migrant labour at both ends of the skill spectrum allowed Singaporean businesses to easily address any shortages in manpower. In recent years, however, the reduced availability of foreign labour, and the political–economic imperative to increase domestic labour force participation has underscored issues surrounding work-readiness, skills and competencies and the transition from education to employment. On the *demand-side*, the government has responded to this by encouraging small- and medium-sized businesses (particularly in the manufacturing and construction sectors) to automate and mechanise to the extent possible through generous grants and subsidies for investing in technology. This set of reforms are ultimately aimed at nudging businesses to experiment, innovate, and gradually 'move-up' the value chain so that they can support domestic employment rather than relying on relatively cheap foreign labour. On the *supply-side*, the government has introduced reforms to upskill and expand the competencies of the domestic workforce. The significant increase in places available in public universities for local students, and the increased public funding made available are aimed at building the skills of new entrants to the workforce. At the same time, many senior policymakers have sought to underplay the importance of

tertiary education and have placed emphasis on vocational training. This, however, can be interpreted as the government managing expectations of an increasingly contestable society as Singapore is on track to achieve a tertiary education participation rate of 40%, similar to the OECD average, over the next few years. The emphasis on upskilling and lifelong learning, such as the Skills Future programme, is targeted towards the more experienced participants in the labour force.

Thus, the government hopes that its calibrated demand- and supply-side approach to emphasising skills and competencies can facilitate a smoother transition into employment in Singapore. The success of such an approach rests on a few assumptions that need to be carefully examined. First, it is not entirely clear that labour force participants and, most importantly employers, see vocational skills training and tertiary skills as substitutes or commanding similar wages. The Yearbook of Manpower Statistics reports sharp differences in wages of graduates of vocational institutes compared with established institutes of tertiary education. Second, the relatively rapid expansion of the tertiary education participation rate from 19.6% in 2006 to nearly 40% by 2020 is expected to create many challenges. Can the domestic economy support the employment of an increasingly skilled workforce? This, in turn, rests on the ability of businesses, mostly SMEs, to recalibrate their business models and move up the value chain. Due to the extent to which the business models of these SMEs rely on relatively cheap foreign labour, this becomes extremely challenging. Last, while there have been increased investments in programmes such as the Skills Future, and how the skills frameworks that underpin it have been extended to include different sectors and occupations, there is limited uptake among the resident workforce of the programme. This perceived disconnect between the ambitions in upskilling the workforce and its uptake will need to be reconciled. The extent to which the government can actively address these challenges, can help facilitate the transition from education to employment; and address issues relating to work-readiness and employability in Singapore is yet to be determined.

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Chapter 11
Graduate Work-Readiness in Taiwan: Stakeholder Perspectives and Best Practices

Min-Wen Sophie Chang and Julia Connell

Abstract Taiwan is a small island country in East Asia, located next to Japan and Mainland China. Taiwan's economy has evolved from an agriculture-based economy before the 1950s to a manufacturing-driven industrialised economy in the 1960s to 1990s, and finally to a service-driven economy in the post-1990 era. Yet, the steady expansion of foreign reserves is not sufficient to compensate for decreasing domestic demand and investment. As economic growth has remained sluggish in recent years, there has been an increasing tension and unrest within society. For example, there is an escalating standoff between employers and workers over the controversial revision of the labour law on wages, overtime, shift management and paid leave. For graduates and young people in general, this has resulted in a challenging time to enter the workplace. Two 'best practice case studies' are included later in the chapter representing leading firms in the manufacturing and service industries. These short cases illustrate how these firms address graduate work-readiness (GWR) challenges; hence, their strategies may be useful for other firms and other countries included in this book to adopt.

Keywords Graduate work-readiness · Employers · Higher education Government · Best practice · Case studies · Taiwan

11.1 Introduction

In this chapter, we examine some of the graduate work-readiness (GWR) issues faced by three of the key stakeholders in Taiwan—employers, higher education providers and the government. For employers, work readiness issues are key

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contributors to the severe talent deficit in Taiwan, and may also lead to high staff turnover, management problems and higher on-the-job training costs. GWR issues also affect higher education providers, the government and the economy in general for a number of reasons, as outlined in this chapter. Although the GWR agenda has been a significant development in higher education over the last decade (Moore and Morton 2017), it has been pointed out that the concept is complex (Andrews and Higson 2008). Terms used in relation to graduate employment readiness have also been plentiful and include work-ready, work readiness, employability, work preparedness and more, to refer to the education-to-work transition (Verma et al. 2018). Such skills refer to more than just the technical skills that may be required in a profession, including skills and competencies referred to as 'twenty-first-century skills' by Moore and Morton (2017) including communication, critical thinking, teamwork, creativity and more (p. 591). Yorke and Knight (2006) developed a learning and employability resource intended for staff in higher education institutions who are considering the enhancement of student employability. The resource adopts a definition which we consider useful for this chapter, defining employability as a set of achievements—skills, understanding and personal attributes—that make graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy (p. 3). These issues are discussed in more detail in earlier chapters of this book.

Specifically, this chapter sets out to examine two key issues in the context of Taiwan:

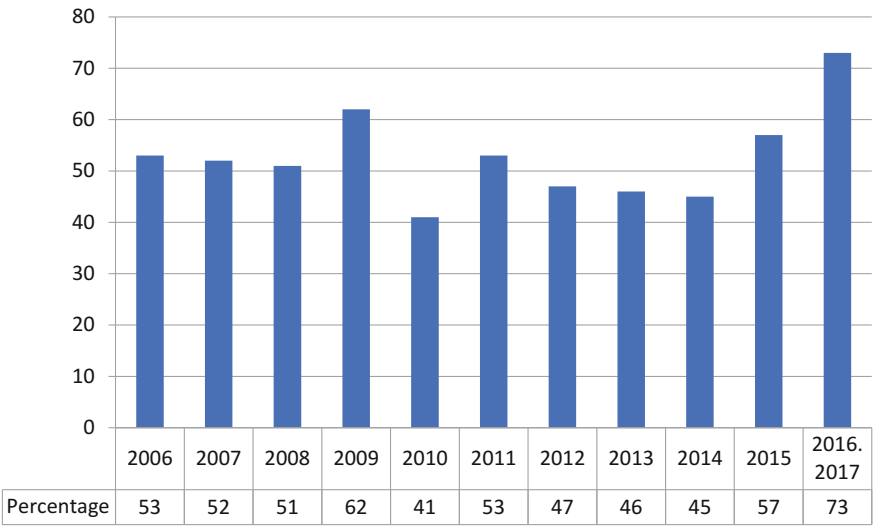

Fig. 11.1 Percentage of employers reporting talent shortages in Taiwan. *Source* Manpower Group (2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2017)

1. What are the nature and the extent of graduate work-readiness challenges from a multiple stakeholder perspective?
2. How might the challenges be overcome to improve graduate work-readiness?

The chapter begins by providing a brief overview of the graduate GWR issues in Taiwan, before examining the key factors related to each stakeholder group. Finally, two best practice case studies are presented prior to the conclusions and recommendations.

11.2 Scope of Graduate Work-Readiness Challenges and Causes in Taiwan

11.2.1 Labour Market Disparity

Taiwan's labour market has been stuck in a paradoxical situation for a decade or so now. On the one hand, the youth unemployment rate for 15–24-year olds has reached double digits since 2007, and there is no indication that it will reduce to the pre-financial crisis level any time soon. On the other hand, employers are suffering from severe talent deficits which appear to have worsened in recent years. Thereby, the paradox is that while there are plenty of jobs, young people are still struggling to find work. The widening gap between education and employment is often considered a key factor underlying this paradoxical situation. Crisp and Powell (2017) refer to the inadequacy of policies on youth unemployment in the United Kingdom to date, maintaining that they have led to 'growing bottlenecks of increasingly qualified young people who are not in employment because of the inability of local labour markets to absorb them' (p. 1800). The situation in Taiwan is similar.

Lack of GWR can affect graduates' ability to obtain and retain desirable jobs which is problematic given that Taiwan is currently suffering from chronic labour shortages. A recent government survey (Taiwan Ministry of Labour 2017) indicated that 97.61% of employers are willing to hire new graduates, especially those who have industry-related knowledge and skills. For graduates who manage to find a job, reportedly it may take between 32 days and 2 months for them to do so (Cho 2016; Taiwan Ministry of Labour 2014b). As graduates generally have inadequate workplace skills and knowledge, reportedly 53% of new graduates need 1 month and 24% need 2 to 3 months to fit into the workplace after starting a new job (Taiwan Ministry of Labour 2016a). This is fairly consistent with employer expectations. A recent government survey indicated that 63% of employers expected new graduates to fit in and be able to work independently within 1–3 months after starting a new job, while 21% of employers will tolerate up to 4–6 months for them to do so (Taiwan Ministry of Labour 2017). However, not all new graduates can manage to fit in and survive after starting a new job, even given guidance and the time given to help them to adapt to the workplace. According to a survey by a leading manpower company (Fang 2017), 26.8% of recent graduates

tend to quit within 3 months of starting a new job because they are either unable to fit in or they find that the harsh reality of the workplace does not live up to their expectations. These graduates are sometimes referred to as 'the workplace flash generation (職場快閃族)' due to their frequent job-hopping behaviours over short periods of time (Fang 2017).

The 'workplace flash' generation's struggle to settle in one position may be one of the key contributors to Taiwan's high youth unemployment rate which has been relatively consistent at 12% and above for more than a decade. A large-scale survey by the Ministry of Education's Statistical Bureau (2015) found that only 79% of graduates stay in full-time employment and retain a steady income 3 years after graduation. Official unemployment statistical data also suggest that graduates are facing higher levels of unemployment compared to their less well-educated counterparts, as shown in Table 11.1.

In addition to high levels of voluntary resignation by new graduates, employers' attitudes towards the value of graduate and postgraduate diplomas may also contribute to the higher unemployment rate among graduates and postgraduates. Both Lin (2017a) and Yang (2016) pointed out that the oversupply of graduates, inadequate training to meet industrial needs and the high expectations of graduates in relation to wages and the stagnating economy (which is not generating enough white-collar or high-paid jobs to accommodate all graduates) are the likely causes behind the high graduate unemployment rates. In the eyes of employers, the value of graduate and postgraduate diplomas may have depreciated or may have become less reliable, because they can no longer guarantee that students will be work- or industry-ready before graduation. This may be reflected by the decreasing starting salaries for college graduates who are receiving lower salaries than those who graduated two decades ago (Jhan 2015; Smith 2017). A survey by a leading manpower company also suggested that 73% of employers prefer vocational high school graduates over university graduates, because university graduates often lack practical skills and tend to be less obedient and hardworking than less well-educated workers (Lin 2010). For Taiwanese employers, candidates with higher education qualification may not necessarily have the right kind of knowledge and skills, but they are likely to ask for higher pay (Lin and Ho 2015; Liu and Huang 2011). Hence, cost-conscious employers may prefer jobseekers with fewer academic qualifications but with more work experience, as they are perceived as better value for money than university graduates.

11.2.2 Talent Deficits in Taiwan

Although graduates have been experiencing problems finding desirable jobs, employers are also having difficulties finding graduates with the right talent to fill job vacancies. Talent shortages have become a long-lasting problem in Taiwan for more than a decade. According to Manpower Group's (2017) 2016/2017 talent shortage survey (see Fig. 11.1), 73% of Taiwanese employers experienced talent

Table 11.1 Unemployment rate in Taiwan: overall, youth and by educational level

Year	Overall average unemployment rate (%)	15–24 years old youth unemployment rate (%)	Junior high school and below educated unemployment rate (%)	Senior high school educated unemployment rate (%)	College educated unemployment rate (%)	University and above educated unemployment rate (%)
2010	5.21	13.09	4.83	5.58	5.12	5.62
2011	4.39	12.47	3.69	4.66	4.51	5.18
2012	4.24	12.66	3.52	4.22	4.58	5.37
2013	4.18	13.17	3.53	4.11	4.5	5.26
2014	3.96	12.63	3.2	3.83	4.35	4.99
2015	3.78	12.05	2.77	3.83	4.13	4.79
2016	3.92	12.12	3.09	3.9	4.23	4.84
2017 Jan–Aug	3.78	12.03	2.92	3.81	4.26	4.66

Source DGBAS (2017a, b), DGBAS, Labor Force statistics database, access date: October 22, 2017.

shortages in 2016, just behind Japan's 86 percent among the 41 countries surveyed. In addition, Oxford Economics' (2014) Global Talent 2021 report predicts that, by 2021, Taiwan will have the worst talent deficit among the 46 countries in their survey.

Even though Taiwan has been facing talent shortages for years, there is no clear consensus regarding what has caused this problem. However, GWR issues, declining population rates, low wages, low labour participation rates, long work hours, public servants' early retirement, the exploitation of workers as a common management practice as well as inadequate labour laws and law enforcement to protect labour rights, are often considered to be the key factors underlying these challenges (Lee 2015; Tsai 2012). Given that these issues are complex and may also have interrelated effects on one another, the focus of the discussion in this chapter (as pointed out earlier) will be on Taiwan's GWR challenges faced by employers, jobseekers, higher education providers and the government. For employers and managers, the gap between graduate GWR and the workplace skills and knowledge requirements can affect how they recruit, manage or retain talent—factors that are discussed in the following sections.

11.2.3 Recruitment Difficulties

In terms of recruitment, GWR is one of the key reasons why employers struggle to fill job vacancies, as there is a fundamental disparity between the demands of industry and the quantity and quality of graduates emerging from the educational sector (Sarkar et al. 2016). Even though technology and globalisation are rapidly changing the landscape of industries and how we work, a senior education minister pointed out that Taiwan's higher and further education providers are still lagging behind and struggling to equip students with sufficient contemporary workplace, industrial skills and knowledge (Chen 2017). In addition to the curriculum lacking practical skill development, the education system is also not producing the right quantity of students with the right competencies required by industry. For example, some of Taiwan's most competitive industries, such as the pop music industry, did not have further or higher education courses to nurture the talent of the next generation until recently. For years, the severe talent deficit, which is also known as the 'talent cliff', combined with China's powerful 'magnet effect'—which has attracted many pop music-related discipline experts to work there for better pay, bigger markets and much more exposure—has now meant that the pop music industry is in a precarious state (Global Views Monthly 2015). Other industries with more resources at their disposal have taken more proactive approaches to address the growing threat of severe talent shortages in Taiwan. For example, leading firms in the high-tech industry are actively seeking collaboration with universities and research institutes to tailor training courses, in their attempts to prepare next-generation engineers and innovators, that are vital for their competitiveness and sustainability.

One example is Minghsin University of Science and Technology's collaboration with leading high-tech firms such as the Taiwan Semiconductor Manufacturing Company (TSMC—see later in this chapter) and the United Microelectronics Corporation to offer tailored courses. These customised courses train students to meet the needs of specific companies and they may be offered job opportunities after graduation if they perform well. Another recruitment-related challenge is that employers and graduates tend to hold different expectations of job content and pay packages. For example, it is a common practice for Taiwanese employers to use ambiguous wording in their job advertisements in relation to job descriptions and pay packages. A government survey (Taiwan Ministry of Labour 2012) indicated that 74% of workers (or their friends and relatives) have encountered deceptive job advertisements. For example, 29% of jobseekers were asked by employers to undertake tasks which were different to those advertised or agreed (Taiwan Ministry of Labour 2012). Employers may believe the practice of using ambiguous wording in job advertisements gives them more flexibility when assigning tasks and negotiating pay packages, as it can be difficult to predict what candidates are able and willing to do. However, this practice does add the risk of attracting the wrong candidates and is likely to cause confusion. Jobseekers may also find it difficult to assess whether they have the right sort of skills for the position and may have doubts regarding the salary and welfare packages they may be awarded, which can lead to later disputes.

11.2.4 Impacts of GWR on Industry

For employers/managers, a lack of GWR can lead to problems such as rising training costs, wasted time, shift management problems, low customer satisfaction, poor brand image and more. Many employers now face high training costs because there is a growing need for comprehensive induction, on-the-job training and coaching programmes in the workplace to compensate for inadequate schooling and lack of work experience among their new recruits. However, not all employers are willing to support the training of new recruits. As most Taiwanese firms are highly cost-conscious, understaffing is typical—so managers and senior colleagues simply do not have the time and energy to provide extensive training for new recruits. Liu and Huang (2011) found that, even though employers are aware that graduates are generally not work-ready, some employers still believe that it is the employees' own responsibility to learn by doing and strive to fit in. Fang (2017) also reported that 38.6% of employers prefer to recruit people with several years of work experience in a relevant field, because then they do not require intensive training and are more likely to survive and tend to fit in more quickly. According to a recent government survey, many employers believe that new graduates generally lack self-discipline and dedication towards their jobs and are unable to cope with pressure (Taiwan Ministry of Labour 2017). For example, some employers reported that new graduates were often not diligent in the workplace, were late for work,

complained a lot, failed to report important work-related problems or issues to their superiors or colleagues, or kept saying that they want to resign if they became frustrated. Given that most firms in Taiwan are small and medium enterprises (SMEs), the owners/managers have to be cost-conscious to survive. Consequently, employers often ask their employees to share heavy workloads, work overtime or shift work to compensate for understaffing. Such harsh work regimes can, of course, affect work–life balance, one's health and, most importantly, graduates may not feel they are rewarded for such hard work given that the exploitation of workers is reportedly typical among the 'spoiled bosses' in the private sector in Taiwan (Shu 2015, 2017; Tsai 2012).

11.2.5 High Staff Turnover

Graduates' lack of work readiness can also contribute to high turnover among both the new recruits and the senior staff assigned to look after them. It is common for new graduates to leave their new posts if they are unable to fit in, and the extra workload caused by 'workplace babysitting' can become unbearable for senior staff too. Under the commonly used management by objectives and cost-down approaches, senior staff are generally not given extra rewards, nor do they have their performance objectives adjusted for looking after new graduates, because it is considered to be a part of their job. When mentoring and coaching new recruits, senior staff have less time to do their own work. Chang (2016a) found that in Taiwanese franchises, first-line managers' or senior staff turnover rates may be positively correlated to their new recruits' turnover rates. Specifically, if companies are unable to retain new recruits after intensive induction training, subsequently senior staff have to repeat the recruitment and training processes which can be frustrating and draining—thus forming a vicious circle of high staff turnover. GWR problems also have implications for graduates themselves, such as whether they are able to find a job in the first place, whether they can fit in the workplace and whether they are paid their expected entitlements and more.

11.2.6 Graduate Employability

In terms of getting a job, even though more and more employers are becoming open to hiring new graduates due to the severe talent shortages, not all graduates are able to find their ideal jobs. Liu and Huang (2011) found that the oversupply of social science discipline students has led to graduates in these disciplines facing more competition for jobs so that they are more likely to compromise with underemployment, lower pay and jobs not related to their academic training. In contrast, graduates in manufacturing and technology-related disciplines have fewer problems finding desirable jobs; they are more likely to get better pay and are able to apply

what they learned at work. This may reflect a demand-supply disparity between education and industry. Taiwan is still a manufacturing-driven economy where a thirst for manufacturing-related talent has not dwindled. With ever-growing export revenues, manufacturing firms, in general, can be more willing to offer generous pay packages in their fight for talent. On the other hand, even though Taiwan's service industry as a whole is also growing steadily, service industry jobs largely entail shift work, and low-skill and low-paid work, with the exception of finance, telecommunications, energy and medical sectors. Nevertheless, social science graduates can still build up industry-related domain knowledge, obtain professional competence certificates and use internships to their advantage to enhance their chances of competing for scarce, well-paid jobs. In addition, the level of training may also have an effect on whether graduates are able to apply what they have learned in the workplace. For instance, Chang (2016b) found that only half of the bachelor's degree graduates managed to find jobs that matched what they had learned at school, whereas nearly two-thirds of postgraduates were able to apply their academic learning in their work. It may be because postgraduates are older and more mature so that they have a clearer understanding of their work requirements and the teaching of postgraduate subjects may entail more practical knowledge compared to bachelor's degrees.

11.2.7 Fitting into the Workplace

GWR issues can also influence whether graduates are able to fit into the workplace. According to a Ministry of Labour (2016a) survey, 47% of the new graduates take at least 2 months or more to adapt to their workplace because they are not work-ready and lack practical knowledge and skills required for the workplace. Reportedly, nearly half of the new graduates have difficulties in coping with pressure at work, long work hours and overtime, and adjusting to the differences between expectation and the reality of the workplace (Ministry of Labour 2016a). However, given that most firms in Taiwan are SMEs which have limited resources, employers are often unwilling or unable to provide clearly defined job descriptions and comprehensive induction sessions to help new recruits to fit in. This is also a key reason why some new graduates tend to quit within a short period of time after starting new jobs. New graduates are likely to feel demoralised without a comprehensive on-the-job support system to supplement their academic education and, as a result, they may exit the workplace early. Another survey by the Ministry of Education's Statistical Bureau (2015) found that 3 years after graduation, 7.5% of graduates were still not in full- or part-time work and were consequently not generating any income. Moreover, interpersonal and social skills are also crucial survival skills in the workplace. A Ministry of Labour (2016a) survey suggested that more than 80% of Taiwan's new graduates have encountered communication and interpersonal-related problems, especially in their relationships with superiors. Furthermore, the ability to deal with office politics, detect hidden norms and

learning to conform can also be crucial for new graduates to survive at the workplace. Taiwan as a country may gradually evolve towards a more liberal, individualistic society through decades of democratic development; yet, its workplaces tend to be highly collectivistic and pressurised domains. For example, employees are often expected to sacrifice individual gain for the collective good of the firm such as being willing to carry out work outside office hours without overtime pay when asked to. They may also be expected to respond to colleagues or superiors swiftly via social communication media to show their sense of responsibility and dedication.

11.2.8 Employee Entitlements

Finally, learning how to self-protect and fight for one's own rights in a diplomatic way are important soft skills for graduates. A recent government survey (cited in Chung 2017) suggested that 60% of those between 15 and 29 years of age would fight for their labour rights, such as overtime payment and maternity leave. Yet, many others may still be too shy or too intimidated to ask for what they deserve, or they are confused about what they entitled to. This may be attributed to Taiwan's societal values of collectivism, high power distance and high levels of pressure to conform in combination with inadequate labour law enforcement and regulations as well as the fear of losing their jobs or being sidelined. These factors are likely to be the reasons underlying workers' unwillingness to speak up when they are exploited at work. Even though by law employers should provide full-time employees with labour insurance, health insurance, fully paid annual leave and partially paid maternity and sick leave, many employers do not comply with the law and may deploy illegal tactics to evade them to save money. If caught, they are likely to only receive petty fines because Taiwan's labour law largely favours employers. As a result, many employers have deprived their employees of their labour entitlements. It is also common for employers to undermine jobseekers when negotiating pay packages by arguing that they are under qualified, lack industrial expertise and/or professional qualifications. For Taiwanese young people, the quest to adapt to the workplace culture, find a modest and polite approach to manage their employers' expectations towards their work performance, negotiate pay packages, workload, work hours and overtime payment to safeguard their rights can all be quite problematic.

11.2.9 Oversupply of Educational Institutions

In addition to employers and graduates, educational providers are also key stakeholders in relation to GWR challenges. Although there has been a long-lasting debate on whether educational institutions should become involved in the training of future competent workers, many Taiwanese employers believe that they are

largely responsible. Taiwan's higher education system went through a boom between the 1980s and 2017, rising from less than 30 institutions to 162 universities and colleges, while the student population rapidly fell at the same time due to the declining birth rate. As the birth rate has shown no sign of revival for decades and the oversupply of university courses has worsened, some higher education institutions have relaxed their recruiting, teaching and assessment standards in order to retain students for their survival. Meanwhile, higher education institutions including those that are vocationally focused are also encouraged and rewarded by the Taiwanese government's funding policies to focus on producing international journal papers, rather than on teaching practical skills and preparing students for the workplace. Lin and Ho (2015) suggested that because Taiwan's government uses journal publications as the core criteria for funding and assessment, vocational schools and universities are also using international journal publications as a guide for recruitment, tenure, promotion and internal assessments. Academic staff with more journal publications are often preferred over those with industrial experience and expertise—despite them being more likely to prioritise research and publication than teaching practical skills. Moreover, schools and lecturers may get more funding and incentives from publications than collaboration with industry to redesign curricula and close the gap between what is taught in schools and what industries seek. As a result of deteriorating standards, overly theoretical pedagogical teaching approaches, teaching staff who lack industrial experience and not enough collaboration with industry among higher education providers, graduate work-readiness inevitably suffers (Lin and Ho 2015). This situation is similar to that found in many of the other countries discussed in this book.

11.3 Stakeholder Approaches to Graduate Work-Readiness

Problems related to graduate work-readiness can have far-reaching consequences not only for employers and graduates at the workplace but for all the key stakeholders, such as educational providers, the government and society as a whole. The following section will explore how these key stakeholders respond to work readiness challenges.

11.3.1 University–Industry Collaboration

As Taiwanese parents become more aware of the practical value of higher education, they are likely to choose universities and subjects carefully to improve their children's future career prospects. Some universities are collaborating with industryies to develop customised curricula to improve student recruitment and rankings.

With close collaboration between key partners, careful coordination and a practical-based teaching approach, such industry-oriented courses can help to prepare students for specific disciplines such as mechanical manufacturing, high-tech and hospitality. Firms which are able to collaborate with universities on programme design are often large leading firms with abundant resources and funding at their disposal. They frequently provide apprenticeship and job opportunities with generous pay and career development potential to entice students to work for them after graduation. For example, one of the leading financial firms, the CTBC Financial Holding Company, which owns China Trust Bank and Taiwan Life Insurance Company, bought the failing 'Hsing Kuo University of Management' to set up the CTBC Business School in 2015. Despite being small, it has become one of the most popular higher education providers in Taiwan in recent years. Lin (2017b) reported that more than 1300 students competed for the 150 undergraduate places available at the CTBC school in 2016. Their industry-oriented teaching is intended to turn students into financial discipline experts. Not surprisingly, the CTBC management school also reached the 100% enrolment rate for all of its undergraduate and postgraduate places in 2017. Including the CTBC school, only three schools managed to reach a 100% enrolment rate among the 162 colleges and universities surveyed by the Ministry of Education in 2017 (Fong and Lin 2017). In contrast to the CTBC school's success, there were 19 schools with less than 60% enrolment rates in 2017 as they struggled to recruit students.

Resources injected by the CTBC Financial Holding company included financial industry-oriented curricula, internships and job offers within the CTBC group for students who meet the requirements set by the school before graduation. These are all key factors underlying its successful turnaround (Lin 2017b). In a way, this business school is training the next generation of financial talent for its parent company—the CTBC Financial Holding Company as a whole. On the other hand, their students can also benefit from the practical based training to enhance their professional competence and employability. This approach is likely to create a win-win for both parties.

Even though industry-oriented courses may provide important pathways for universities in a severely oversupplied higher education market because they help to attract students and industrial partners, some universities may still be reluctant to change the way they teach. Also, they may not have the resources and staff to switch from theory-based to practically oriented teaching. The Liberty Times (Lin 2017c) reported that Taiwan's higher education sector is also facing talent shortages and has ageing staff, as over half of the teachers in the sector are more than 50 years old. Without the determination to embrace a more industry-oriented training approach, Taiwan's higher education sector is likely to be restrained in their quest to address current GWR challenges.

11.3.2 Government Stakeholders

In comparison with other key stakeholders, the Taiwanese government is perhaps the most important player in the quest to address graduate GWR challenges because it has the power and resources for the changes needed to solve the problems. For the government, the GWR issue is a long-lasting problem which may have led to a string of consequences such as labour shortages, higher unemployment rates among young people, social unrest and a slowing down of economic growth. Many believe that the government should bear the blame for these problems to a certain degree because their education policies and regulations contribute significantly to the graduate oversupply and deteriorating teaching standards of Taiwan's higher education (Chang 2016b; Lin and Chen 2017). Even though there have been talks about significantly reducing the numbers of higher education institutes and the need for a fundamental overhaul of university curricula, no radical actions have been taken to date. Instead of tackling the sources of the GWR problems and developing a coordinated approach, the different ministries of Taiwan's governments have developed their discrete approaches towards it.

11.3.2.1 Ministry of Labour's GWR Policies

The Ministry of Labour, which is responsible for monitoring the labour market, has been working hard to patch up the holes in the labour markets which have been caused by GWR issues. They offer free or discounted courses for unemployed young people and college students to improve their chances of getting a job (Taiwan Ministry of Labour 2014a, 2016b). Young people may also get subsidies for living expenses and social insurance while taking on short-term vocational courses and apprenticeship programmes provided by the Ministry of Labour. It also sets up physical job centres and virtual platforms to provide consultation services and job seeking-related information. Another GWR-related policy from the Ministry of Labour concerns the occupational standards system which offers job descriptions of several hundreds of selected occupations. This system was designed to bridge the gap between education and industry through a three-stage approach. First, it addresses what knowledge, competencies and skills are needed to carry out particular jobs. Second, educational providers or employers can then use these clearly defined descriptions to design management practices or training courses to ensure that students or employees can develop the right sort of skills and knowledge required for specific jobs. Finally, sets of certification criteria can be developed to ascertain whether workers or students are equipped with the right sort of skills and knowledge needed for specific jobs. As yet only a few occupational standards have been developed into courses or certification tests.

11.3.2.2 The Ministry of Economic Affairs' GWR Policies

Even though GWR issues are not the Ministry of Economic Affairs' (MOEA) primary responsibility, it is forced to address them because they can have far-reaching effects on the economic growth and competitiveness of industry. As mentioned earlier, industry and employers, in general, are facing talent shortages and management problems caused by GWR issues. In attempts to help employers and industry tackle labour shortages and GWR problems, MOEA offers subsidies, tax breaks, training courses, certification and job fairs or employment matchmaking services for key industries to help them find the right talent to fill job vacancies. It also collaborates with the Ministry of Labour to develop sets of occupational standards and certification tests for high-tech and biotech jobs needed by industry. Yet, the cash incentives for corporate training, short-term courses, one-off seminars or professional certification measures offered by MOEA are very unlikely to be sufficient for industry to address the current complex talent crisis.

Overall, despite the government investing considerably and deploying various policy tools, the incremental changes in funding policy and overlapping subsidies and courses offered by various ministries are still far from sufficient to address the GWR problems. Yeh et al. (2017) point out that the lack of effective cross-functional coordination between different government departments, failure to grasp the needs of industry and regulation and policies which are lagging behind the rapidly changing industry trends are perhaps the key reasons why the government as a whole is still unable to create a seamless connection between education and industry. Having outlined a number of challenges related to the graduate GWR that are faced by key stakeholders, the following sections present two 'best practice case studies' which showcase how firms could address these challenges.

11.3.2.3 The Ministry of education's GWR policies

The Ministry of Education, which is responsible for formal schooling, is also committed to bridging the gap between education and employment. Even though the oversupply of schools and university places is perhaps the most influential factor affecting the GWR problems in Taiwan, reducing the excessive numbers of schools is politically sensitive. Therefore, no drastic measures have been taken so far. Instead of closing schools, the Ministry of Education has altered its funding policies to encourage collaboration between industry and schools, and has set up an Industry–Academy cooperation information platform. Schools can obtain more funding and ranking credit if they improve the employability of their own students, or if they collaborate with industry to co-research, develop practically oriented courses and conduct apprenticeship programmes. Schools are also requested by the Ministry of Education to track graduates' employment status from immediately after graduation to up to 5 years after graduation. The follow-up survey is intended to provide a clear picture of graduates' employment outcomes in relation to GWR. However, tracking students' employment status and not enough financial rewards

for schools to collaborate with industry are inadequate measures to solve the fundamental imbalance between the demand and supply of graduates.

11.4 Employers' Best Practice for GWR in Taiwan: Case studies

As mentioned earlier, inadequate graduate work-readiness can have profound impacts on employers. Here we will look into two best practice studies of measures taken by employers to tackle work readiness related issues. The first case study concerns the Taiwan Semiconductor Manufacturing Company (TSMC), which is one of the world's biggest producers of high-tech components, and the second is CoCo Fresh Tea and Juice, which is one of Taiwan's leading service industry companies.

11.4.1 Case 1: Taiwan Semiconductor Manufacturing Company (TSMC)

TSMC is one of the indispensable pillars of Taiwan's lasting economic growth. It produces a variety of high-tech components (including chips) for clients such as Apple's iPhone and other leading handset brands. TSMC has expanded its business operations worldwide and now has more than 43,000 employees. TSMC generates more than 20 billion US dollars in revenue and remains one of the best-performing companies listed on Taiwan's stock market. TSMC has not only generated enviable profits for years, but it has been voted the most desirable company to work for and the most friendly workplace in Taiwan by young graduates (Cheers Magazine 2016). Even though it has a reputation as the most desirable firm to work for, TSMC still faces severe skilled labour shortages as they need labour to meet their international expansion plans, especially in terms of research and development personnel, accountants, and managers (Common Wealth Magazine 2014). It also encounters GWR challenges as graduates may not have the right vocational skills or realistic expectations towards work. Hence, it has to invest in comprehensive training to bridge the gap (Ko 2014). Unlike most Taiwanese firms that view employees as a cost, TSMC believes talent is its most important asset so it is keen to invest in employee retention and training. In order to attract and retain talent, it offers generous pay packages and enviable perks to assist employee retention. TSMC has abundant resources at its disposal, plus government tax credits for training and innovation. Therefore, they can afford a comprehensive human resource management system which includes a training department, an e-learning system, training-related corporate policies, reward and support mechanisms, job rotation measures, internal and external courses, training events, etc.

TSMC considers all employees as unique entities with different learning needs and career paths. Therefore, it takes an individualistic approach to addressing individual needs by adapting an 'Individual Development Plan (IDP) approach'. The IDP programme allows each individual to plan their on-the-job training (OJC) according to their individual characteristics, career development needs and schedules. It also provides five types of training courses for all employees at different stages of career development to enhance continuous learning, including: (1) induction courses for new recruits, (2) general courses such as safety and languages, (3) specific courses for different departments or functions, such as accounting and technology, (4) courses for managers to develop leadership skills and (5) training courses for front-line operators (TSMC 2012). All new recruits are paired up with 'buddies' as mentors to ensure that they have someone to help them adapt to the culture and be productive at work. In addition to assigning mentors for new graduates, TSMC also sets up 'bottom-up' communication mechanisms such as 'the quarterly talks with the general manager' to encourage junior employees to share their thoughts and concerns. Besides addressing the learning needs of existing employees and new recruits, TSMC is also keen to work with higher education to attract prospective students and entice schools to teach the more practical skills and knowledge needed in the high-tech industry. For instance, it offers internships and scholarships, summer camps, short school visits and sends its senior managers to give lectures at collaborating universities. TSMC also works with top universities and leading research institutes to encourage collaborative research by providing funding, equipment and intellectual input. These measures are intended to help them to tackle Taiwan's severe labour shortages and to bridge the gap between work and education by securing the best talent and encouraging graduates to become familiar with workplace requirements before they graduate.

11.4.2 Case 2: CoCo Fresh Tea and Juice

CoCo Fresh Tea and Juice is a large multinational drink franchise with more than 2000 stores worldwide. It is a private firm with more than 10,000 employees globally. It sells freshly made takeaway tea drinks such as bubble tea, which generates a healthy profit margin of 60–70%. Like TSMC, Coco Fresh Tea and Juice also faces graduate GWR problems both in Taiwan and elsewhere. CoCo's general manager pointed out that the gap between work and expectations, such as the difficulties in adjusting expectations and attitudes, is one of the key reasons why most service industry firms face high staff turnover (Huang 2012). In order to tackle GWR issues, CoCo has set up training centres in the headquarters and in China to provide face-to-face classroom-based sessions. It has also developed an elaborate e-learning system as a standard training tool. Through this e-learning system and by collaborating on teaching materials, CoCo is able to synchronise training and conduct assessments throughout its stores across the globe. Even though e-learning systems have certain limitations that make them unsuitable for hands-on practice and

complicated issues, it can still complement face-to-face training and save time and energy (Chang 2016a). Most importantly, e-learning can also be used as a quality control tool and an efficient communication channel in each of the 2000 strong stores. CoCo Fresh Tea and Juice also bundles regulations clauses regarding face-to-face, on-the-job training and e-learning systems into their franchise contracts. This acts as a safety control mechanism to ensure that all the franchisees collaborate with the headquarters. Through company policy and contractual constraints, CoCo is able to control the standard of products and services throughout its franchises across the globe. It also provides generous incentives for those who are able to improve their work performance through on-the-job training and discipline those who do not. Employees may get pay rises and promotion if they perform well, undertake training courses and achieve good grades. Unlike many service industry firms that are suffering from high staff turnover, CoCo is able to attract and retain talent with a very low staff turnover rate, thanks to its superior pay packages, opportunities for promotion and rigorous training regimes (Chang 2016a; Huang 2012).

Consistent training is vital for CoCo to ensure that its services and products provided by stores across different continents are of a satisfactory standard (Chang 2016a; Huang 2012). The senior management team's close involvement and role modelling is also crucial for the success of its systems. CoCo's general manager believes that everyone can be trained, with the right sort of training and hands-on practice. With the intention of role modelling, the general manager also checks and uses the e-learning system on a daily basis. The training team can turn information, such as how to make new tea products or how to tackle incidents such as food safety issues, into new teaching material within a couple of days. In addition to providing support for existing employees, CoCo also works closely with vocational schools and universities to provide internship programmes and scholarships to entice prospective employees. Senior managers may also give lectures and become involved in course design in the schools with which it collaborates. Through such involvement and by offering students job opportunities and hands-on training, CoCo is able to groom students into desirable employees, while the students have the opportunity to explore career prospects before they graduate. By treating existing and prospective employees as its most important assets and investing in training, pay packages and promotion, CoCo is able to gradually expand its business empire and maintain its market leader position with the support of productive and loyal employees.

11.5 Conclusion and Recommendations

In this chapter, we have explored a range of GWR challenges faced by key stakeholders. As the causes and effects of GWR issues can be both complicated and interrelated, the following recommendations are worth considering. In terms of an integrated strategy for all stakeholders, it was suggested by the authors previously (Chang and Connell 2017) that a Triple Helix (3H) collaboration between

university–industry–government could be introduced to support a sustainable way forward in Taiwan. This approach is still considered relevant as it requires industry, academia and government to collaborate through structured and strategic approaches (see Etzkowitz and Klofsten 2005). Another initiative which would be worthwhile for the Taiwanese stakeholders to consider would be to introduce work integrated learning (WIL) strategies. WIL is widely considered to be effective in 'equipping new graduates with the required employability skills to function effectively in the work environment' (Jackson 2015, p. 350). WIL programmes include work placements, internships (Billett 2009) and industry projects exposing students to the workplace and preparing them for entry into the workforce (Jackson 2015; Yorke 2016). Moreover, WIL encourages and enhances collaboration between education and industry, which is likely to prove beneficial for potential work placements and graduate employment. WIL has been made compulsory in education and health in some countries and is becoming popular across a range of other disciplines. For example, in 2015, university and business leaders announced a comprehensive, national strategy to build the productive capacity of Australia's workforce, improve graduate job prospects and meet the skills needs of employers (Universities Australia 2015, 3).

Some of Taiwan's higher education providers have also employed the WIL approach. For instance, Providence University's International College provides newly developed programmes which offer a combination of English- or Spanish-taught courses, professional certification, placements or internships at foreign companies in Taiwan or overseas as well as international exchange opportunities at designated overseas universities (Chang 2016c). Other than the Triple Helix and WIL approaches, there are a number of issues related more specifically to particular stakeholders. First, for employers, based on the case studies outlined here, perhaps the most important consideration is for them to view employees and graduates as assets rather than costs. Although most Taiwanese firms may argue that they do not have sufficient manpower and resources to commit to rigorous on-the-job training, they can take advantage of tax refunds and subsidies as well as the free courses and consultation services provided by government and education providers as training resources. Investing in comprehensive, continuous training, providing clear guidance and role modelling may not only help to tackle GWR issues by helping new recruits to fit in, but it may also be beneficial to retain talent and cut costs caused by high turnover in the long term. Second, for graduates, their choice of subjects, schools and levels of training can all affect their chances of landing the job they would like. Preparation for the workplace before graduation could include accumulating work experience via part-time work; obtaining professional certificates; and active research in their potential career area/employer—all of which may help graduates better understand what is needed in the workplace.

Third, for education providers, the declining numbers of students combined with the oversupply of higher education institutions means that the competition for students is set to intensify in the future. As students, parents and employers are increasingly concerned about employability after graduation, industry-oriented vocational courses with close collaboration with leading firms combined with job

opportunities after graduation are becoming more popular (Huang 2017; Lin 2017b; Shen 2015). Even though some universities may still be reluctant to change their theory-oriented teaching, rigorous industry-oriented courses may become an important lifeline because they help to win over parents, prospective students and employers. Finally, although sections of the Taiwanese government have developed their own solutions for coping with graduate GWR, the lack of horizontal and vertical coordination between different parts of the government can make the weak policies less effective (Yeh et al. 2017). Without a political party or head of state being brave enough to address the fundamental disparity between the demands of the industry and what is supplied by the educational sector in Taiwan, the GWR challenge is set to continue for years to come for all key stakeholders. Table 11.2 summarises the GWR challenges faced by key stakeholders and measures taken in Taiwan, as discussed in this chapter.

Table 11.2 Work readiness challenges faced by key stakeholders and measures taken in Taiwan

Stakeholders	Key GWR challenges they faced	Measures taken to deal with GWR issues
Employers	• Talent shortages and recruitment difficulties • High staff turnover among new recruits • Rising training costs and time taken to familiarise • Customer complaints and management problems	• Clearly defined job descriptions • Guidance and companionship • Comprehensive and continuous on-the-job training • Collaboration with education providers to provide internships, job opportunities or involvement in curriculum/teaching
Graduates	• Finding ideal jobs • Fitting in and retention • Being awarded fair employment entitlements • Low pay, underemployment	• Selection of universities, subjects and courses carefully made • Accumulation of work experience before graduation • Understanding of labour laws and workplace culture
Higher education providers	• Poor graduate employment results in difficulty recruiting students • May not have enough resources or staff to switch to industry-oriented teaching	• Collaboration with industry partners and other key partners • Development of industry-oriented courses • Diversification of training to combine internships, professional certification, international exchange programmes and job opportunities after graduation
Government	• Work readiness 'snowball' effects • Labour shortages • High unemployment among youth and graduates • Obstacles to economic growth and industrial competitiveness	• Funding, subsidies and tax breaks • Courses, seminars and forums • Employment-related matchmaking services • Research • Occupational standards

Source Original research conducted by the authors, 2016

It is suggested that future research could be undertaken to explore the vertical and horizontal coordination between different government departments, in particular to address the gap between education and industry more effectively. For instance, the National Development Council carries out annual research on present and future manpower demand and supply across key industries. It may worth considering how such information can be incorporated into the design of education policies to address GWR challenges, such as new guidelines on designing industry-oriented curricula, quantity control in relation to student numbers and universities, and financial rewards for cultivating the next generation of talent needed in the industry. Another possible direction for future research is to explore different practices and expectations towards work readiness among university students, graduates and employers across industries. Different perspectives and interpretations of work readiness between employers and graduates may be a key reason why many young people frequently and rapidly change jobs when they first enter the workplace. It may worth analysing Taiwanese employers' views on the composition of work readiness and how could we help the graduates get ready psychologically, mentally and professionally to meet employers' expectations.

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Chapter 12
Graduate Work-Readiness in Thailand

Surapit Promsit

Abstract This chapter provides an overview of work-readiness challenges in the context of Thailand's labour market. The chapter presents findings of qualitative research on stakeholders' perspectives of the work-readiness-related issues. In addition, case studies on innovative ways to overcome work-readiness challenges are discussed before making concluding remarks.

Keywords Graduate work-readiness · Education · Labour market Thailand

12.1 Introduction

Over the past several decades, Thailand has experienced a major roller coaster in both economic development and educational reforms. On the one hand, it has rapidly moved from a predominantly low-income country to an upper-middle-income country in less than half a century. Thailand continued to develop into one of the most exciting emerging market prospects of Asia, and a significant contributor to the economic progress seen in Southeast Asia. On the other hand, besides a few challenges in recent times with the country's well-documented political turmoil, the educational sector is arguably one of the most formidable and long-standing obstacles to its social and economic development. Thailand has enacted significant education reforms and invested a substantial portion of the government budget into its education sector development. As a result, statistics report higher overall participation rates in the school system, especially at the pre-primary and primary school levels, and a significant proportion of students stays in the system and continues to professional and higher education. However, several problems need to be addressed. First, despite high spending, the quality of education, as well as access and performance (OECD/UNESCO 2016, p. 15), are

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concerning especially in rural and smaller schools (World Bank 2015a). Restricted access to education leads to centralised returns on educational investment and lack of variety in career choices, and therefore insufficient labour in particular regions and industries. Second, Thai students do not have sufficient resources and available information to make informed career decisions (Rojsutee and Yongyuan 2014). Moreover, they do not plan on seeking career guidance or take initiatives to thoroughly explore careers before choosing what they genuinely prefer to study, which could then force them to make career changes at or after graduation. Last, there is a huge skills gap that hinders the country's ability to match some of the educational gains made by its Southeast Asian neighbouring countries. Thai graduates lack essential skills, such as English language, critical thinking and technology (Sivasomboon 2017); all of which are so important that they could potentially define career success in the ever-increasingly competitive global economy. Many governmental and private institutions have taken steps to improve the Thai education sector, both regarding quality and equality. One of the most notable government initiatives is the "20-year National Education Plan" which makes skills development a priority, to reinforce Graduate Work-Readiness (GWR) and to serve the needs of the country (Ministry of Education 2017). The private sector has taken its part, too, with many commercial and social enterprises contributing on the issue, making strengthening the country's weak educational sector and improving graduate work-readiness a collective effort.

This chapter begins with a brief overview of the Thai labour market and education system and the challenges that the country currently faces. Next, the chapter will present the views of stakeholders on Thai education and graduate work-readiness, and then address a few policy programmes and innovative campaigns that attend to GWR issues.

12.2 Country Background

Thailand is situated in the heart of mainland Southeast Asia. The country covers an area of 514,000 km^2 and is bordered by Laos, Myanmar, Cambodia and Malaysia. Thailand has a current population of 68,414,135 and ranks the 20th in the list of countries by population (Central Intelligence Agency [CIA] 2017). Over the past few decades, Thailand has made outstanding economic progress and has been successfully upgraded from a lower-middle-income economy to an upper-middle-income economy in 2011 (World Bank 2011). However, Thai economic growth has been quite a roller coaster. Thailand's economy proliferated at an average annual rate of 7.5% during 1960–1996, before dropping to 5% during 1999–2005 following the Asian Financial Crisis. This rapid growth had not only created millions of jobs and brought millions of people out of poverty, but also expanded various dimensions of welfare for its citizens: education, social security, to name a few. The growth, however, dipped to 3.5% during 2005–2015 and 2.3% during 2014–2016, yet it increased to 3.3 and 3.7% year on year (YOY) in the first

and second quarter of 2017, respectively. The annual growth rate of Thai economy is also projected to increase to an average of 3.6% in 2018. This economic rebound has led many economists to believe that Thailand is now on its path to economic recovery (The World Bank 2017; Nguyen and Teso 2017; Srising and Thaicharoen 2017). Thailand's strong growth in recent years is primarily due to robust growth in the agricultural sector, and key service industries, such as tourism, transportation, communication and trading. Thai exports also went up by 5.2% YOY in the second quarter of 2017, which is primarily due to high rice exports and increased demand for electrical appliances and electronic products. Imports also expanded 9.1% during the same period (Hong Kong Trade Development Council [HKTDC] 2017).

Thailand has also several investment policies that help to boost the economy, too. A notable example is the Office of the Board of Investment of Thailand's (BOI) (the principal government agency responsible for promoting investment) 8-year Corporate Income Tax (CIT) exemption and 50% tax reduction for 8 years after tax holidays. Eight key sectors are eligible for the exemption: agriculture and agricultural products; mining, ceramics and basic metals; light industry; metal products, machinery and transport equipment; electronic industry and electric appliances; chemical, paper and plastics; services and public utilities; Technology and Innovation Development (BOI 2017a). In 2015, the BOI further introduced the 2015–2021 Investment Promotion Strategy which aims at promoting national competitiveness by supporting, for example, high-value-added industries, investment clusters and the Special Economic Zones (SEZs), with priorities given to investment in high-tech and creative industries. Moreover, the Thai government has escalated the implementation of national reform, especially the "Thailand 4.0" policy. The Thailand 4.0 policy aims at modernising the economy by creating and strengthening the country's digital economy, particularly in the new growth industries, including but not limited to automotive, biotechnology, robotics, biofuels and high-income and medical tourism (BOI 2017b).

However, benefits and prospects of the aforementioned economic success and policies have not been shared equally among different regions of Thailand. According to a study conducted by United Nations Development Programme (UNDP), there are over 7 million people, or 10.5% of the national population, who are below the poverty line (Asian Development Bank [ADB] 2017a); 88% of which lives in rural areas, especially in the North and Northeast of Thailand (UNDP 2012). The country's income inequality as measured by the Gini coefficient is 37.9 where approximately 45% of the entire national income is shared exclusively among the highest 20% (UNDP 2016, p. 207). The year 2015 marked a significant milestone because Thailand and other Southeast Asian countries had collectively and successfully contributed to ASEAN's greater integration and their goal of becoming the ASEAN community. Undoubtedly, challenges from ASEAN are present, but opportunities are also substantial. Policymakers now need to consider not just individual policies, but the harmonisation of policies across member states. Hence, Thailand, as the second largest economy in Southeast Asia (ADB 2017b) and an active member of ASEAN from the very beginning, has a significant part to play in the decades to come.

12.3 Overview of Thai Labour Market

With respect to the current population, Thailand has 55,610,140 people who are 15 years and above, and 38,266,590 people who are currently in the labour force (Bank of Thailand [BOT] 2017). According to the data provided by the National Statistical Office of Thailand, in 2016, Thailand has a very low unemployment rate at 0.99% with only 377,460 persons unemployed, of which 47% are new entrants to the labour market (BOT 2017). There were some notable movements in the labour market in early 2017. First, there was a steady decline in employment in the agricultural sector during 2014–16, continued to the first quarter of 2017, as labour continuously sought jobs in the non-agricultural sector due to recent severe droughts. There was a decline in both the manufacturing and constructions industries, too, while employment in the retail, wholesale, tourism and transportation sectors increased. In the first quarter of 2017, Thailand saw the unemployment rate increased to 1.2%, and real wages declined by 0.9%, while labour productivity increased by 4.0% (Office of the National Economic and Social Development Board [NESDB] 2017a).

Despite the decent overall unemployment rate, the youth unemployment is quite worrisome. According to the data on youth unemployment rates provided by the National Statistical Office of Thailand [NSO] (2017), the unemployment rate in youth group (aged 15–24 years) in 2017 was 6.16%,[1] which increased sharply from 5% over the same period in 2016, while the unemployment rate in adults group (aged 25 years and over) increased slightly from 0.52% in 2016 to 0.66% in 2017. A peek at the number and rate of unemployment by level of educational attainment provides a clear picture of the state of Thailand's graduate work-readiness. The same report from the NSO (2017) reveals that 41.4% (207,000 out of 500,000 unemployed of the total unemployed persons in May 2017) has higher education (general or vocational qualifications). This rate is significantly higher than unemployment in other educational groups: 16% in upper secondary, 21.4% in lower secondary, 17.2% in primary and 4% in no schooling/incomplete primary groups, respectively. Besides, the unemployment rate in higher education group increased sharply from 33.1% over the same period in 2016. Moreover, of the 207,000 unemployed persons with higher education, a significant amount of 74.4% is reported to have no prior work experience before entering the labour market, (NSO 2017) with the most unemployed field being journalism and communications (2.77% of recent bachelor's degree graduates is unemployed), followed by arts (2.76%) and humanities (2.71%), respectively (Rujivanarom 2015) (Fig. 12.1).

There are reported reasons why recent Thai graduates are out of jobs, many of which point to macroeconomic factors, such as the sluggish economy (*Half of new graduates will not get jobs* 2014) and lack of new investments (NSO 2017). However, many labour economists and educational experts believe there are other structural reasons at the heart of the problem, skills mismatched, (Sivasomboon

[1]Computed from the average of monthly unemployment rates between January and May 2017.

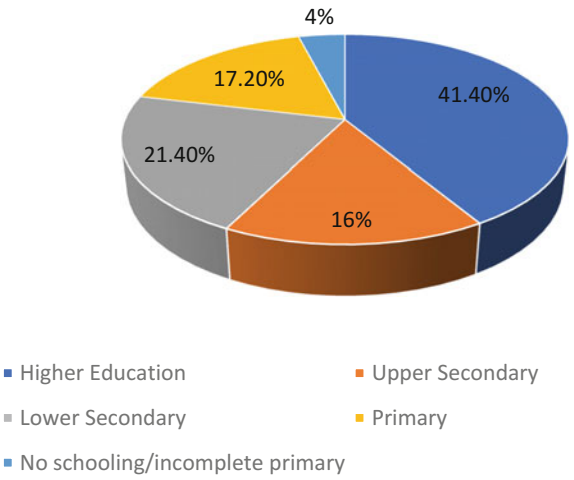

Fig. 12.1 Unemployed persons by levels of education

2017) talent shortage (Staffing Industry Analysts 2016) and substandard curriculum, (Fernquest 2017), to name a few. These issues call for a thorough educational reform and graduate work-readiness policy to better prepare Thai graduates for entry into the job market. Also, they will be significant in getting new graduates ready for the ASEAN job market, which will require education systems that provide individuals with requisite skills that can cope with the new regional market demand skills dynamics; and in which education systems would play an even more critical role to prepare for the integration and to ensure that the benefits of ASEAN are fully realised.

12.4 Overview of Thai Education System

Thailand has a long tradition that involves education and literacy development. The current educational system in Thailand is known to be successful in building practical and academic skills, social competencies, moral and democratic values and a national identity (OECD/UNESCO 2016). All children receive 12–15 years of free schooling (World Bank 2015a). However, it is widely known that although access to schooling is nearly universal, access to *quality* schooling is limited in various areas of the country (Sondergaard 2017; Rujivanarom 2016; Frederickson 2016; The Economist 2017). There are also concerns about the role of the educational system in solving unemployment and problems related to graduate work-readiness, (NESDB 2017b; Maxwell and Kamnuansilpa 2017). There are three types of education in Thailand: formal, non-formal and informal; and the formal education is further divided into basic and higher education. Basic education, offered free of charge, starts at the age of 6 and lasts 15 years, including pre-primary, primary (*Prathom* 1–6), lower secondary education (*Mattayom* 1–3) and upper secondary, which is then divided into two possible tracks: general and

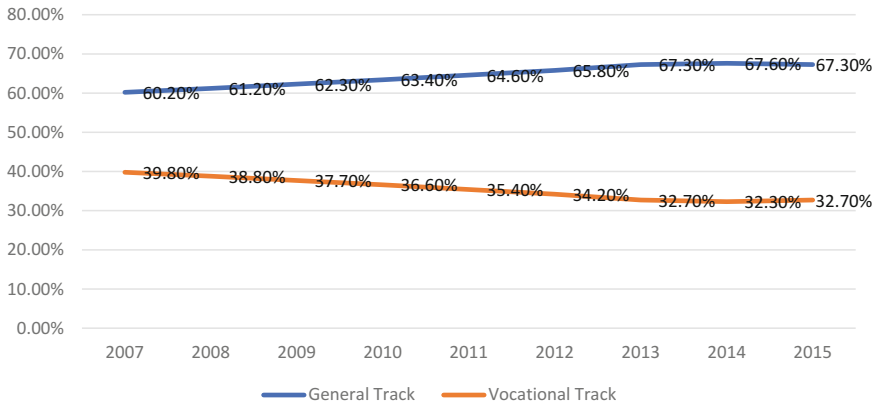

Fig. 12.2 Students in general track versus vocational track (academic year 2007–2015)

vocational. According to the statistics provided by the Office of the Education Council, 100% of the youth receives proper pre-primary and primary education, and 88.3% receives lower secondary education, but the number dropped to only 72.7% for the upper secondary education, with 48.9% in the general track and 23.8% in the vocational track, respectively (Ministry of Education 2016, p. 29). The share of vocational track students has also been in a steady decline over the past decade (Ministry of Education 2016) (Fig. 12.2).

Although the access to schooling is acceptable, other aspects of Thailand's educational system may not be. Fry and Bi (2013) noted that problems and crises in Thai education system are fourfold: (1) poor education quality; (2) unequal educational opportunities; (3) the education system does not correspond to the contexts and demands of labour market and communities; and (4) inefficient education system with centralised administration and bureaucratic management. According to the 1999 National Education Act (NEA), the problems mentioned above led to the demand for educational reform. Thailand's First Decade of Educational Reform took place during 1999–2008, and the Second Decade during 2009–2018. According to the Office of Education Council (OEC), the current reform framework makes systematic education and learning reforms a priority and adopts four policy approaches: (1) instruction, (2) teachers, (3) learning sources and (4) administration reforms (Haruthaitanasarn 2017). One priority of the Second Decade of Educational Reform is to support school-to-work transitions. Specifically, one of the proposals of the reform is to produce and develop "[h]igh-quality manpower endowed with knowledge, skills, and competencies" (OECD/UNESCO 2016). However, Thailand's Basic Education Core Curriculum B.E. 2551 (AD 2008) does not address the importance of key competencies, whether generic or work related; and lacks specific reference to their applicability in the workplace. It also contains very few direct references to vocational skills. Besides, it lacks components that would equip students with decent graduate work-readiness, for example, strong

occupations and technology learning, the reference between lessons and employment and new subjects that relate better to the world of work, such as "business studies" or "work studies". Additionally, the 2008 curriculum does not make adequate reference to ASEAN and fails to establish a link between the curriculum and future economic, political and sociocultural partnerships with other Southeast Asian countries (OECD/UNESCO 2016).

12.5 Challenges in Graduate Work-Readiness

Education in Thailand has long been a topic of interest for educational experts nationwide. Both Thai and international researchers demonstrate weaknesses of the education system and many pointed to challenges in graduate work-readiness. In this study, key graduate work-readiness challenges are selected and elaborated in detail. First, statistical evidence pointed to educational access and quality. As mentioned earlier, the overall participation in general education in Thailand is acceptable and has remained stable in recent years (OECD/UNESCO 2016). The rate of exclusion, however, demonstrates a worrying fact that students in rural areas and those from low-income families could be twice as likely as their peers from middle- and high-income families to be out of school. This is particularly true for the upper secondary education where constraints on access and opportunity costs of schooling are highest (OECD/UNESCO 2016). It is not only access to schooling that prohibits proper development in Thai education, but several observations also pointed to the decline in educational quality. According to the report by OECD/UNESCO (2016), stakeholders in the Thai education system reported a common perception that teacher quality has declined. Also, schools in Thailand are slow to adopt modern teaching techniques and continue to narrowly focus on lectures and rote memorisations, wrongly believed to be the most effective way to do well in the university entrance examinations. Student/teacher ratio is also relatively high in Thailand at 21.53–1 (World Bank 2015b). Although it is lower in schools in rural areas, most teachers in these schools are responsible for more than one grade level, (Lathapipat 2016) and significant teaching loads could adversely affect the quality of education. The outcome of poor education is poor graduates. The Reports on the Programme for International Student Assessment [PISA] in 2015 shows that only 1.7% of Thai students could be classified as top performers in at least one subject among science, reading and mathematics—all of which are considered extremely critical to job success (OECD 2016).

Second, evidence shows that Thai students do not have sufficient information to make informed career decisions, and many educational experts point to upper secondary schools' inability to provide adequate resources to students. According to a series of interviews regarding career indecisions conducted in 2014, it is evident that education is among the top three factors that explain why urban and rural students become indecisive in making career plans, which later lead to lack of preparation entering the job market. Most interviewees pointed to two school-related factors:

(1) poor career counselling services and personnel and (2) lack of activities in which students could uncover their talents and interests (Rojsutee and Yongyuan 2014). Had students been provided more information regarding the current and future labour market trends, they would know which majors are and will be in demand; and that the most significant shortage is of workers with vocational, not general, degrees (Siam Commercial Bank Economic Intelligence Center [SCBEIC] 2015). Third, and perhaps the most critical challenge facing Thai education, is skills mismatch between skills the graduates possess, and job skills employers seek. In 2016, General Dapong Rattanasuwan, the Education Minister of Thailand, reiterated this challenge by claiming that courses offered at tertiary level do not reflect the demand for the workforce from the business sector (*Education Minister Says* 2016). Labour statistics show that the skills mismatch problem is most pronounced in industries with harsh working conditions, e.g. construction, and in sectors that demand unique talents or skills, e.g. automotive, electronics and tourism (SCBEIC 2015).

Two labour market indicators also point to skills mismatch. First, there is an increase in higher degree graduates who enter the informal labour market, even though the formal sector generally offers better compensation. The increase in informal employment could mean that graduates are unable to find satisfactory jobs in the formal sector. Second, according to the interviews conducted by SCBEIC (2015), the average time Thai businesses take to hire a professional-level employee is 8–10 weeks, which is significantly longer than that in other Southeast Asian countries (3 weeks for Vietnam and Indonesia and 5–6 weeks for Malaysia and Philippines). This longer time-to-fill implies that it is harder for employers to find graduates who possess skills that match what they are looking for. According to a World Bank (2016, p.13) survey, evidence shows that skills shortage exists particularly in creativity and innovation. Inadequacy in these skills is a major cause that restricts the ability of Thai businesses to improve their productivities through innovations and leverage positive spillovers from the Foreign Direct Investment. This survey result is also confirmed by the GWR employers survey completed as part of this book where we found that 72% of employers disagreed that their employees possess adequate Innovation and Creativity skills.

Another skills mismatch exists in language proficiency. Reports show that Thai students and general workforce possess a very low level of English language proficiency. Thailand was ranked 56 out of 72 countries and rated "Very Low" on the EF Language Proficiency Index (Education First 2016). Many international employers point to graduates' inability to communicate well in English as a key weakness of the Thai workforce, despite many considering it being a key skill when it comes to competing in the ASEAN job market, and to bringing about transformation in the digital age (Sivasomboon 2017). A majority (86%) of employers who completed our GWR survey also disagreed that their employees' English skills are adequate.[2] The last set of skills that are regularly associated with Thai graduates'

[2]The general communication section in the survey is modified to measure the English skills for communication instead.

skills shortage is critical thinking skills and other related cognitive capabilities. This is due to old-fashioned and ineffective teaching styles typically used in Thai classrooms using lectures and focusing on rote learning and memorisation (Sivasomboon 2017). Results are students lacking the ability to think critically and solve problems systematically (Wedel 2011). According to our GWR survey, 62 and 58% of employers disagreed that Thai graduates have sufficient cognitive capabilities and systems thinking skills, respectively, both of which are typically associated with one's ability to think critically.

12.6 Views of Stakeholders

The views of stakeholders on GWR issues in Thailand mainly concern two things: workforce preparation so that it fits labour market demand and the skills development under Thailand 4.0 regime.

12.7 Government

Despite very low unemployment rate, the primary GWR challenge in Thailand is the demand and supply mismatch in the labour market. According to the survey conducted by the Ministry of Labour, there were 219,896 jobs available during October 2016 and April 2017, as illustrated in the chart below (*Pei Naijang Yang Tong Garn* 2017). The survey shows that the need for vocational and secondary school graduates is as high as 70% (37% for vocational track and 33% for secondary school) of the available job positions in the labour market. Merely, 13% of job vacancies in the labour market is for higher education graduates (Fig. 12.3).

Given this statistic and taking into account the fact that more than 40% of the unemployed persons hold the bachelor's or higher degree, and that the number has sharply increased from 33 to 40% in 2016–2017, it is therefore sensible to infer that labour with a higher level of education is oversupplied. Furthermore, the same survey indicates that the labour market needs those who possess the skills regarding health, medical science and science and technology, rather than social science (*Pei Naijang Yang Tong Garn* 2017). The Thai government recognised and admitted that there is the problem in the labour market, which could potentially cause an increase in the unemployment rate in the long term. As a result, the Thai government included the GWR issues and challenges in the list of important agenda in two national strategic plans, regarding the education system and human resource development, and in which the first GWR priority is to produce the quality workforce that takes the context of labour market into account (Ministry of Education 2017; Ministry of Labour 2016).

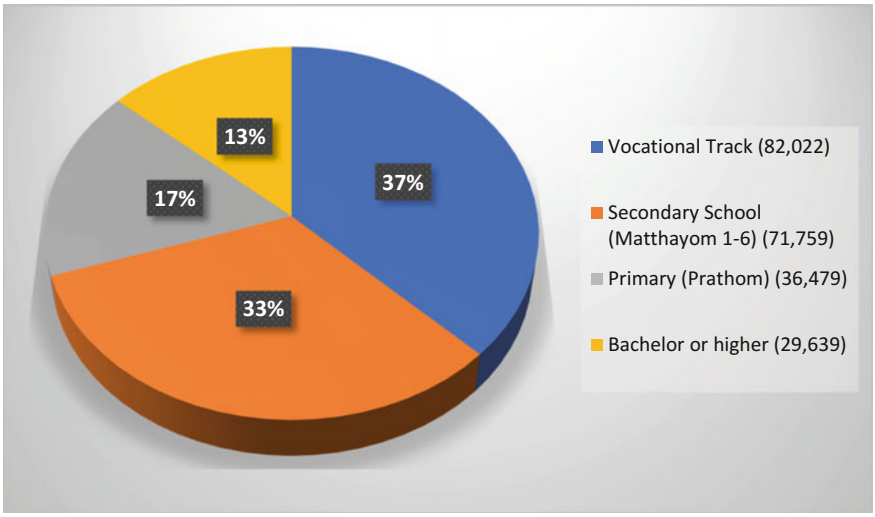

Fig. 12.3 Available job positions by levels of education October 2016–April 2017

12.8 Vocational and Higher Education

An interesting labour market trend in Thailand is that the demand for higher education graduates is lower than that for vocational track graduates. This and the above survey result means that for Thai higher education graduates who hold a degree in social science, finding a job is an uphill battle. Higher education institutions in Thailand are aware of this challenge, too. As a result, they put their best effort into equipping their students with necessary skills to compete in the job market and keep track of employers' satisfaction and feedback to further and continuously improve their curriculum. In addition, many studies were conducted to identification of sets of necessary skills employers sought for. However, there have not been sufficient studies targeting at graduates whose job hunting is the most challenging—those with a higher education degree in social science, for example. Sasin School of Management, Chulalongkorn University, along with JobThai.com and Career Visa Thailand, jointly conducted research questioning undergraduate students in the universities nationwide about their readiness entering the job market. They found that 86% of the students reported that they were not fully ready for work life and were not confident in their potential. The result highlighted seven skills that were underdeveloped among undergraduate students: learning new things, being a good leader and follower, decision-making, task achieving, applying academic knowledge in work environment, professionalism and communication and linguistics (*Phol Vijai Chee* 2016).

The National Economic and Social Development Board reported another interesting view on the recent trends in the Thai labour market. According to a news article published in 2017, the Board views a slight increase in the unemployment

rate during 2016–2017 as an aftermath of the change in the labour market where the technology has gradually replaced human labour. Moreover, the new graduates in the digital era tend to spend more time selecting their jobs and prefer to be self-employed. This so-called "hipster" lifestyle depicts their potential to create new business in the current context of the digital economy under Thailand 4.0 model (*Dek Job Mhai Chob* 2017). Under this 4.0 regime, important GWR skills include technology utilisation and innovation creation, to name a few (Division of Research Administration and Educational Quality Assurance, University of Phayao 2016). The challenges faced by the vocational education providers are different from those faced by the higher education providers because the vocational track graduates are significantly undersupplied. Statistics evidently show that, in 2009–2011, only 30% of students who completed the lower secondary degree pursued the education in the vocational track, while the rest pursued the general track, and most of which continued further to universities (*Wigrit Rangngan Khadklan* 2014).

There are several reasons why the students might prefer pursuing general track over vocational track education and attending universities rather than vocational institutions. One and perhaps the most critical reason is that parents and children usually view the vocational study as inferior, and often vocational students are likely, yet perhaps wrongly associated with drugs and crimes (Satter 2013) resulting in deaths and injuries (Ramsey 2016). Another reason is that the university graduates generally work in better positions, have better careers and earn higher lifetime income while vocational graduates are labelled with lower socio-economic class (Ayub 2015). This problem was also fuelled by the universal access and education equality policy, which led to a radical increase in the number of available seats in universities allowing more students to pursue higher education (*Wigrit Rangngan Khadklan* 2014). In 2016, only 875 institutions were providing vocational study while there were 3634 institutions providing general track education (Ministry of Education 2016). The Vocational Education Commission, a vocational education regulatory body, also acknowledged these problems and has adopted a number of strategies to raise the number of vocational students in its action plan (Office of the Vocational Education Commission 2016) resulting in a shift of ratio between vocational track and general track students from 32:68 in 2015 to 38:62 in 2016 (*Achiva Prab Pan Rub Nakrien* 2016).

12.9 Employers

The employers' point of view is no different from those of other stakeholders. The Employers' Confederation of Thai Trade and Industry (ECONTHAI) also pointed to the oversupply of higher education and undersupply of vocational track labour as a critical issue of the Thai workforce. Employers reported that higher education graduates who hold social science degrees are most likely to be unemployed and that vocational workers, especially in the field of repairs and constructions, are still lacking and highly demanded (*Sabha Naijang Pei* 2017). Moreover, employers

pointed out that in the digital economy context, necessary and highly sought skills are information technology, linguistics and mechanical skills (*Sabha Naijang Pei* 2017), for instance. They suggested that the education institution and labour development bodies, such as the Department of Skill Development, Ministry of Labour, should focus more on the development of these skills. Their suggestions were well taken and are addressed in the Thailand 4.0 Blueprint, which emphasises that "labour 4.0" must possess critical competencies, including but not limited to cognitive abilities, systems skills, complex problem-solving (Division of Research Administration and Educational Quality Assurance, University of Phayao, 2016). Moreover, in 2017, the Dhurakij Pundit University (2017) also conducted a poll questioning startups and SMEs executives about the competencies they seek in new graduates and their prospective employees. The Top three skills were listed: skills in English (50.53%), skills in technology (45.57%) and skills in information analysis (38.29%). They further reported that they strongly prefer employees with leadership potential (41.85%), service mind (39.85%) and time management skill (31.02%), all of which constitute critical skills demanded by employers in this digital economy era.

12.10 Current GWR Policy Programmes

According to the 20-year National Strategic Plan, the big picture of the country's strategic development policies can be summarised in three words: *security*, *wealth* and *sustainability*—which also constitute the three primary goals of the plan (Vimolsiri 2017). To achieve these goals, especially in the *wealth* and economic aspect, the Thai government launched an economic development model, namely the "Thailand 4.0 Blueprint" in 2016, of which the main purpose is to elevate the economy and to upgrade the country into one of the first world countries (Division of Research Administration and Educational Quality Assurance, University of Phayao 2016). Under the principles given by the national strategic plan and Thailand 4.0 model, the National Economic and Social Development Board (NESDB) (2017c) enacted the National Economic and Social Development Plan BE 2560–2564 (2017–2021), one of the most important policy guidelines in economic and social development in Thailand, that highlights the policies and guidelines for all government bodies to adopt in their strategic and action plans. The plan took a cooperative approach that encourages every stakeholder in the network to involve and make the development a real collective effort.

GWR issues are also addressed in the national educational strategic plan; namely, the National Education Plan BE 2560–2579 (2017–2036). The goal associated with GWR is to provide an education system, which can produce a human workforce which possesses the skill sets required by the labour market and meets its demands. To achieve this goal requires cooperation between education and labour agencies where labour agencies have to keep track of the labour market demand and supply by industry and to communicate with the education agencies

and institutions, as well as the employers' need and expectation (Ministry of Education 2017, p. 104). The National Education Plan indicates some issues regarding GWR and points out that the learners and graduates under the current educational system do not meet the labour market needs, both qualitatively and quantitatively. Specifically, the plan denotes that the system fails to equip the learners with adequate critical thinking, management and linguistic skills to succeed in the current labour market (Ministry of Education 2017, pp. 26, 48, 68). Moreover, the number of graduates does not match with the labour demand in the market. The plan sets several policy goals in response to the issue, such as increasing the ratio of students in the general science to general arts major to 1:1 and the ratio between students in the vocational track to general track to 7:3, providing better support to the STEM education providers and improving graduate early-career placements (Ministry of Education 2017, p. 87).

Also, to improve GWR, the plan has adopted a work-related learning approach in the form of cooperative education where the learners will have to work for an enterprise in their fields (prospective employers) as a requirement for the successful completion of their educational degree. Through this approach, the plan aims to increase the number of learners in the cooperative education programme from 30% in the first 5 years to 80% in 2036 (Ministry of Education 2017, p. 87). The most recent attempt to address GWR under the education plan is the cooperation between the Ministry of Education Labour and the Ministry of Education to provide career guidance to the primary and secondary school students. The programme aims at providing 6.5 million students nationwide critical information regarding their further educational options, career paths and important labour market trends (Thai News Agency 2017).

12.11 Case Studies of Innovative GWR Programmes

Thailand has many GWR programmes most of which focus on preparing graduating students to enter the job market confidently and effectively. In addition to classroom career counselling, another conventional form of GWR programme is through internship programmes where students will get to experience first-hand the work environment of their preferred careers. Internship programmes are part of the *work-integrated learning* approach—a multilateral approach in providing education where the working environment and condition are integrated into the learning process (Ruksasuk 2011). Benefits of the work-integrated learning and the internship programmes are not only that the students will have an opportunity to verify their career choices, but also that they will acknowledge their strengths and weaknesses and figure out what they need to improve.

Many stakeholders are involved in the aforementioned approach. Specifically, the Office of Higher Education Commission has established nine regional Cooperative Education Networks (Office of Higher Education Commission [OHEC] 2009, p. 49) where each network consists of educational institutions that

have established close connections with local entrepreneurs, SMEs and large enterprises so that the students could learn from them through cooperative education, making the GWR development a truly collective effort between all stakeholders. In addition to these nine networks, the Thai Association of Cooperative Education [TACE] was later established as a supporting association with the purpose to ensure sufficient resources are available to stakeholders associated with cooperative education. This mechanism will serve the government's policy to enhance cooperative education and to increase the number of students who participate in cooperative education programmes in the near future. There are other entities besides the government and educational bodies which are involved in the GWR programmes in Thailand, too. Other major and effective players are those who provide career counselling and help students uncover their interests and potential (Rojsutee and Yongyuan 2014), especially several social entrepreneurs established solely to serve the purpose. A notable example is a social enterprise called Achieve,[3] which has had many success stories on career help and counselling provisions. Achieve's mission is to help secondary school students figure out their interests in every way they might find helpful. First, Achieve has generated an online database consisting of information about careers and professionals, as well as career paths and brief plan of study to pursue each career (http://achieve.org/information). The enterprise also provides practical and hands-on experience through job internships to help the students weigh their career options. Over the past few years, Achieve has formed close connections with various entities who are willing to participate in the programme and to serve as mentoring companies. Achieve would then send their participating students to these companies where they would accompany a mentor to observe and explore the job tasks and responsibilities (http://achieve.org/experience/shadow). Achieve is an innovative GWR programme not only because it has a long and successful track record of GWR-related activities, but also because of its effective utilisation of an online channel and database, and because it is one of a few social enterprises in Thailand that targets the secondary students who are the real weak link in the GWR issues Thailand is facing.

12.12 Conclusion

Graduate work-readiness has long been an issue that hinders both economic and social development in Thailand. To deal with the issue appropriately, every stakeholder needs to understand the causes of the problem, as well as the country's demographic, economic and labour market climate very well. In this chapter, we analysed important information surrounding Thai GWR situations to determine and

[3]The word *Achieve* refers to two things. First, the word "achieve" in English directly means success, which is the intended outcome of its service. The word "achieve" also rhymes with a Thai word that means "occupation," which infers to the career counselling service which the social enterprise provides.

provide solid grounds for policymakers to address the issue successfully and effectively. In summary, the GWR challenges that Thailand is facing are mainly due to an unprogressive educational reform, which fails to adequately and effectively reinforce GWR in graduates. Besides, there is a concerning demand and supply mismatch in the labour market where the higher education graduates are oversupplied, and the vocational graduates are undersupplied. The other crucial problem is that Thai labour and recent graduates lack vital skills in the work environment, such as critical thinking, creative thinking and problem-solving; all of which are critical to job success in the current labour market. Most of the problems regarding GWR are addressed in the Thai National Education Plan BE 2560–2579 (2017–2036), in which the strategies to improve the education system and to develop the labour capital are proposed. It is recommended that in order to address the GWR issues properly, the stakeholders should deal with the problems in a cooperative manner and take into account the needs and demands of the students and employers. Major issues that require immediate attention are, for example, balancing the labour market demand and supply, eliminating perceptions against vocational studies, providing adequate career advice and counselling to appropriate audiences, improving the students' certain skills important in the current labour market climate and establishing strong connections between every stakeholder to ensure fully integrated labour market that is effective in supporting strong economic and social development.

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Chapter 13
Enhancing Graduate Work-Readiness in Vietnam

Nguyen Danh Nguyen, Nguyen Ba Ngoc and Alan Montague

Abstract This chapter explores the characteristics of the Vietnamese labour market including its advantages and disadvantages together with the government frameworks for the education system. The challenges of graduate work-readiness are also outlined, as well as how employers and educational institutions deal with them in Vietnam. A key concern is an unbalanced workforce which suffers from a lack of adequately skilled workers, resulting in serious threats to industry productivity and competitiveness in a globalised world.

13.1 Introduction

13.1.1 Contextual Background

Vietnam is a country located in Southeast Asia. In the north, it shares the long borderline with China. In the east and south, it is bordered by the Pacific Ocean and in the west by Laos and Cambodia. The country has an area of over 300,000 km^2 and a population of 92.7 million, with 54 ethnic groups, of which 86.2% are Vietnamese, and 13.8% are ethnic minorities (General Statistics Office 2014). Vietnam is administratively divided into 63 provinces and cities directly under the central government (General Statistics Office 2015). Over the past 80 years, the Communist Party of Vietnam (CPV) has focused on the struggle for national independence, liberating the country from almost a century of domination by

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Western colonialists (SarDesai 2012). Since the country's reunification in 1975, the CPV has led the Vietnamese people in carrying out the country's renovation, modernisation and industrialisation. The CPV has established a nationwide political system which assists the party leadership and mobilises the people to realise the goals of national independence, democracy and social progress. Since the economic and political reforms initiated in Vietnam in 1986, known as 'Doi Moi', the Vietnamese economy has experienced rapid economic growth and development and transformed Vietnam from one of the world's poorest to a lower middle-income country (Kuhlmann and Ordolnl*f*ez-Matamoros 2017). Real gross domestic product growth increased in 1987 and for the next 5 years averaged over 5% per annum (McGillivray et al. 2012). The sharp upward trend from 1986 to 1997 reached a high of 9.5% in 1995, which culminated in a substantial reduction of income poverty (McGillivray et al. 2012). Doi Moi remains as one of the most highly regarded successful reforms from an economic perspective ever implemented in a developing country.

> The Government of Vietnam continues to show commitment to reforms. Vietnam's 2011–2020 Socio-Economic Development Strategy (SEDS)—a 10-year strategy—highlights the need for structural reforms, environmental sustainability, social equity and emerging issues of macroeconomic stability. It defines three "breakthrough areas": (i) promoting skills development, particularly for modern industry and innovation; (ii) improving market institutions, and (iii) further infrastructure development. The Socio-Economic Development Plan (SEDP) for 2016–2020, approved in April 2016, acknowledges the slow progress on certain policy priorities and emphasises the need to accelerate reforms. (World Bank 2018, p. webpage)

Vietnam's economy continued to strengthen in 2015, with an estimated gross domestic product (GDP) growth rate of 6.7% (General Statistics Office of Vietnam 2015; Focus Economics 2018). Vietnam's economic activity decreased marginally in the first half of 2016, with GDP expanding by 5.5% compared to 6.3% over the same period in 2015 (General Statistics Office of Vietnam 2017; Focus Economics 2018). This slow-down was the result of the severe drought affecting agricultural production and slower industrial growth. Agriculture's share of economic output shrank from approximately 25% in 2000 to 17% in 2015, while industry's share increased from 36 to 39% in the same period (General Statistics Office of Vietnam 2017).

13.1.2 Workforce Productivity and Labour Employability

To maintain the pace of economic growth, Vietnam cannot continue to rely on the size and the youth of its workforce (World Bank 2014). It needs to pay more attention to improving workforce productivity and labour employability (World Bank 2014). Vietnam has considerable potential to boost its presence as a global economic force global and the signs are optimistic (Focus Economics 2018). The last quarter of 2017 provided an excellent GDP performance showing growth at 'at the fastest annual pace in more than ten years' resulting in 2017's GDP growth

exceeding the government's 6.7% target and is one of the top global performers (Focus Economics 2018, p. webpage). Among the key factors that induced this notable reversal were the 'double-digit rise in exports, aided by a depreciation in the dong against the dollar', and a massive surge in foreign direct investment (FDI), which reached a record high in the year (Focus Economics 2018, webpage, citing Vietnam's Statistical Institute). The State Bank of Vietnam's continuing strategy to foster 20–21% growth in the private sector credit is a factor in enhanced private consumption (Focus Economics 2018). 'Striving to become East Asia's "new economic tiger", the government is sharply increasing sales of stakes in state-owned companies to bolster revenue and alleviate a strained budget' (Focus Economics 2018, webpage).

Overall the economic potential of Vietnam is significant, The Government of Vietnam continues to show commitment to crucial reforms including skill development amongst its working-age population in jobs that align to technical and vocational education and training (TVET) and higher education (HE) development (World Bank 2018).

13.1.3 The Vietnamese Labour Market

Vietnam had a potential labour market of over 55 million people in 2017, with an average 77% labour force participation rate (General Statistics Office of Vietnam 2017). Employment in the agriculture, forestry and fisheries sector accounts for nearly 40.4% of total employment. Table 13.1 illustrates the key economic and labour market indicators for Vietnam in 2016 and 2017.

Vietnam's labour productivity in 2013 was $5440USD (World Bank Report 2014). This figure was higher than that of Myanmar, Cambodia and Laos but was lower than the rest of the ASEAN nations (equivalent to only 55% of Indonesia, 54% of the Philippines, 37% of Thailand, 15% of Malaysia and 6% of Singapore—World Bank Report 2014). Vietnam's Global Competitive Index falls into the lower category: in 2014, Vietnam was only ranked 68th out of 144 participating countries, although this has been an improvement by two ranks since 2013 (70/148) and seven ranks in 2012 (75/144) (World Bank Report 2014). The low rates of labour productivity and competitive index ranking show that Vietnam's economy is still among the low-development countries, in comparison to earlier developing countries in Southeast Asia such as Thailand and Singapore (World Bank Report 2014). The low rates of productivity and development are the result of both out-of-date technology and the relatively low skills of the workforce (World Bank Report 2014). In the third quarter of 2017, the labour force for people aged 15 years exceeded 55 million people (General Statistics Office of Vietnam 2017; Ministry of Labour, Invalids and Social Affairs {MOLISA} 2018). The labour market participation rate for the same quarter was 76.8%, and the number of skilled workers aged over 15 years including people who hold vocational certificates/degrees for the duration of the 3 months above, was 12.07 million people (General Statistics Office

Table 13.1 Key economic and labour market indicators

Indicator	2016		2017		
	Q3	Q4	Q1	Q2	Q3
1. GDP growth rate (%)	6.6	6.7	5.1	6.3	7.5
2. Labour force (million people)	54.44	54.56	54.51	54.52	54.88
3. Labour force participant rate (%)	76.65	76.82	76.55	76.45	76.75
4. Rate of trained labourers with diplomas/certificates (%)	21.50	21.39	21.52	21.60	21.99
5. Employment (million people)	53.27	53.41	53.36	53.40	53.77
6. Rate of salaried workers in total employed labourers (%)	41.03	41.62	42.16	42.77	42.62
7. Rate of jobs in agriculture, forestry and fisheries industry in total employment (%)	41.61	41.54	40.50	40.44	40.35
8. Number of unemployed people at working age (thousand people)	1117.7	1110.0	1101.7	1081.6	1074.8
9. Unemployment rate at working age (%)	2.34	2.31	2.30	2.26	2.23
9.1. Urban unemployment rate (%)	3.23	3.24	3.24	3.19	3.14
9.2. Youth unemployment rate (aged 15–24) (%)	7.86	7.28	7.29	7.67	7.80

Source GSO (2017), Report on Socio-economic Status Quarter 3, 2017

of Vietnam 2017; MOLISA 2018). The proportion of skilled workers in the workforce was only 22.0% of the total labour force people (General Statistics Office of Vietnam 2017; MOLISA 2018). With approximately one-fifth of the total labour force being identified as skilled workers (General Statistics Office of Vietnam 2017), the trend of improvement from quarter 3 2016 to quarter 3 in 2017—'the number of trained workers aged 15 and over who have certificates for three-months (and above) training—{was} 12.07 million people', representing an increase of '649 thousand people (5.68%) compared to quarter 3/2016' (MOLISA 2018, webpage). A substantial increase was observed among the group of elementary vocational training (18.63%), followed by the group of university and postgraduate (8.91%), but there was a decrease in the group of secondary vocational training (−3.74%) and college (−0.28%)' (MOLISA 2018, webpage).

The key challenge for the Vietnamese labour market is how to increase this low proportion to meet the increased demands of today's globally competitive market, which requires a significantly higher proportion of skilled and qualified employees.

In terms of labour structure by qualification level, there were roughly 5.4 million people with a university degree as shown in Fig. 13.1 (44.74% of total skilled workers), the highest rate of skilled workers in comparison with other tertiary education degrees (General Statistics Office of Vietnam 2017). It suggests that more Vietnamese young people prefer to enter universities rather than vocational and professional institutions, though the rate of skilled workers still needs to be

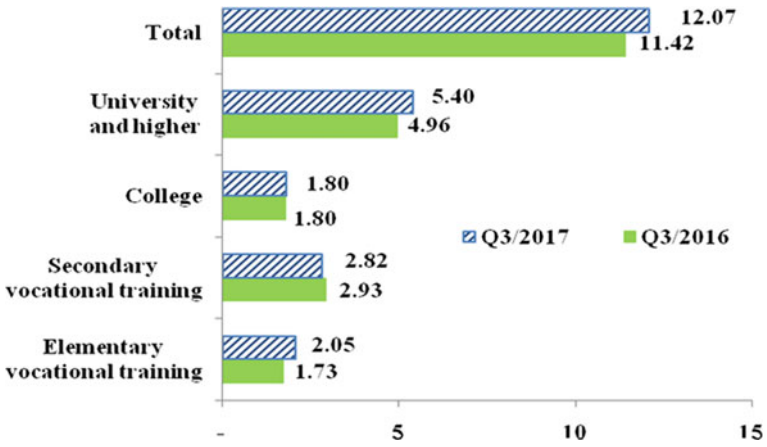

Fig. 13.1 Number of workers by technical expertise, quarter 3/2016 and quarter 3/2017. MOLISA (2018, webpage), citing the general statistics office Vietnam (2016, 2017), *Quarterly Labor Force Survey*

increased. Skill shortages are a concern, as Vietnamese authorities need to balance the percentage of skilled workers from each training institution. The International Labour Organisation (ILO 2015) predicted that the number of jobs in Vietnam should increase by 14.4% by 2025 due to Vietnam joining the ASEAN Economic Community (AEC) in late 2015. To meet the demands of a hungrier labour market as an outcome of joining the AEC, a labour force with heightened skills would be required to meet international labour market demands immediately, as forecast by the ILO (2015). The statistical trend of skilled Vietnamese workers shows a level that poses problems regarding supply and demand (ILO 2015). However, the labour market still has several positive elements—for example, the proportion of workers continued to rise, reaching 42.6% in quarter 1/2016, and both urban and youth unemployment rates were reduced (ILSSA 2017). According to the General Statistics Office of Vietnam {GSO} (2017), Table 13.2 shows that the labour industry sectors were in constant transition (GSO 2017). The proportion of workers in agriculture, forestry and fisheries (AFF) continued its reduction to 40.4%; the service sector climbed to 34.0%; and even though the industry and construction sector had a moderate decline, it remained steady at 25.7%. Agriculture, forestry and fisheries remain among the fields that employ a large proportion of the labour force in Vietnam but are comprised of unskilled and low-paid workers (General Statistics Office of Vietnam 2017). To change this situation, added investment and industry development are essential, especially in the construction and service sectors (ILO 2015).

The rate of paid workers in total employment has constantly increased and reached 42.6% in the third quarter of 2017, as shown in Table 13.2; unpaid family workers showed a reduction to 16.01%, and self-employed workers rose slightly to 39.4%. In the same quarter, there were 5.4 million workers with university bachelor

Table 13.2 Labour structure by industry and job position (Unit: percent)

	2016		2017		
	Q3	Q4	Q1	Q2	Q3
a. Economic industries					
AFF	41.61	41.54	40.50	40.44	40.35
Industry-construction	24.93	25.05	25.49	25.59	25.67
Service	33.46	33.41	34.01	33.97	33.98
b. Employment status					
Owner	2.77	2.82	2.24	2.11	1.97
Self-employed	39.83	39.28	39.85	39.38	39.38
Household labour	16.28	16.20	15.72	15.71	16.01
Salaried workers	41.03	41.62	42.16	42.77	42.62
Cooperative members	0.09	0.08	0.03	0.03	0.03

Source GSO (2016, 2017), Quarterly Labor Force Survey

qualifications or higher, covering 9.84% of total employment. On the other hand (see Fig. 13.2), except for the armed forces, only 76.23% of workers found compatible jobs, such as: 'management' (7.73%) or jobs requiring a 'higher technical profession level' (68.5%). Figure 13.2 shows that more than 22% of those who had obtained university degrees were still working in positions that require lower level qualifications, including 'secondary technical profession level' jobs (3.57%), 'staff' (4.27%), 'skilled service and sales staff' (7.96%), 'skilled worker among agriculture, forestry and fisheries' (0.58%), 'craftsman' (1.98%) and 'manual labour' (2.15%).

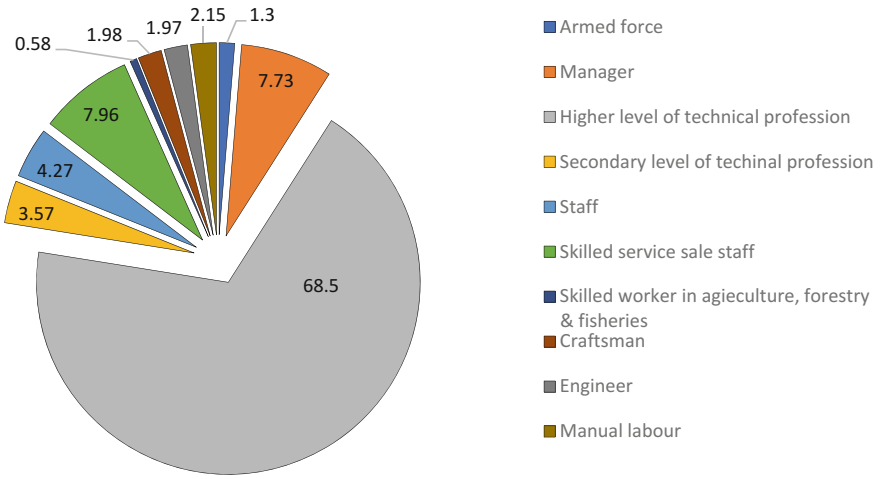

Fig. 13.2 Employment structure of workers with university degree and higher, quarter 4/2015 (percent). *Source* General Statistic Office of Vietnam statistics data and quarterly labour—employment survey data (Quarter 4, 2015)

Overall, a quarter of university graduates could not find a job related to their degrees, or the employers' expectations were complicated by a desire for applicants to possess a university degree and other employment capabilities such as good attitudes and employable skills from their potential employees (Angelino 2017; Montague 2013).

In late 2015, Vietnam had 1074.8 thousand unemployed people of working age, of which more than a half (610.9 thousand people) were adolescents aged 15–24 (General Statistics Office of Vietnam 2017). The unemployment rate of adolescents aged 15–24 was still high (7.8%) and was 3.53 times higher than the general unemployment rate. This figure shows that young Vietnamese employees who are not equipped with appropriate work skills will struggle to find suitable jobs. The OECD defines youth unemployment rates as the number of unemployed people aged 15–24 year of age articulated as a percentage of the youth labour force. Unemployed people report that they are not working but are available to work and that they tried to find work employment within the last month or 4 weeks (OECD 2017). It is notable that the youth unemployment rate in Vietnam is quite low when compared to 36 of the 39 OECD countries with only Japan, Iceland and Germany showing a lower youth unemployment rate in 2016 (OCED 2017).

According to the data in Table 13.3, people holding a professional college qualification had the highest unemployment rate in the third quarter of 2017 (4.88%), which is counter-intuitive. This was followed by university degrees and above (4.51%) and professional secondary vocational qualifications (3.77). It reinforces the reality that higher education qualifications do not necessarily guarantee employment. Given these statistics, it is arguable that obtaining employment in Vietnam requires graduates to master numerous work-readiness skills (both technical and soft skills) and abilities in parallel with knowledge capabilities fostered within tertiary education institutions.

Frequent droughts, invasive mangrove growth and massive associated fish die-offs in the coastal areas have created pressure on Vietnam's 2016 economic growth target of 6.7%, while the factors that are likely to stimulate growth from the

Table 13.3 The unemployment rate of people in working age by gender, area, technical qualification and age group (Unit: percent)

	2016		2017		
	Q3	Q4	Q1	Q2	Q3
General	2.34	2.31	2.30	2.26	2.21
Unskilled	1.84	1.78	2.01	1.88	1.70
Elementary	1.76	2.17	2.12	1.90	1.75
Secondary	3.20	2.74	3.08	3.50	3.77
College	7.50	7.38	6.00	4.96	4.88
University and higher	4.22	4.43	2.79	3.63	4.51
Youth (15–24)	7.86	7.28	7.29	7.67	7.80
Adult (≥ 25)	1.20	1.31	1.37	1.25	1.14

Source GSO (2016, 2017), Quarterly Labor Force Survey

various free trade agreements are yet to occur. For example, the Trans-Pacific Partnership and other bilateral Free Trade Agreements have yet to take effect or are in the inception and implementation phases (for example, ASEAN Economic Community).

13.1.4 Government Frameworks and the Education System

Three levels categorise the administration of education in Vietnam. The highest level is the Ministry of Education and Training (MOET), which is responsible for the education policy and the operation of the national system (MOET 2017). At the second level are the provincial Departments of Education and Training (MOET 2017). This level is responsible for the oversight of district officers of education and training, upper secondary and vocational and technical colleges in each province or city (MOET 2017). The third level of the education system is the District Officers of Education and Training. This level governs primary and lower secondary schools in their districts and reports to the provincial department (MOET 2017). Even though Vietnam does not yet have a National Qualification Framework, there are 190 National Occupation Skill Standards (NOSS) for vocational education (VE only), administered by the Ministry of Education and Training and the Ministry of Labour, Invalids and Social Affairs (MOLISA) (Bodewig et al. 2014). The national government also issued a Law of Education proclaimed in 2005, which included policies related to the recognition of prior learning (RPL) (Hayden and Thiep 2015). In addition, the Law of Higher Education and the Law of Vocational Education were proclaimed in 2012 and 2014, respectively (Hayden and Thiep 2015). Each ministry has a different role and a separate function in managing the workforce and human capital development (Montague 2013). MOLISA and other relevant ministries are responsible for workforce development (Montague 2013). The Ministry of Education and Training and other ministries oversee human capital development. The Ministries of Labour and Education have issued the strategies of workforce development (2011–2020), the plan for workforce development (2011–2020), the strategy of education development (2011–2020), the strategy of vocational training (2011–2020) and the strategy of science and technology (2011–2020) (Kusakabe 2016). In January 2013, the government issued a Prime Ministerial decision on a project referred to as ‘Building a Learning Society’ in the period 2012–2020—to indicate the implementation of continuous and lifelong learning (Yang 2012). The key targets for this project are disabled people, the poor and other disadvantaged minorities. Three specific industry subsectors in Vietnam were also targeted for funding to improve work-readiness and involved programmers in the army, police and firefighters in their respective academies (Yang 2012). As reported by ILSSA (2017) from many industry sectors in Vietnam, the ten key sectors which are facing work-readiness challenges, ranked from one to ten, were as follows:

1. manufacturing,
2. information media and telecommunications,
3. professional, scientific and technical services,
4. healthcare and social assistance,
5. education and training,
6. finance and insurance,
7. construction,
8. transport and storage,
9. public administration and safety,
10. administrative and support services.

Vietnam does not yet collect data on vocational education and training (VET) and higher education (HE) completions and graduate outcomes.

The Vietnamese education system is like many other countries in the region as there are multiple levels of qualifications so that the graduates from different levels can enter the workforce with different kinds of work requirements. At the end of 2014, Vietnam had 204 universities and 215 vocational colleges (General Statistics Office of Vietnam 2015). In this context, the challenges for work-readiness may not come from the structure of the Vietnamese education system but rather from the management of the system and its compatibility with employers' expectations, with respect to either the labour market generally or specific job requirements.

13.1.5 Graduate Work-Readiness Challenges

As defined in various chapters within this book, graduate work-readiness includes the skills that students or graduates require to satisfy the needs for a job. This definition indicates that there are more than two actors who play important roles in ensuring the work-readiness of graduates. From the supply side, higher education institutions must play a significant role in equipping students with the appropriate knowledge, skills and behaviours. From the demand side, employers not only behave as customers but also need to partner with universities and vocational colleges to enhance the employability of students via multiple methods, from internship programs, availability of experience-sharing, job information and requirements for integration and appropriate employment infrastructure development (Tran 2015). The government also plays a very crucial role in the development of conducive environments and policies to strengthen the deep connection and the effective partnership between the two key actors (World Bank 2014). In Vietnam, all the trades and industry sectors are currently experiencing either inadequate skills of job applicants ('skills gap') or a scarcity of workers in some occupations ('skills shortage') (Jennings 2017; Montague 2013; World Bank 2014). Notwithstanding that the most serious industry sector cases are those utilising modern technologies, and sectors under pressure from competition, such as the production of goods for export (ILSSA-ManpowerGroup 2014). The occupational

groups facing many challenges are jobs requiring specialised technical qualifications, such as machinery repair and operation, testing—analysis, and dieticians (Nankervis et al. 2015). The service sector, namely business sales, also faces many challenges to recruiting skilled labour, as indicated in the results of surveys conducted by the ILSSA-ManpowerGroup (2014).

The significance of the difference between the systems of vocational training and higher education systems is at times negligible, as many vocational colleges are using nearly the same curricula as universities while students have very few chances to practise at jobs because of a lack of investment in practical tools and equipment at vocational colleges (MOET 2018). For the university system, the requirements are set higher and the risks that graduates do not secure (or have difficulties finding) a job may be larger (World Bank 2018). For the vocational training system, like other countries included in this book, another key challenge is associated with the difficulty of attracting students, as discussed earlier (Ho and Reich 2014). An international study on work-readiness was conducted in Vietnam together with other Asian countries by the World Bank (2012). According to its findings on the relevance of university graduates' skills to recruiters' requirements in seven East Asian economies, including Vietnam, work behaviour skills were in short supply. This situation was especially evident with soft skills, including creative thinking, information technology, leadership and problem-solving (World Bank 2012, 2014). As stated in the 'Vietnam Development Report' by the World Bank (2014), 'most employers said that recruitment is hard as candidates do not have appropriate skills (shortage of skills), or due to a shortage of available candidates in a number of industries and occupations (shortage of skilled employees)' (World Bank 2014, p. 7). Similarly, a survey conducted by the Institute of Labour Science and Social Affairs (ILSSA)-Manpower in 2013 showed similar observations, with nearly 30% of foreign direct investment (FDI) enterprises facing difficulties in recruiting direct workers and office staff. Foremost among the qualities found lacking in potential workers and office staff were an awareness of excellence and punctuality/reliability, as reported by approximately 30% of the group of direct workers and factory supervisors; followed by the inability to adapt to changes, such as working in teams, an ability to learn and apply new technologies, and a lack of fundamental computer skills, critical skills, problem-solving and collegiality (ILSSA 2014).

13.2 Causes of These Graduate Work-Readiness Challenges

13.2.1 Government Planning and Implementation Issues

There are many causes of the above challenges. The first issue to be outlined is that there is a lack of mechanisms, policies and appropriate orientation programs for

encouraging competition and improving quality (Chau et al. 2008; Lam 2013). Human resource planning is vague and lacks specificity; implementation systems are often bureaucratic, employment conditions and wages are unreasonable, thus having a direct impact on workers. Second, planning for the overall education and training systems is ineffective, with too many institutions being established, and training sectors are not in line with market demand (Chau et al. 2008; Lam 2013; Nankervis et al. 2015). In 2001, the number of higher education institutions in Vietnam was approximately 178. However, there were 419 universities and colleges by 2015 (General Statistics Office of Vietnam 2017). A lack of long-term strategies for the orientation of trades training according to the needs of the economy has led to an imbalance in trades training. In 2012, almost 40% of Vietnamese students were enrolled in the business-economic field, while only about 25% of them in science-technology fields (Thang and Lan 2013). Forecasts of the labour market in the short term and long term were weak; information about jobs and careers has not been fully updated in an accurate and timely manner; and the activities of vocational orientation, consulting and job recommendation are limited (Thang and Lan 2013).

13.2.2 Educational System and Employer Issues

The third cause is that training in many vocational colleges and universities is of relatively low quality (Chau et al. 2008; Lam 2013). Most colleges conduct training based on vague notions of what is required and elements of tradition as opposed to labour market requirements (Chau et al. 2008; Lam 2013). Even when capturing market requirements, many colleges still do not have enough capacity (teachers, facilities, training programs) for the necessary changes (Chau et al. 2008; Lam 2013; Nguyen et al. 2016; Thang and Lan 2013). The education system lacks interaction with employers and industry, and many programs are not practical, limited in both skills and knowledge, making it immensely difficult for labourers to find jobs (Chau et al. 2008; Lam 2013; Nguyen et al. 2016; Thang and Lan 2013). The fourth key issue is that employers do not collaborate closely with the training institutions for them to offer more appropriate training programs (Lam 2013; Nguyen et al. 2016; Tran 2013). Employers also do not take full social responsibility, as they require quality from the educational institutions but often do not collaborate with them on joint programs to encourage students to do apprenticeships or share information with teachers (Nguyen et al. 2016). State-owned enterprises evaluate employees based primarily on their qualifications, thus reinforcing the social trend to merely possess a university degree (Lam 2013; Tran 2013). There are a few notable issues that aggravate the challenges of resolving skill shortages in Vietnam. Reliance on the government rather than engaging students and their families in the learning process and job-seeking activities is a major problem

(Lam 2013; Tran 2013). An added problem is the preference by parents for higher rather than vocational education (Ho and Reich 2014; Lam 2013; Tran 2013), common to many other countries included in this book.

13.3 Strategies to Address Graduate Work-Readiness

The government and the relevant ministries in Vietnam have set some goals and developed certain strategic measures that have been issued aimed at resolving the above challenges by improving the capability of potential staff to increase work-readiness and meeting the requirements of the labour market (Ministry of Labour, Invalids and Social Affairs of Vietnam 2018). For example, the government has a strategy for human resources development until 2020 which includes the Law on Vocational Education and the Prime Minister's Decision on building high-quality schools to approach regional and international levels (MOLISA 2018). Also, the government has issued a raft of policies on the development of the business sector through creating more jobs (MOLISA 2018). MOLISA has actively implemented activities and measures including the Labour Code of 2012 and the Employment Law of 2013, as well as approving the National Target Program of employment and vocational training between 2012 and 2015 (MOLISA 2018). MOLISA (2012) proposed policies to support job creation aided by the national fund for employment which stipulates policies to support young people either forging a career or starting a business. Within the array of policies implemented, boosting labour market forecasts was crucial through the dissemination of employment information, and jobs available in workplaces to help youth and students graduating to obtain suitable jobs (MOLISA 2012). Employment service centres are needed to strengthen collaboration with training institutions, especially colleges and universities, in activities of consultation, job recommendations and career orientation for students. An added policy recommendation was for employment services centres to coordinate with the Association of Universities and Colleges of Vietnam to organise activities to support jobs for students and coordinate with the Ministry of Education and Training in order to implement the participation of students after graduation in the labour market (MOLISA 2012). The education system has also implemented many new policies, from changing the organisation of entrance exams at all education levels to the input of recruitment examinations. Prior to 2014, universities and colleges were delegated to establish their own entrance exams under the requirement of MOET (MOLISA 2018). Since 2014, MOET has developed and implemented a revised entrance exam system with only one national test, and all the higher education institutions are using the same test results database to select their students. In addition, universities and colleges have made many attempts to innovate, change textbooks and alter the learning techniques for students to enhance teaching and the transmission of knowledge and experiences (MOET 2017). Vocational training has reviewed its standards and organised contests for checking practical skills to recognise and assist workers to

find jobs not only in the country but also overseas (MOET 2017). Other strategies include connecting with and facilitating enterprises to recruit students from schools or create mechanisms to help students after school to work as a trainee, thus directly obtaining relevant work experience (MOET 2017).

Industries and businesses have expanded and upgraded the training colleges which they are associated with to provide more practical industry training, and co-designing more appropriate training programs (Tran 2016). These key parties are collaborating to forge agreements where companies may allow students to stay longer at work stations during internship programs or business staff attending classes at universities (Tran 2016). Other initiatives include improved human resource management plans, such as staff exchanges and getting to know the candidates thoroughly to make the best recruitment choice (Huynh 2012). Many companies have also recruited newly graduated students with corresponding specialisations for extra training to acquire further work-related expertise (Huynh 2012). As the economy continues to grow and the unemployment rate is kept stable, training has shifted towards the directions associated with the market. Some universities and vocational colleges have made great efforts to transform the curriculum innovatively with improved programs and training methods (MOET 2017). Strengthening the capabilities of teaching staff and functional aspects of the learning infrastructure are all aimed at improving training quality and its relevance to the industry has been a key driver (MOET 2017). The provision of enhanced preparation for students regarding knowledge and skills, particularly the skills for readiness to participate in the labour market in order to better meet the requirements of employers, was also a key factor among the policy mix (MOET 2017). Nevertheless, the effectiveness of those strategies is limited due to a lack of strong and comprehensive solutions and particularly the changes in the national entrance examination (MOET 2017). The Law on Career Education took effect from 1 July, 2015, but to date has not been effectively implemented (MOET 2017). Given these array of circumstances, there still appear to be many qualifications which do not meet actual industry requirements, and many gaps in training methods and practice modes (Table 13.4).

13.4 Summary and Conclusion

Vietnam has faced many challenges in its labour market, in which the unbalanced labour workforce lacks skilled workers. This represents the main concern of Vietnamese authorities. Many Vietnamese firms and large foreign direct investment enterprises report that the current graduates do not meet their requirements, and that there is always a shortage of the right skills of workers in the labour market. The target of Vietnam authorities is to improve the quality of labour force to meet the higher requirements of the employers. From now to 2020 and beyond, the Vietnamese labour market needs to build up an adequate labour force to meet the needs of industrialisation and international competition in the context of

Table 13.4 Summary of key findings

Summary	
Demographics/ labour market	Population: Vietnam's current population was 94.3 million in 2015 which is among top 15 in the World. The size of population increase is currently 0.95% annually Demographics: young population with more than 75% of labour participation rate, higher than world average of 63.5%
	Demographic challenge: total rate of labour who have participated in training institutions before work is still comparatively low (one-fifth of workforce). There are seemingly not enough higher education institutions to satisfy the need of market while the quality of their training is still inconsistent
Economy	Growth rate was slowed down to 6.5% in the last 5 years due to macroeconomic turmoil and low labour productivity. Equitisation programs and banking system restructuring are among the top priority of government efforts to drive the economy out of the middle-income trap
Educational structure/ work-readiness challenges work-readiness issues	Regulatory framework: several frameworks to boost up employability of Vietnamese workforce; however, the effectiveness of these policies is still uncertain. Both the ministry of education and training and ministry of labour, invalid and social affairs are involved in setting up a lot of strategies and policies to reduce work-readiness challenges, but there is a lack of coordination and consistency VET sector: the training quality has not met the businesses' requirements about perception, social behaviour, technical expertise, soft skills, foreign language, job skills and work attitude. Training programs mainly focus on theory, with a lack of practical knowledge. Teachers are not of corresponding quality HE sector: training curriculums are not appropriated to the skills required by industries. The unemployment rate of university graduates is highest in comparing with other workforce groups Summary of skill mismatches/shortages: the labour market in Vietnam is characterised by both candidates do not have appropriate skills (shortage of skills), and shortage of available candidates in a number of industries and occupations (shortage of skilled employees) Industry links: higher institutions were not welcome and initiative to cooperate with industries while employers tend to use low-skilled employees as cheap labour Shortage of skills: Vietnamese young employees usually lack soft skills, including creative thinking, information technology, leadership and problem-solving Shortage of skilled employees: industries utilising modern technologies, and sectors under pressure from competition, such as the production of goods for export
Policy initiatives and recommended strategies for improved graduate work-readiness	Government policy initiatives: Setting up strategy for human resources development until 2020, law on vocational education, the prime minister's decision on building high-quality schools to approach regional and international level Higher education institutions: innovate the contents, programs, training methods, strengthening teaching staff, facilities, to improve the training quality, better preparation for students in terms of knowledge, skills, especially the skills for readiness to participate in the labour market, better meeting the requirements of employers Employers: more open to universities and colleges. Initiation of cooperation with HE and VET, open business environment for students and teachers to work with

globalisation. Overall, there are numerous consequences of work-readiness challenges. The imbalance between supply and demand and the status of both shortage and surplus of labour is increasingly serious. Also, work productivity is low, and the competitiveness of enterprises as well as of the nation is weak, increasing the risk of losses for Vietnam in the process of regional and global integration. This has impacts on the development of effective competition between countries, creating opportunities for foreign workers to enter Vietnam, thus making it difficult for Vietnam's internal resources to be promoted, and having long-term influences on the quality of human resources and economic development. Furthermore, the waste of human resources and increases in unemployment (actual unemployment, and 'disguised' unemployment due to doing jobs which are not associated with their trained specialisation) lead to other social consequences, such as poverty, inequality, crime and social evils. Vocational student graduates find it hard to get a job while enterprises are short of appropriately qualified and skilled employees. Also, a costly re-training process often must be undertaken by enterprises after recruitment.

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Part III
Comparative Analysis and Conclusion

Chapter 14
Challenges and Strategies of Transition from Graduation to Work in the Post-2020 Asia Pacific and Beyond: A Comparative Analysis of Nine Countries

Subas Dhakal, Alan Nankervis, John Burgess and Verma Prikshat

Abstract The successful transition of higher education (HE) and vocational education and training (VET) graduates from education to work is central to achieving sustainable human development across the Asia Pacific and beyond. For instance, the composite Human Development Index (HDI) developed by the United Nations indicates the wide ranging socio-economic ranking of the nine country cases represented in this book. And yet, many of the country cases represented in this book are facing various policy challenges linked to upskilling and overcoming skill shortages. It is in this context that the chapter aims to investigate: 'how different countries operating in different socio-economic circumstances are trying to facilitate the transition from graduation to work?' The chapter adopts a Leximancer-based innovative content analysis technique to explore the question. In addition, the chapter also provides a comparative synopsis of innovative graduate work-readiness initiatives across the included countries.

Keyword Content analysis · Education policy · Human capital Innovative programs · Leximancer · Stakeholders

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14.1 Introduction

A brief comparative overview of the higher (HE) and vocational education and training (VET) sectors and their associated graduate work-readiness challenges across the nine Asia Pacific economies—Australia, India, Indonesia, Lao PDR, Malaysia, Nepal, Singapore, Taiwan and Vietnam—was reported by Cameron et al. (2018) and Dhakal et al. (2018a). This overview revealed the paradox of perceived decreasing graduate work-readiness (GWR) and increasing youth unemployment, which creates a wicked problem that is persistent and often resistant to policy solutions that attempt to fill the gap between young people's expectations of attaining post-qualification jobs and their ability to achieve employment. This chapter presents a more comprehensive analysis of challenges and strategies of transition from graduation to work across nine economies in Asia Pacific and beyond included in this book—namely, Australia, India, Indonesia, Malaysia, Mauritius, Singapore, Taiwan, Thailand and Vietnam. Although the analysis presented in this chapter builds on Cameron et al. (2018) and Dhakal et al. (2018a), this analysis excludes Lao PDR and Nepal but includes Mauritius and Thailand. More importantly, this chapter utilises innovative techniques to compare key thematic issues amongst case countries. It is also noteworthy to mention here that the European, American and Japanese perspectives on work-readiness (Chap. 4) is not a part of this comparative analysis. The chapter aims to investigate the question of: 'how different countries operating in different socio-economic circumstances are trying to facilitate the transition from graduation to work?'

The chapter is structured into four parts, beginning with a brief overview of the human development and human capital rankings of nine case countries. This is followed by a methodological description of a comparative analysis. Next, key themes associated with challenges involved with transition from graduation to work as well as innovative employability initiatives are discussed, before ending with concluding remarks.

14.2 The State of Human Development and Human Capital

The primary objective of this book has been to examine the transition challenges within the context of national labour markets primarily in the Asia Pacific region. On the one hand, some countries in the region are facing shortages of skilled labour while graduates are either underemployed or unemployed. On the other, some countries have adopted programs to attract immigrant labour to address skills shortages while at the same time intensifying issues associated with graduate transition to work (see Burgess et al. 2018). With over 4 billion people, the Asia Pacific is one of the most populous regions of the world (UNESCAP 2016) and is also home to two of the largest democracies—India and Indonesia. The Asia Pacific

region has collectively achieved impressive economic growth in the past five decades and yet the countries that are the focus of this book are at varying stages of two key global indices: human development and human capital (Fig. 14.1).

First, the composite Human Development Index (HDI) indicates a wide ranging socio-economic standing within the region. The HDI primarily integrates three basic dimensions of human development—(a) life expectancy at birth, (b) mean years of schooling and expected years of schooling, and (c) gross national income per capita (UNDP 2016, p. 3). The recent HDI rankings show that India, Indonesia, and Vietnam are placed below 100 out of 188 countries whereas Australia and Singapore are ranked in the top 5. The three remaining countries: Malaysia, Mauritius and Thailand are ranked below 50 but above 100. It has to be noted here that the many of the international indicators do not include Taiwan, and this chapter relies on evidence reported by one of the national newspapers of Taiwan in order to estimate its HDI standing (see Shu-yuan and Chang 2014). Second, the composite Human Capital Index (HCI) primarily incorporates four indicators, (a) capacity—the existing stock of education across generations, (b) deployment—the active participation in the workforce across generations, (c) development—current efforts to educate, skill and upskill the student body and the working-age population, and (d) know-how—growth or depreciation of working-age people's skillsets through opportunities for higher value-add work (WEF 2017, p. 5). These indicators are assessed in five distinct age brackets, starting from under 15 years to over 65 years. According to the recent HCI (WEF 2017), Singapore is ranked the highest (11th) and India the lowest (103rd) amongst the nine case countries. The Fig. 14.1 depicts a general trend of relations between HDI and HCI across the nine countries. For example, Indonesia has the widest gap between HDI and HCI standings. Whereas Singapore has the narrowest gap between the two rankings. Since one of the ways

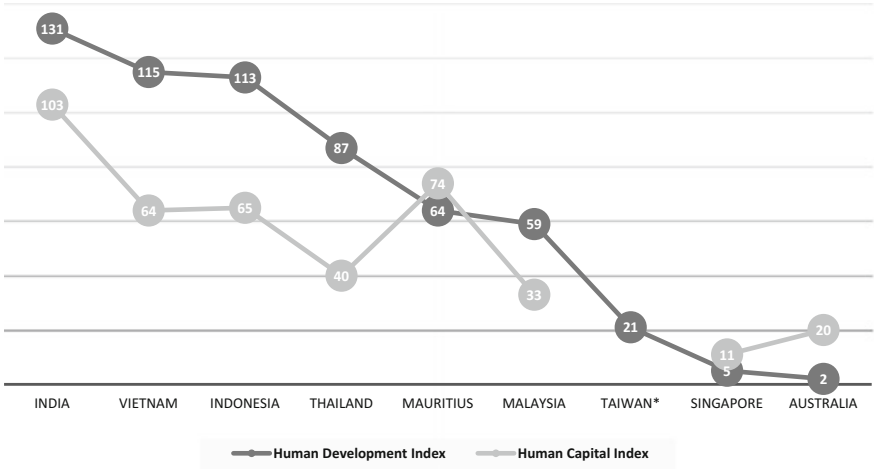

Fig. 14.1 Human development index (HDI) and human capital index (HCI) rankings of case countries. *Sources* UNDP (2016), WEF (2017), *Shu-yuan and Chang (2014)

to reduce the gap between the developing and the developed nations is to increase investment in human capital, policy emphasis on increasing access to higher and vocational education as well as generating employment opportunities and ensuring employability will result in better participation in the regional and global economy. For instance, it has often been argued that the countries with higher human capital will experience better overall socio-economic-development (see APEC 2017; Diaconu and Popescu 2016; Kruss et al. 2015; OECD 2012). It is in this context that the comparative analysis of nine different country cases are carried out next.

14.3 Methodological Approach for a Comparative Analysis

The country cases contained in this book explored what some of the key stakeholders are saying and doing about the transition from graduation to employment challenges utilising a stakeholder model (see Chap. 3). Two of the key objectives of each country case were to present an overview of the state of graduate work-readiness and identify successful processes and/or policies that have supported or are expected to foster the process of transition from graduation to work. Consequently, the question of: 'how different countries operating in different socio-economic circumstances are trying to facilitate the transition from graduation to work?' is significant from the perspective of strengthening policy level understanding of the challenges within the Asia Pacific region and beyond. This chapter adopts a content analysis method in order to explore the question. Collins (2005) highlights the significance of content analysis in order to identify policy gaps and suggest improvements. However, although a variety of qualitative techniques exist in order to analyse the textual data, the analyses themselves are often subjected to limitations including (but not limited to) time, human coding, and biased interpretations (see Dhakal et al. 2018b).

First, since the textual data such as individual country chapters in this book provide valuable sources of evidence in policy research, the Leximancer-based automated content analysis is used in order to overcome the shortcomings of manual content analysis. Leximancer software provides an innovative quantitative approach to the standard manual content analysis and helps identify key themes and concepts based on the word frequency and co-occurrence of families of terms (Leximancer 2018). Leximancer-based automated content analysis has been validated as a way to conduct content analysis and generate policy insights across disciplines (Dhakal et al. 2018b; Mahmood et al. 2014; Mardis et al. 2017; Sotiriadou et al. 2014). The software uses its own algorithms to analyse the meanings within passages of text by extracting main themes based on the most prominent concepts in a cluster of concepts. Themes are shown in heat-maps to specify the level of importance (based on hit counts), meaning that the most significant theme with the most hits appears in red (hottest), and the next significant

one in orange, and so on according to the colour wheel (Leximancer 2018). More importantly, the software is useful for probing the interconnectedness of central themes. In order to maintain consistency in display maps, the same output setting (Theme 50%, Concept 100%) was used in Leximancer. Second, despite significant challenges, country cases have also reported several innovative GWR initiatives which have been adopted across the region with the involvement of stakeholders (see Nankervis et al. 2018). Some of the key initiatives are compared in accordance with the three HDI based tiers adopted earlier.

14.4 Thematic Maps

Based on HDI rankings, nine case countries in this book were clustered into three categories: High (1–50), Middle (51–100), and Low (101 and below). Figures 14.2, 14.3 and 14.4 depict Leximancer generated thematic maps for each cluster of nations.

14.4.1 Low-HDI Cohort

As Fig. 14.2 shows, five themes dominated the content of low-HDI ranked country cases. 'Graduate skills' was the most important (471 hits) theme which overlapped with all other four themes: 'skilled labour' (209 hits), 'sectoral challenges' (88 hits), 'employment opportunities' (67 hits), and 'policy-makers' (64 hits).

14.4.2 Mid-HDI Cohort

As Fig. 14.3 shows, five themes dominated the content of mid-HDI ranked country cases. 'Graduate skills' was the most important (281 hits) theme which overlapped with all other four themes: educational institutions (152 hits), industry sectors (142 hits), training programs (106 hits), and job-opportunities (101 hits).

14.4.3 High HDI Cohort

As Fig. 14.4 shows, five themes dominated the content of high-HDI ranked country cases. 'Education providers' was the most important (511 hits) theme which overlapped with all other four themes: 'graduate skills' (453 hits), training programs (283 hits), 'labour-shortages' (207 hits) and 'jobs nature' (57 hits).

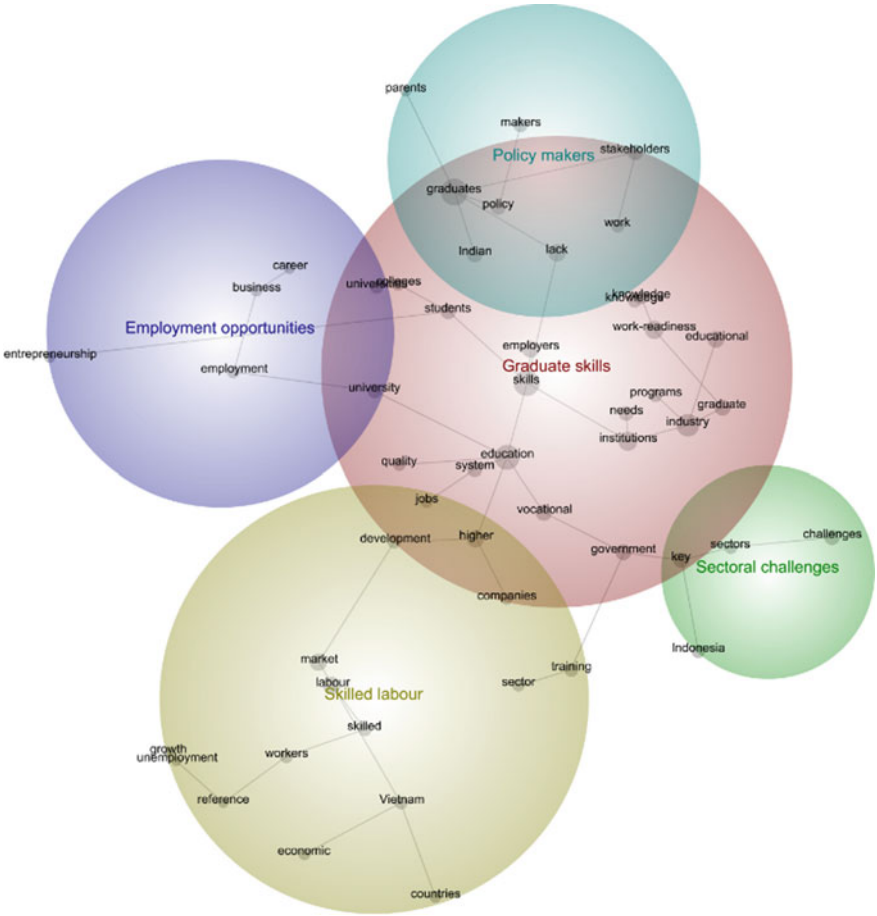

Fig. 14.2 Leximancer generated thematic map for low-HDI tier

The three thematic maps generated by Leximancer highlight two main differences. First, 'Graduate skills' emerged as the most important theme for low and mid-HDI nations, and the second most important theme for the high HDI cohort. Given the focus of the book, this thematic revelation is not surprising. Second, 'educational institutions' or 'education providers' emerged as a common theme between mid and high HDI ranked nations but was absent from the low-HDI group. This suggests that developed countries may be more focused on ensuring the educational relevance in the context of emerging fields such as in Singapore whereas the emphasis within developing nations is on revising the outdated curriculum such as in Vietnam. Third, the theme 'policy-makers' appeared only in the

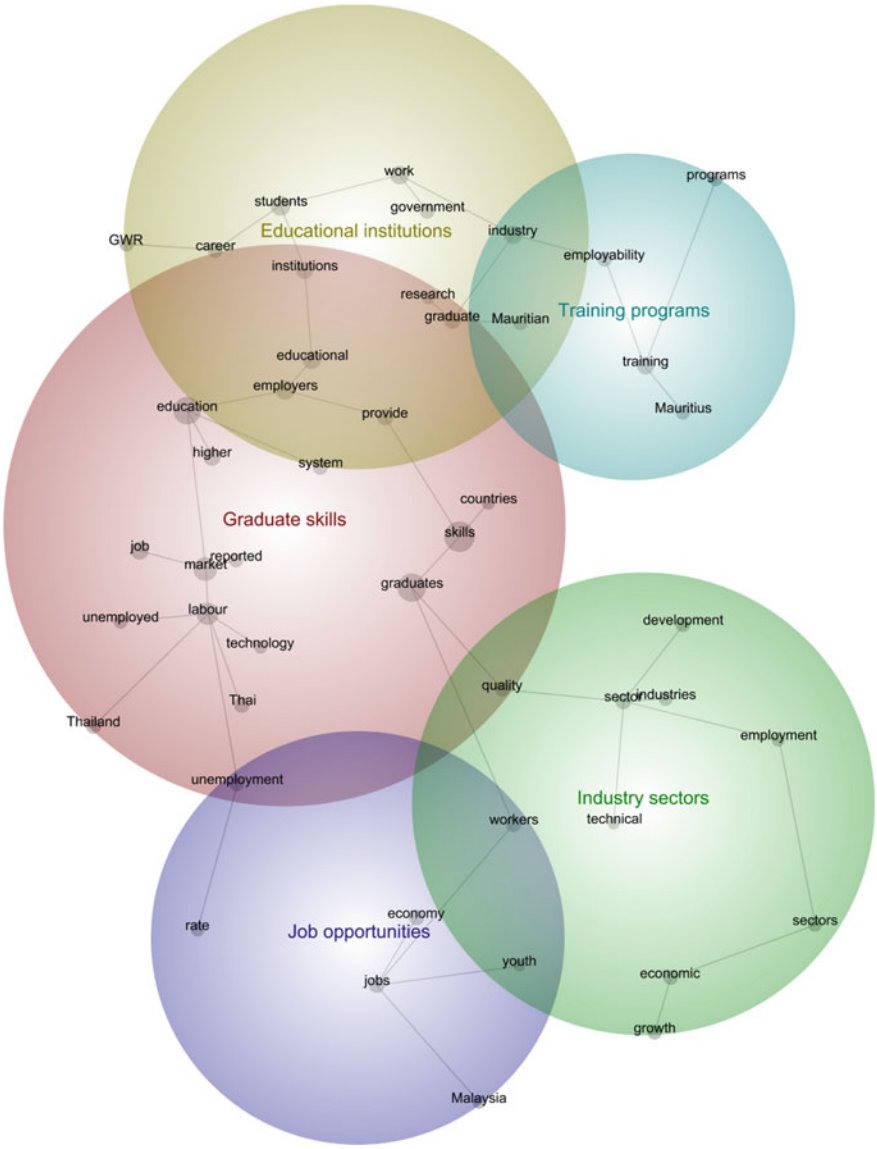

Fig. 14.3 Leximancer generated thematic map for mid-HDI tier

low-HDI cohort while the 'labour shortages' emerged only in the high HDI cohort. On the one hand, the lack of stakeholder consultations in policy making is a burgeoning issue in developing nations such as India. On the other, skilled labour shortage is a common phenomenon across all three developed countries.

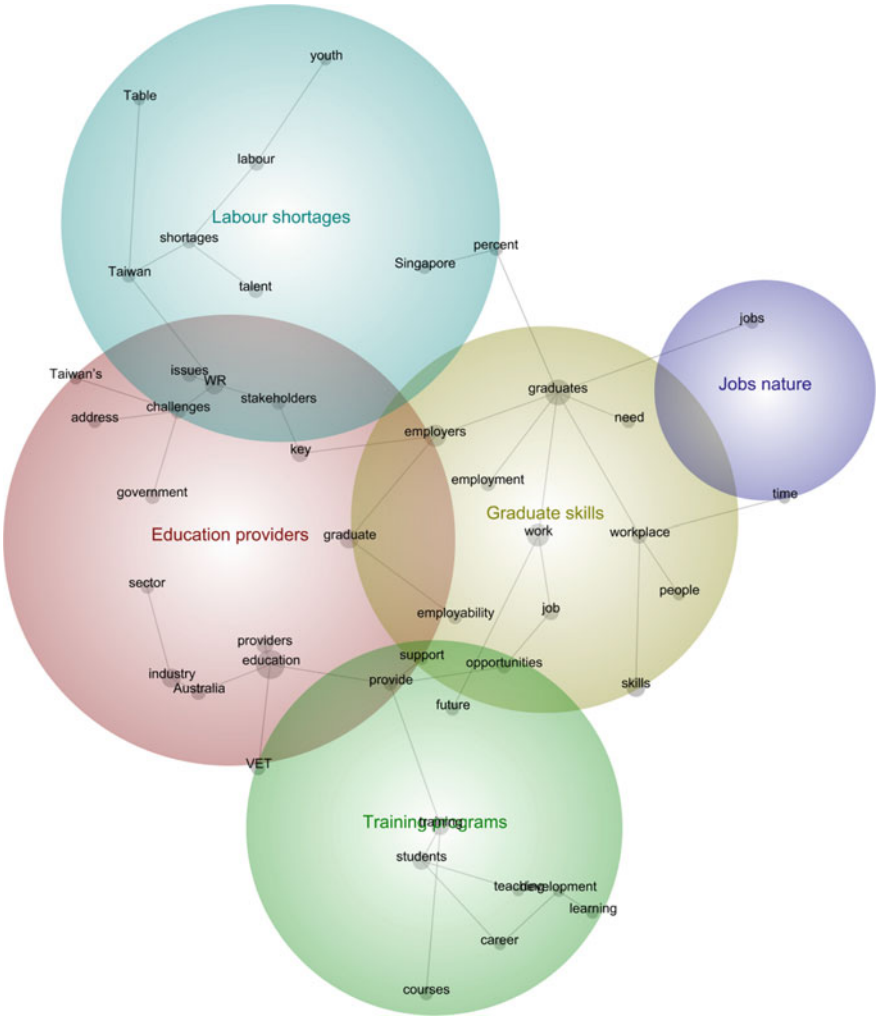

Fig. 14.4 Leximancer generated thematic map for high-HDI tier

14.5 Innovative GWR Initiatives

The country cases contained in this book clearly indicate that although the HE and VET sectors have expanded across the nine countries, access to and the quality of education and industry relevance of skills gained remain a GWR policy priority for all countries, irrespective of their standing in HDI and HCI rankings. More importantly, despite significant education and work-readiness challenges across nine case countries, several innovative best practice initiatives are currently being implemented. It was clear from the country chapters that a variety of stakeholders

including: donor organisations, government agencies, non-governmental organisations, and the private sector, including social enterprises are driving such initiatives. Table 14.1 shows a summary of the range of such initiatives from the countries explored in this book, which are discussed in greater detail in each country chapter.

Table 1 A comparative snapshot of innovative GWR initiatives

HDI	Country	Key policy/program	Example of actual/intended outcomes
Low	Vietnam	Human resources development strategy; National fund for employment (NFE)	VET and HE institutions have made efforts to transform the curriculum innovatively with improved programs and training methods to enhance employability
	India	Technical education quality improvement project (TEQIP-III)	Indian Government (with the World Bank funding) is aiming to: (a) improve quality and equity in engineering institutes, and (b) strengthen sectoral governance and performance
	Indonesia	Centre of excellence project	Industry relevant curriculum development, VET sector teacher's training
Middle	Thailand	Achieve	This social enterprise provides practical and hands-on experience through job internships to help the students weigh their career options, and sends participating students to companies for mentorship and on-job learning
	Mauritius	Youth employment programme (YEP)	Over 80% of graduates who completed their one year YEP programme were offered permanent employment within the industry sector
	Malaysia	Graduates enhancement programme for employability (GENERAtE)	The objectives are to equip, develop and assist unemployed graduates: (a) with high end skills and competencies that are required by the industries; (b) with finding relevant working experiences, career paths and job placements
High	Singapore	Skills future program	The program provides fresh graduates at the polytechnic level an opportunity to participate in a structured work-learn program with a participating employer enabling a smooth transition into work
	Australia	Office of learning and teaching (OLT)	Supporting graduate employability from generalist disciplines through employer and private institution collaboration

(continued)

Table 1 (continued)

HDI	Country	Key policy/program	Example of actual/intended outcomes
	Taiwan	Taiwan semiconductor manufacturing company	Besides addressing the learning needs of existing employees and new recruits, TSMC is also keen to work with higher education to attract prospective students and entice schools to teach the more practical skills and knowledge needed in the high-tech industry through internships and scholarships

14.5.1 Low-HDI Cohort

The GWR initiatives in this cohort are more or less driven by two key stakeholders: government agencies and donor agencies. For example, the Vietnamese government has recognised the urgent need for a knowledgeable and skilled workforce to help the country to transform into an industrialised one by 2020 and has adopted a Human Resources Development Strategy aimed at transforming the HE and VET sector curriculum with the assistance of donor agencies. Whereas in Indonesia, the two key stakeholders are working closely with a private company and its subsidiary NGO in order to establish a Centre of Excellence to advance GWR through upskilling and reskilling programs.

14.5.2 Mid-HDI Cohort

The GWR iniatives in this cohort are driven by government agencies and a social enterprise. agencies. For example, a key ministry in Mauritius has launched a programme to attract ICT, engineering and finance graduates for a 2-year internship in the public sector, not only to serve the country and gain valuable work experience but also to discourage the potential brain drain. In Thailand, a social enterprise (not-for-profit and non-governmental) has been providing free online information on career guidance, career guidebooks, and carrying out workshops to provide real-world experiences in a variety of occupations.

14.5.3 High-HDI Cohort

The GWR initiatives in this cohort are also more or less driven by two key stakeholders: government agencies and the private sector. For example, the

SkillsFuture program started by the Singaporean government offers a series of job-skills enhancement short and modular courses on emerging fields of information and communication technologies (ICT) such as Cybersecurity, Data Analytics, and Digital Media. Whereas in Taiwan, a large high-tech company in Taiwan is addressing the learning needs of existing employees and new recruits in collaboration with the higher education sector to attract prospective students and encourage schools to teach the more practical skills and knowledge needed in the high-tech industry.

14.6 Conclusion

This chapter has presented a comparative overview of the GWR issues across the nine nations in Asia Pacific and beyond. The UNDP's (2016) HDI based classification was utilised to rank the nine countries as low, middle or high HDI categories. The chapter investigated the broader question: 'how different countries operating in different socio-economic circumstances are trying to facilitate the transition from graduation to work?' The comparative assessment revealed that while higher ranked countries were more focused on ensuring the educational relevance in the context of emerging fields, lower HDI ranked nations were primarily interested in improving the outdated curriculum and enhancing access to training programs. More importantly, most of the innovative GWR initiatives were being driven by the government agencies in close collaboration with donor organisations, and the private sector. There is no mistaking the urgency in relation to investing in human capital to enhance human development across the different HDI tiers (see Nankervis et al. 2018; Dhakal 2018). The issues around education and employment across the nine case countries serve as a reminder that addressing the wicked challenge of GWR is likely to be much more effective with a concerted policy emphasis on stakeholder engagement than without it.

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Chapter 15
Conclusion: The Future for Transition from Graduation to Work in the Asia Pacific and Beyond

Subas Dhakal, Verma Prikshat, John Burgess and Alan Nankervis

Abstract The country cases contained in this book clearly indicate that although the HE and VET sectors have expanded across the region, the quality of education and industry relevance of skills acquired remain a GWR policy priority for all countries. Many of the countries have begun to tackle the challenges with varying degrees of success. Some innovative approaches have been implemented in some countries, and others are yet to be developed, but clearly more is yet to be done by governments, employers, vocational and higher educational systems, individually and collaboratively to strategically resolve these work-readiness challenges.

Keyword Employers · Governments · Graduate work-readiness (GWR) Higher education (HE) · Innovative approaches · Vocational education (VE) Policy implications · Research findings · Future research · Innovative GWR programs

15.1 Introduction

This book reports the findings of a research study of graduate work-readiness challenges, their causes, and recommendations to address them in a range of Asia Pacific economies and beyond. Its purpose was to explore whether the debate in the

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extant literature, mainly concerned with developed countries in the northern hemisphere, also applies to countries in this region, both developed and emerging. A multiple stakeholder lens was used as the over-arching analytical framework, complemented with our self-developed work-readiness integrated competency model (WRICM). Following an extensive literature review (see Chap. 2) and using existing collaborative research networks, the team conducted interviews and focus groups in nine Asia Pacific countries—namely, Australia, China, India, Indonesia, Malaysia, Singapore, Taiwan, Thailand and Vietnam—together with Mauritius. This book thus builds on the conceptual material presented in an earlier book (Cameron et al. 2017). The rationales for the choice of countries included in the study were twofold: research accessibility, given the established indigenous researcher networks; and the opportunity for comparisons and contrasts between small and large, developed and emerging national economies. Thus, Australia, Singapore and Taiwan represented developed countries; China and India, large developing economies; Indonesia, Malaysia, Thailand and Vietnam, medium-size emerging nations; and Singapore and Mauritius provided the opportunity to compare and contrast small island states (SIS) at very different stages of economic development. The preceding chapter discusses the comparative research findings on graduate work-readiness challenges, their similar and diverse causes; and the roles of the three key stakeholders—governments, vocational and higher education systems, and industry/employers—in addressing them in strategic and innovative ways. These three stakeholders were specifically chosen to represent the parties responsible for the supply and demand of graduates with work-ready qualifications, skills, competencies and capabilities, whilst also acknowledging that graduates and their families are also important 'consumers' of the services provided by government strategies and policies and by the educational service-providers.

15.2 Conceptual Framework

The multiple stakeholder framework used in this book was influenced by Buchholz and Rosenthal's (2005) and Balser and McClusky's (2005) 'shared value' and 'relative salience' concepts. The first suggests that the key stakeholders in any environment are those that have a mutual interest in working together to achieve satisfactory outcomes for their strategies, policies, programs and activities. In the case of graduate work-readiness, it is clearly in the interest of governments, educational systems and employers to work collaboratively to ensure positive outcomes, for the economy, for the workforce, and of course for the recipients of their programs, graduates and their families. Relative salience refers to the comparative 'power, legitimacy and urgency' (Freeman et al. 2008; Reynolds et al. 2006) of various stakeholder groups, and key to an understanding of effective stakeholder management, as it highlights the relative importance of different stakeholder groups at different times and emphasises the need to dynamically balance their interests. Buchholz and Rosenthal (2005) advised 'taking the interests and concerns of these

various groups and individuals into account in arriving at management decisions, so that they are all satisfied at least to some extent, or at least that the most important stakeholders with regard to any given issue are satisfied' (p. 138). In this case, the three stakeholders can be considered to possess equal legitimacy, but unequal power and urgency. In the latter cases, employers have less power than governments in the supply of work-ready graduates or educational systems, but they may have greater urgency than either governments or educational systems in relation to their demand for qualified, skilled and capable graduates. Mendelow's (1991) seminal stakeholder framework (see Fig. 3.1 in Chap. 3) is a basic model, dividing stakeholders according to influence/power and (vested) interests. In this framework, all three key stakeholders nominally have both influence and interest, and fit into the top right-hand quadrant, requiring collaboration, mediation, and moderation strategies. Graduates themselves and their families arguably have low power but high interest, thus fitting into the bottom right-hand quadrant. Whilst recognising their legitimacy, they were not included in this study due to their relative inability to actively influence either the demand or supply of work-ready graduates.

Table 15.1 GWR stakeholders' strategy matrix

Government	Employers
• Tailored financial incentives-tax incentives given to industry that willing to train students • More English language training at all levels • More apprenticeship systems • Articulation between school VE and HE • Tailored courses—collaborate with some universities • Open linkages between government departments • Functional coordination—forums • More integrated employment policies • Better labour demand and supply planning • More targeted national HRD programs • Semi tailored linkages • Campaign to promote trades occupations • Professional associations—accredit and monitor quality of grads and provide supplementary training • Communication with overall community • Regulation and legislation for HRD • Labour rights—monitoring of rights • Effective regulation of VET • Longer term versus short term approaches	• Closer linkages between industry, VE and HE • Clear articulation and accreditation of skills (RPI) • Strengthen HRM and its perceptions • On-boarding systems for SMEs—line managers • Offer flexible internships—try before they buy • Open wider apprenticeship program to link and match VE HE curriculum with company needs • More precise expectation of graduate skills • Co-design and co-creation of VE/HE programs • Direct participation in VE/HE courses, speakers • Use 'best practice' collaborative models • Sector/company-specific engagement programs • More attractive employee benefits systems • Ongoing in-house and external HRD programs • Greater local community involvement • Regular interaction with labour management information systems (LMIS) • Retain good talent via salary and benefits given and check before hire (while they train graduates)

(continued)

Table 15.1 (continued)

Government	Employers
HE Systems	VET Systems
• Collaboration with industry—create a committee to obtain regular updates from industry-ensuring more practical-driven approach • Enhance place and train program where HE and industry can work together so skilled students can be trained • Dual certificates—formal qualification plus WR certificate • Create a website to provide information for stronger linkage between demand and supply • Opportunities for industry-sponsored research • Raising the level of faculty through exchange programs • Inviting eminent scholars for more exposure • Inviting industry practitioners as guest lecturers • Collaboration with foreign universities • Focus on distance education • Drafting RPL mechanism • Increasing research capacity • Restructure and strengthen the technical disciplines	• Information campaign for improving the perception of vocational education • Examining already established VET systems in advanced countries • Offering vocational qualifications more in line with student preferences and employers' needs • Provision of transferrable skills • A national standardised assessment framework • Effective quality assurance • Inviting industry practitioners as guest lecturers • Engage employers and unions in vocational policy and provision • Providing feedback, in the form of tracer studies of VET graduates and employer surveys, for better matching the respective needs of employers and students • Drafting RPL mechanism • Developing curricula and syllabuses, specifically targeting the needs of industries • Practical tests for assessment, instead of theoretical overtones • Collaborate with HE for practical training-student exchange program between HE and VE • Undertake activities that helps students to improve their command of English language

A representative sample of vocational and/or higher education graduates across the region would provide a valuable counter-point to the findings presented in this book. The next section of the chapter provides a brief summary of the research findings which are discussed in detail in the preceding chapter.

15.3 Summary of Key Research Findings

The country cases contained in this book clearly indicate that although the HE and VET sectors have expanded across the region, the quality of education and industry relevance of skills acquired remain a GWR policy priority for all countries, irrespective of their standing in HDI and HCI rankings. Table 15.1 aggregates the

broad recommendations to address the graduate work-readiness challenges provided by the key stakeholders in all ten countries. Some have been implemented in some countries, as discussed above, and others are yet to be developed. The innovative and creative case studies included in all chapters reflect some of these imperatives, but clearly more is yet to be done by governments, employers, vocational and higher educational systems, individually and collaboratively, to strategically resolve these work-readiness challenges which are likely to expand significantly in the wake of the looming Fourth Industrial Revolution (FIR). Future pressures on and opportunities for the nature of jobs, work, workplaces and requisite work-ready competencies in this new technological environment are briefly discussed in the following section.

However, the findings also indicate that despite significant challenges, several innovative GWR initiatives have been adopted across the region with the involvement of stakeholders including: government departments/ministries, donor agencies, private sector, education services providers, and non-government organisations. Examples include:

- The Vietnamese government has recognised the urgent need for a knowledgeable and skilled workforce to help the country to transform into an industrialised one by 2020 and has adopted a Human Resources Development Strategy aimed at transforming the HE and VET sector curriculum with the assistance of donor agencies.
- The SkillsFuture program established by the Singaporean government offers a series of job-skills enhancement short and modular courses on emerging fields of information and communication technologies (ICT) such as cybersecurity, data analytics, and digital media.
- In Thailand, a not-for-profit and non-governmental social enterprise has been providing free online information on career guidance, career guidebooks, and conducting workshops to provide real-world experiences in a variety of occupations.
- A large high-tech company in Taiwan is addressing the learning needs of existing employees and new recruits in collaboration with the higher education sector to attract prospective students and encourage schools to teach the more practical skills and knowledge needed in the high-tech industry.
- Three different stakeholders: a government department, a donor agency and a private company (and its subsidiary NGO) have come together in Indonesia to establish a Centre of Excellence to advance GWR through upskilling and reskilling programs.
- The Human Resource Development Fund (HRDF) established by the Malaysian government, similar to that in Vietnam, is mainly focused on engaging with a variety of private sector organisations to re-skill as well as up-skill the workforce.
- A key ministry in Mauritius has launched a program to attract ICT, engineering and finance graduates for a 2-year internship in the public sector, not only to

serve the country and gain valuable work experience but also to discourage the potential brain drain.

- In Australia, an industry peak body has taken a proactive initiative and produced a work- ready guideline identifying the main sets of attributes that employers are looking for, aimed at informing education services providers as well as graduates.
- In India, several important initiatives have been undertaken
  - The Technical Education Quality Improvement Project (TEQIP-III) project signed between the Government of India and the World Bank aims to improve the quality of engineering education across several states at a cost of US$201.50 million to be implemented in a 3-year period until 2020.
  - The All India Council for Technical Education (AICTE) has taken various steps to improve technical and higher education in line with the Central Government's key initiatives ('*Digital India*' and '*Skill India*'). Four new schemes—'*Unnat Bharat Abhiyan*—for engaging with communities and using technologies for their upgrading; '*Trainee Teacher Scheme*'- recruitment of fresh graduate engineers as well-trained lecturers for the NIT's; '*Adjunct Faculty Scheme*'—to have a strong and robust collaboration between the educational Institutions and industry; *and* '*Margdarshan, or Mentorship Scheme*'-mentoring to institutes by a well performing institute; have been launched to enhance the work-readiness of graduates.

The country cases indicate that lower HDI-ranked nations such as India, Indonesia, and Vietnam are struggling to equip graduates with appropriate industry-relevant skills. The primary focus of government departments (and donor agencies to a certain extent) has been around upskilling the country's labour force and upgrading obsolete curriculum, with only minimal industry engagement. There is certainly a budding industry engagement around GWR issues amongst middle HDI-ranked nations such as Malaysia, Mauritius, and Thailand. However, government agencies are still the main drivers of the GWR agenda. The overall priority of these nations seems to revolve around achieving an industrialised economy status by means of attracting and retaining graduates into the emerging technology sector. Industry-engagement initiatives are certainly much more extensive amongst the higher HDI-ranked nations such as Australia, Singapore and Taiwan when compared to lower or middle HDI-ranked ones. In these countries, it appears that industry is primarily setting the GWR agenda in these countries.

15.4 Graduate Work-Readiness Challenges in the Future?

There has been a considerable amount of recent speculation about the positive and adverse effects of the looming Fourth Industrial Revolution (FIR, 4IR or Industry 4.0)—'the digital transformation in society and business which involves an

interface between technologies in the physical, digital and biological disciplines. It is distinguished from earlier industrial transformations by its speed, scope, and broad global impacts, most of which include the transformation of systems of production, management and governance' (Schwab 2017). The FIR includes the utilisation of artificial intelligence, robotic and machine learning technologies. Most predictions of its impact on the workforce have focused on the replacement of significant numbers of existing jobs, but to date little attention has been paid to the inevitable changes in the associated job skills and competencies, or the roles of governments, education providers and employers in ensuring alignment between these new capacities and graduate capabilities. Given the uncertainty of these future workplace and workforce changes, the capacity to forecast and plan to meet future skill needs and formulate job descriptions and associated graduate skills and competency requirements is a huge challenge. The residual impact of these new technologies on employment and graduate work-readiness is progressively becoming a critical issue for governments, educational institutions, industry, and of course graduates and their families. All stakeholders will need to confront the impacts of the FIR to grasp the opportunities presented and to prepare their workplaces and employees for potentially unfavourable outcomes, and the consequent need to develop new skills, competencies and capabilities in order to effectively adapt to the changes.

As this book suggests, vocational and higher education are struggling to equip students with the necessary work-readiness skills for the education-work transition in the contemporary era, so the challenge in the future will be much harder. The problem of work-readiness among graduates will be exacerbated by the 4IR, where change is likely to be more rapid than ever before (Schwab 2016). What were once tried and true ways of conducting business can no longer be taken for granted and managed. This will not be an easy task for governments, educational institutions or industry, as the future is impossible to predict, but longer term planning at all levels, the development of national technology policies and ongoing collaboration between the three key stakeholders have become even more crucial in this new and fundamentally challenging global, regional and national business environment. The ongoing debate over work-readiness requires stakeholders to identify their single and mutual responsibilities to meet the needs of graduates. The urgency required to bridge the gap from education to employment in a new era of digital disruptions cannot be understated. The impact on education posed by technological unemployment is immense and requires careful handling to transition graduates effectively into employment with the relevant skill sets. The implications for future research include larger samples, the inclusion of the perspectives of graduates and their families, mixed methods research design; and importantly, a focus on the implications of the impact of new technologies on jobs, work design, workplaces and the associated skills, competencies and capabilities towards the future. Such studies could be global, regional or national; focused on particular industry sectors or on specific jobs and job clusters. The associated work-readiness skills, competencies and capabilities desired by all stakeholders might then be distilled and recommendations made to ensure their achievement.

15.5 Conclusion

This book built on our earlier Routledge book (*Transitions from Education to Work: Workforce Ready Challenges in the Asia Pacific*), by presenting the empirical findings of the study undertaken during 2016–2017 across the Asia Pacific. We also added two new countries to the study—namely, Thailand and Mauritius—and included a new chapter on the similar and diverse graduate work-readiness challenges facing the EU, USA and Japan. Our contributions to the extant GWR literature include new evidence of the extent; nature; causes; and innovative government, industry and educational strategies and programs designed to address the challenges in a relatively unreported region. The study also allows for comparisons and contrasts between these different environments. We also presented a new model for analysing graduate work-readiness—the Work-Readiness Integrated Model (WRICM—see Chap. 2)—which we hope will provide future researchers with an important tool for conducting complementary studies. Finally, we presented the perspectives of three of the key stakeholders in all studied countries, providing a multiple stakeholder snapshot of the context of work-readiness in different economic, socio-cultural and technological circumstances.

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