

# Closing the Gap: **Tackling Indonesia's Supply Chain Skills Challenge**

A preliminary report



# Executive Summary

Closing the Gap: Tackling Indonesia's Supply Chain Skills Challenge report forms a preliminary part of a major in-depth study involving the national industry representative body, the Association of Logistics Indonesia – with a membership of over 4000 companies – the Sepuluh Nopember Institute of Technology, the RMIT University Australia and the University of Indonesia.

This study investigates the skills challenges in supply chain and logistics management activities in two cities: Jakarta and Surabaya. It was primarily motivated by observations in the Indonesian Government's 2012 Blueprint for the Development of National Logistics System (Cetak Biru Pengembangan Sistem Logistik Nasional) identifying a huge gap in the skills supply and its major impediment to the nation's attempt at lifting its national logistics performance. This preliminary report presents the findings from interviews and workshops conducted with executives in the logistics and supply chain industry.

Three areas of priority are identified as critical to establishing a robust supply chain and logistics system in Indonesia:

## **1. Training System**

The need to create a stronger training system that is underpinned by deeper partnerships and closer coordination between government, industry and education providers;

## **2. Curriculum**

Strongly align the curriculum to industry needs, providing more training support schemes and preparing job-ready graduates and competent professionals; and

## **3. Standards and Body of Knowledge**

Establish a national competency standard and logistics core body of knowledge that meets industry expectation. This includes 'thinking and learning skills', 'interpersonal skills', 'customer service and business skills', 'analytical and ICT skills', and 'logistics specialist' skills.

The above priority areas present new opportunities to develop an education and training system that addresses Indonesia's skills need in the supply chain and logistics sector. Education training in supply chain and logistics spans technical high school and tertiary qualifications to professional certifications, short online courses and corporate training programs. Engaging Indonesian companies in these types of training will be critical to help meet business needs. Businesses need to be cognisant of the state of skills within their workforce, with respect to the capabilities of their employees and the skills required for them to facilitate innovation and growth.





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# 1.0 The Connectivity Challenge

The ASEAN Connectivity Plan, the ASEAN One Market in 2015 and Indonesia's 2025 ambitions to become one of the 10 major economies of the world, are forcing the government to step up the urgency to address its supply chain and logistics challenges.

Like many developing economies at the verge of a great economic leap, an adequate and efficient logistics system is of unquestionable importance. As evident in the 2012 Blueprint for the Development of National Logistics System (Cetak Biru Pengembangan Sistem Logistik Nasional), the government considers improving the country's logistics system as a key economic building block towards the realisation of the above stated ambitions. In line with this ambition, prioritisation of the question of transport, supply chain and logistics in Indonesia is also influenced by several important factors, including:

- Demography – the size and population on existing logistics capacity;
- Rapid and sustained socioeconomic growth exerting increasing pressure on current logistics capacity; and
- Geography – the sprawling archipelago challenge, unique to just a few other countries, including the Philippines.

Indonesia comprises of 17,000 islands with abundant natural resources necessary for the fulfilment of the national economic plan to 2025. However, effective exploitation of these resources requires an adequate and intricately designed logistics system.

Although the Indonesia logistics system is currently experiencing rising demand in line with increase consumer and industry activity, and an expanding external trade volume – making it the fastest growing in the Asia Pacific, a region that is estimated to reach up to USD 4 trillion by 2016 – the country faces several major challenges. Inadequate infrastructure, insufficient network providers and regulatory inefficiency means that the cost of transportation is soaring. A World Bank estimate finds that the cost of logistics – moving goods around the country, including imports and exports – is about 24 percent of GDP. Thailand spends about 16 percent. The same report also found that 17–18 percent of the price of goods produced in Java (where logistics are the most efficient in Indonesia) is associated with logistics costs. In terms of connectivity, a 2014 Logistics Connectivity Index ranked Indonesia 53rd out of 160 countries. Based on performance, Indonesia is ranked 63, according to the Global Logistics Performance Index (LPI). The irony however, is that while the country ranks low in performance, its growth rate is among the highest internationally, ranking third behind Germany and the United States.

“Indonesia’s transport and logistics is the fastest growing in the Asia Pacific, a region estimated to reach up to USD 4 trillion by 2016.”

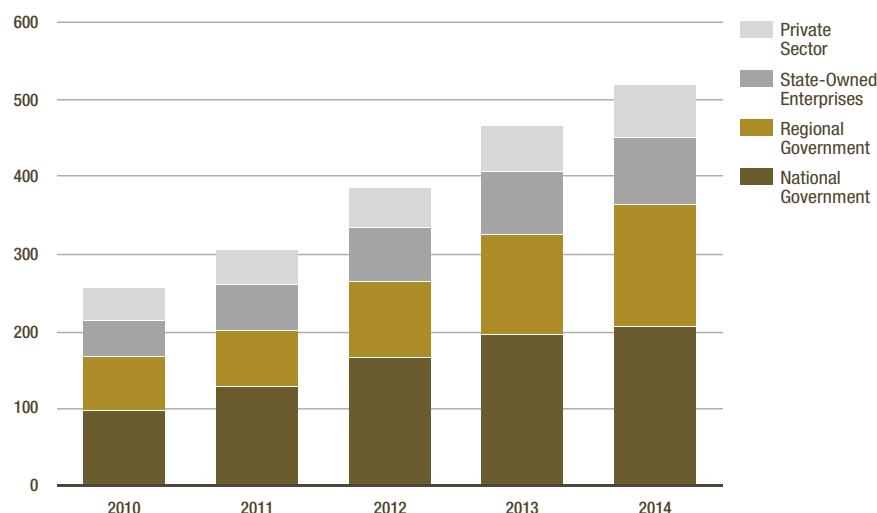
Indonesia has an ambitious growth plan. President Joko Widodo has staked his presidency on fixing the infrastructure problem, attracting investments and creating jobs. In his first term, the president plans to increase infrastructure spending, peaking at around 7.7 percent of GDP by 2017 – an increase from 6.4 percent in 2014. And Indonesia intends to spend the equivalent of tens of billions of dollars to build 3,600 km of new roads, 24 new seaports and 15 new airports, railway network expansion by 3,258 km, and the improvement of public transportation in the 29 cities.

“Indonesia faces several major challenges. Inadequate infrastructure, insufficient network providers and general inefficiency means that the cost of transportation is high.”

“...question of skills and workforce sustainability is becoming acute.”

**Figure 1**

Infrastructure Investment in Indonesia (trillion IDR)



Source: Government data



## 2.0 Enter The Skills Challenge

An important aspect of logistics capacity, which is rarely explored, yet a major impeding factor – is skills and labour supply.

As huge investments into large-scale projects are planned, the question of skills and workforce sustainability becomes increasingly acute. Research identifies Indonesia's growing skills deficiency as a major hindrance to any investment boost aimed at solving the systems infrastructure bottleneck. The skills deficiency in this regard is defined, not as much in terms of workforce size, but rather, as a qualitative inadequacy of logistics knowledge and skills required to perform efficient and effective logistics and supply chain activities. The national blueprint acknowledges that a lack of adequate and high-quality skills poses a major challenge to the country's economic growth aspirations and integration into the global supply chain network. Yet, little attention to date is given at either a policy or industry level to address Indonesia's skills and workforce needs in this transforming sector. Research has clearly shown the correlation between adequate and well-qualified workforces and enhanced logistics performance (Butcher, 2007; Gekara 2010; Thai 2011). In Indonesia, the problem of skills and labour supply to the expansive logistics sector is underscored by the necessity for a sufficient pool of highly qualified logisticians needed to take the sector to the next level. It is for this reason this study focuses specifically on the question of skills and workforce sustainability in the Indonesian supply chain and logistics sector.

This study investigates the skills challenges in supply chain and logistics management activities in two cities: Jakarta and Surabaya. It was primarily motivated by observations in the Indonesian Government's National Logistics Blueprint, identifying a huge gap in the skills supply and its major impediment to the nation's attempt at lifting its national logistics performance.

## 3.0

# About This Report

This report forms a preliminary part of a major in-depth study involving the national industry representative body, the Association of Logistics Indonesia – with a membership of over 4,000 companies – the Sepuluh Nopember Institute of Technology, the RMIT University Australia and the University of Indonesia.

The study is unique for several reasons. It is an industry–university collaboration focused on supply chain and logistics. It represents a genuine collaboration between Indonesia and Australia to address a critical need identified by the Indonesian Government. It seeks to tackle Indonesia’s skills shortage in the supply chain and logistics sector.

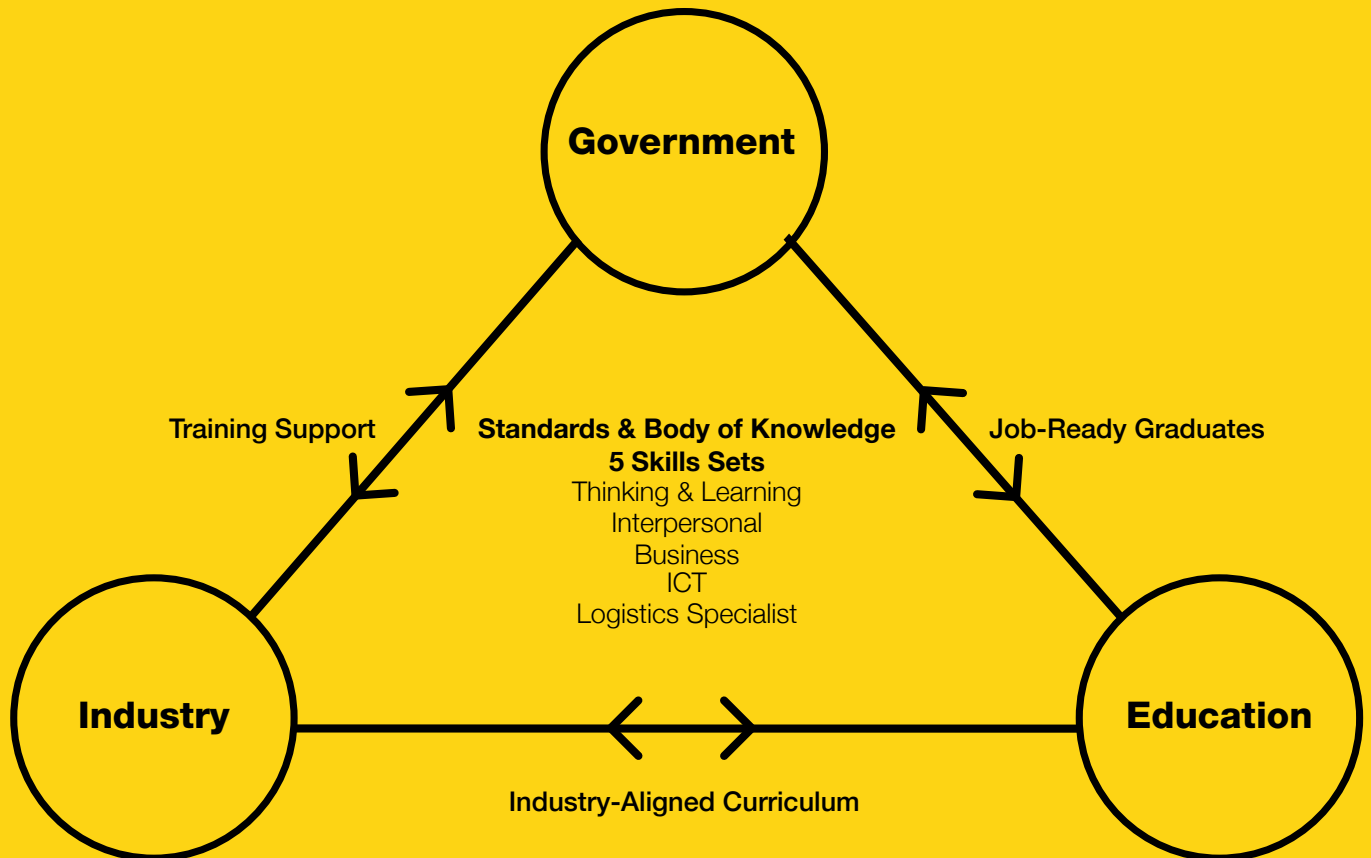
The major study addresses three important questions in response to the Government’s National Logistics Blueprint:

- To what extent is Indonesia’s supply chain and logistics workforce size and skills profile sufficient to meet the demands of a rapidly expanding economy?
- What are the key challenges and opportunities in the development and supply of skills in the Indonesian supply chain and logistics sector?
- How effective are existing government policies and industry strategies in addressing current and future skills and workforce supply challenges?

The study uses a combined method approach, bringing together the advantages of depth attributed to qualitative methods and those of scope and detail guaranteed by quantitative analysis. The approach was undertaken in three phases.

Phase 1 involved desk research – secondary research and review of policy, sector information and data about Indonesia’s supply chain and logistics sector. In Phase 2, we conducted interviews with senior executives from selected companies in Jakarta and Surabaya. The interviews covered areas of organisational staffing strategies, state policies on skills and staff development for the industry. Following the interviews, we held two Industry Workshops in Jakarta and Surabaya. The workshops validated the interview findings as well as collected further information on the skills challenges. Phase 3 involves an industry skills survey, which is currently under way. The findings from the interview data were drawn on to develop the survey questions and distributed to more than 4000 companies.

## Preliminary Research Findings: What Industry Wants



**Figure 2**  
Supply Chain Logistics  
Training System and  
Trilateral Partnership

Based on interviews with major employers in Jakarta and Surabaya, we identified three priority areas:

**4.1 Training System** – the need to create a stronger training system that is underpinned by deeper partnerships and closer coordination between government, industry and education providers;

**4.2 Curriculum** – strongly aligning the curriculum to industry needs, providing more training support schemes and preparing job-ready graduates and competent professionals; and

**4.3 Standards and Body of Knowledge** – establishing a national competency standard and logistics core body of knowledge that meets industry expectations. This includes ‘thinking and learning skills’, ‘interpersonal skills’, ‘customer service and business skills’, ‘analytical and ICT skills’, and ‘logistics specialist’ skills.

The diagram in Figure 2 captures the training system, curriculum and standards and body of knowledge priority areas raised during the industry interviews and dialogues conducted in Jakarta and Surabaya.



## 4.1 Training System



Indonesia's logistics system involves many stakeholders, from government agencies to industry bodies and educational providers. Since the launch of the National Logistics System (SISLOGNAS), several developments have occurred. More opportunities for academics, professionals and vocational education programs. More industry bodies such as the Indonesia Logistics Association (ALI), The Association of Logistics and Forwarding Indonesia (ALFI), Association of Indonesian Trucking Companies (APTRINDO) and the Association of Land Transport Companies (ORGANDA), cooperating with the National Agency for Professional Certification (BNSP) to provide industry education and offer logistics professional certificates. The establishment of the Indonesian Supply Chain and Logistics Institute (ISLI) in 2016 to promote academic and research in supply chain and logistics. ISLI major activities now include curriculum standardisation, research workshops, conferences and publications. Finally, the growth in the number of universities offering supply chain and logistics management courses.

What these developments demonstrate is the dynamic growth in a skills training ecosystem geared towards the supply chain and logistics sector. Employers interviewed recognised these developments as important to delivering quality skills to a vital industry. With a burgeoning training system, employers expressed strong support for deeper coordination between government, industry and education providers to strengthen the system. How can this trilateral partnership – government, industry and education – better support the economy and jobs by addressing skills shortages, meeting workforce training needs and boosting productivity for employers? How can the partnership closely collaborate to lead more strategic and targeted interventions to align the training system with industry needs and economic aspirations?

### **Industry employers interviewed identified three stand-out issues:**

4.1.1 The major challenges in the current logistics education system

4.1.2 Building the capabilities and capacities for a national logistics workforce

4.1.3 Addressing the skills gap in logistics education and training

#### **4.1.1 The major challenges in the current logistics education systems**

- a. The current education and training system provided by the National Logistics System, along with the Ministry of National Education Policy, is unable to meet the rapid and sustained socioeconomic growth, which is exerting increasing pressure on the existing logistics capacity. Having a systematic approach to skills development beginning with Training Needs Analysis is most likely to improve the current education and training system by providing a foundation to deliver appropriate and effective training to meet the needs of the country's logistics system.
- b. The greatest skills shortage identified across all the interviews relates to soft skills, for example communications, leadership, analytical thinking, problem solving.
- c. The data also showed that employers face challenges with finding people with adequate logistics and supply chain specific skills. Interviewees explained that in most cases, graduates from the training system lack these critical specific skills.
- d. The above problem is largely attributed to a lack of systematic vocational training program for the logistics and supply chain industry. Whereas professional organisations like the Association of Logistics Indonesia (ALI) provide some training, it is not broad enough and often ad hoc.
- e. In response to challenge C and D above, individual employers provide some training as a top-up for the deficiency of skills in their new employees. However, such training is often ad hoc and widely varied from organisation to organisation. The interviews show that the length of training provided ranges from about 2 weeks up to 12 months across different employers.

#### **4.1.2 Building the capabilities and capacities for a national logistics workforce**

- a. The interviews showed that employers within the industry would like to see more government support in training and skills development. This could be in the form of building and equipping training institutions as well as developing effective policies to help industry in their skills development efforts.
- b. There is a lack of communication between employers and universities. As a consequence, graduates produced at the university do not always have the necessary skills that employers require.
- c. Government, industry and education providers should work more closely together to help address the training and workforce development needs of the nation (see Figure 2 trilateral partnership). The government should establish a government–industry–education provider framework to ensure training aligns with Indonesia's workforce requirements. Such a framework should also facilitate information sharing and collaboration between key stakeholders.

- d. Typically, employers expect to recruit skilled workers from the open market, instead of investing in training. Studies have shown that there are few and often diminishing returns on investment for companies to provide skills training. In other words, there is little incentive to fund general training. For companies that do provide in-house training, it tends to be conducted on a largely ad hoc basis, not meet international standards, and is not guided by specially designed national standards. Employers expressed the need to establish clear standards and certification of qualifications.
  - e. There is a reliance on external providers to help meet a company's training needs. But that has its limitations. Employers agreed that the training sector is fragmented. Its fragmentation spans a range of providers including industry bodies, universities (public and private), and even among private training providers. "We do have this kind of training," pointed out one employer, "but not many people know about it". Without a central portal or a 'one-stop-shop' where companies can source training solutions, employers must search hard.
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- a. Employers recognised a wide gap between what industry wants in terms of training and what professional and vocational skills training programs are available and delivered in the marketplace. Deliberate work is needed to create effective collaboration between education providers and industry to help fill this gap. For example, employers interviewed called for more attention by academics on people and analytical skills. High school graduates should be taught hard skills (technical training) and soft skills (such as people and analytical skills). These skills should not be taken for granted, so that industry only needs to enhance them and "not start from scratch".
  - b. More government investment and support is needed to develop education capacity and capability to help meet the growing demand for skilled labour. Employers pointed, for example, to the need for more specialist logistics schools and more trainers.
  - c. Over recent years, there has also been a growing number of universities offering supply chain and logistics management courses. Most of these courses, however, are incorporated under the Industrial Engineering discipline, others are under Business or Management or Agriculture related programs. In some Industrial Engineering programs, the supply chain and logistics management courses are positioned as a concentration. Only very few institutions have offered an independent degree program in the field of transport, logistics, or supply chain management. However, as they are still new, these programs may not be well recognised by the industry nor have international accreditation or recognition.

### **4.1.3 Addressing the skills gap in logistics education and training**

## 4.2 Curriculum

To fully benefit from the government's substantial investments in the country's training ecosystem, the rapidly changing logistics landscape will need new skills to support its expansion and growth. Innovating the training curriculum becomes an important factor in developing a competitive logistics environment. Employers interviewed recognised that Indonesia's national training system is currently inadequate. There is however recognition that under President Joko Widodo's administration, more attention is being paid to improving the system and lifting the level of skills and training for professionals.

Employers however acknowledged that demand for skilled human resources is greater than supply, especially at the managerial level, where sometimes positions go vacant for two to three years. With a short supply of managers, new entrants, such as start-ups or multinational companies are aggressively headhunting professionals. An adverse impact of talent competition, is that it inadvertently reduces the interest of companies to invest substantially in training. Even if in-house training is provided, it tends to only serve that company's purpose, that is, meeting the technical specialist requirements of daily work.

What industry says:

**4.2.1 Industry-aligned curriculum** – the courses provided by external training providers don't necessarily meet the needs of companies. Programs tend to be too theoretical and lacking practical applications. Even the range of programs on offer may not be relevant or appropriate to their training needs. In some instances, training given is 'textbook' oriented, with its use not matching the actual needs of companies. Some employers believe that the government should support training providers, including universities, to establish specialist logistics schools. The schools' curriculum should focus on logistics and supply chain and more practical, with emphasis on

best practice case studies. The curriculum should reflect the "real conditions of logistics practice". Universities should introduce logistics and supply chain as a major in the undergraduate degree, helping expose students early to the sector. Such major changes should be introduced across disciplines including business and engineering.

**4.2.2 Training support schemes** – most of the employers expressed that a lack of funding or resources to undertake training increases the skills gap within companies. Courses to upgrade skills are expensive, calling on government to further help subsidise the cost of training.





Industry aligned curriculum

Training support schemes

Job-Ready Graduates

Competent Professionals

#### 4.2.3 Job-ready Graduates

– employers identified that the lack of training of new graduates is a challenge to the sector. Recent graduates employed in some companies were not job-ready, forcing some employers to look outside the sector or country. Local graduates require a lot more training and experience when they join the company. Integrating work placements or internships, including international mobility experiences, during the student's undergraduate degree are some ways to help boost critical and employable skills.

#### 4.2.4 Competent professionals

– majority of employers identified recruiting staff with soft skills as another challenge. Some of the soft skills that were considered an issue related to the ability of applicants to communicate effectively, the ability to lead a team or group, and the ability to negotiate.

## 4.3 Standards and Body of Knowledge

There is little evidence to show that the issue of knowledge and skills standards is being addressed. There is lack of work undertaken in the development of educational standards and/or certification in the logistics sector.



**Figure 3**

Qualification Experience – five priority skills

Employers were unanimous in calling for logistics professionals to possess the basic behavioural knowledge and skills, and in some cases complementary knowledge, in addition to specific logistics knowledge. It is acknowledged that these combinations of behavioural and professional skills can be acquired through formal qualification or professional experience, which validate that overall capability. Having a description of a core body of knowledge will establish a consistent knowledge base required for logistics professionals, and clarify to employers what to expect as well as provide guidelines to educators and program designers of what knowledge and skills to deliver.

What industry says:

Employers identified five skills critical for logistics professional in Indonesia. These skills are achieved through formal qualifications (eg. certificates, diplomas, degrees) and/or life experiences.

**4.3.1 Thinking and Learning Skills** – employers listed general thinking and learning skills as important. They viewed it as fundamental an individual's ability to think and to work independently. Depending on the level within an organisation, the degree of depth in the skills become important. For example, higher up the management hierarchy, the ability to see the big picture may be more critical, while ethics, honesty and trustworthiness is required at all levels of employment.

**4.3.2 Interpersonal Skills**

– interpersonal skills was another element raised by the employers. This skill relates to the ability of an individual to be able to work with others. Examples of such skills include teamwork, negotiating skills, networking skills and knowledge of cultural differences. Similarly, employers suggest, depending on the managerial level, some skills are more important than the others.

**4.3.3 Customer and Business Skills**

– customer service and practical business skills are the third most important skills expected in all levels of professional staff. These business-related skills very much relate to the ability of an individual to conduct business with a focus on

## 5.0 Conclusions and Implications

customer service and project management. The importance of customer focus in any logistics business was very much expressed during the industry roundtable.

**4.3.4 Analytical and ICT Skills** – having analytical and ICT skills was considered important skill set for staff, according to industry employers. Digital skills and literacy are becoming increasingly important as the increasing pervasiveness of IT skills in the logistics sector. Relevant IT skills may include business-related IT capabilities and the use of common types of office applications and Enterprise Resource Planning, for such as SAP software.

**4.3.5 Logistics Specialist Skills** – logistics, transport and supply chain management specialist skills relate to the role of each logistics professional. For example, relevant skills of a supply chain manager would include an understanding of supply chain concept to the returned goods handling and reverse logistics. There was a strong desire to ensure some level of standard and certification relevant for each skill set.

The findings from the interviews and workshops of the senior executives in the logistics and supply chain industry suggest the following:

There is a consensus among the respondents that logistics and supply chain managers and operators are not adequately skilled or competent to meet the demand of the industry across all five skill sets.

- The degree of importance of the individual skills and skill sets varies among various roles and levels of management, and thus requires different levels of training.
- A greater collaboration between government agency, business, including industry/professional bodies, and academic and vocational institutions is critical in developing appropriate strategies and policies to enhance skills development.
- Development of a common body of knowledge with inputs from the industry and academia and its standardisation is vital to provide a consistent top-down approach to curriculum design or to facilitate stakeholder interaction.

Education training in logistics-related areas may include technical high school qualification, tertiary qualifications, professional certifications, short online courses and corporate training programs. The engagement of Indonesian companies in these types of training is critical to ensure they meet the business needs. Businesses need to be cognisant of the state of skills within their workforce, with respect to the capabilities of their employees and the skills required for them to facilitate innovation and growth.

## References

Butcher, T. 2007. Logistics Worker Skills for the Information Age. A Research Study sponsored by the Chartered Institute of Logistics and Transport (UK).

Gekara, V 2010, "What about skills?" A discussion of the role of skills in the strategic positioning of ports as essential catalysts of trade and economic growth., in Elizabeth Barber (ed.) Proceedings of the 33rd Australasian Transport Research Forum, Western Australia, 29 September – 1 October 2010, pp. 1–17.

Cetak Biru Pengembangan Sistem Logistik Nasional 2012, can be accessed through <http://sipuu.setkab.go.id/PUUdoc/17475/Perpres0262012.pdf>

World Bank (2014), Connecting to Compete 2014 – Trade Logistics in the Global Economy, Washington DC.

Hampson, I. 2002. "Training Reform: Back to Square One?". Economic and Labour Relations Review 13(1): pp. 149–174.

Crouch, C., Finegold, D. and Sako, M. 1999. "Are Skills the Answer? The Political Economy of Skill Creation in Advanced Industrial Economies", Oxford: Oxford University Press.

Ananiadou, K. and M. Claro (2009), "21st Century Skills and Competences for New Millennium Learners in OECD Countries", OECD Education Working Papers, No. 41, OECD Publishing.

Vinh V. Thai, Stephen Cahoon, Hai T. Tran, (2011) "Skill requirements for logistics professionals: findings and implications", Asia Pacific Journal of Marketing and Logistics, Vol. 23 Iss: 4, pp. 553 – 574.



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**Have your say!**

**If you're an Indonesian  
company operating in the  
Supply Chain and Logistics  
industry, we invite you  
to complete our online  
Indonesia Skills Gap Survey**  
[rmit.edu.au/skillsindonesia](http://rmit.edu.au/skillsindonesia)

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