Shared Services & Outsourcing in Penang

Blessing or curse for human capital issues in the regional economy?

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1. Introduction

Malaysia is caught in a 'middle-income trap' (Kharas et al., 2010). MNCs operating in the country have progressed from low to medium technology operations but not to high-technology ones. Local supply industries (e.g. related to the Electrical & Electronics industry) have not made technological advancements seen earlier in East Asia (Yusuf & Nabeshima, 2009). With respect to the middle-income trap Kharas et al. (2010) refer to Malaysia as a 'victim of its own success': its competitiveness in traditional areas is falling as wages rise. Large segments of e.g. Malaysian electronics are still oriented to the production of commodity goods, but it cannot compete against lower wages in countries such as China and Vietnam. The export performance of Malaysia has come under threat from China's increasing competitiveness in electronics and other manufactured products (Henderson & Phillips, 2007). At the same time, Malaysia has failed to develop an environment where technological upgrading and innovation can flourish enough to support higher profits and wages. The transition of Malaysia is not yet sufficient to compete with nations of superior production and innovation capabilities, such as Singapore and Taiwan.

The middle-income trap in combination with growth rates in the last decade lower than in the decades before, have raised fear of a decline of economic strength of Southeast Asian countries (Yusuf & Nabeshima, 2009). During 2000 to 2007 gross domestic product (GDP) growth was between four and six percent, while earlier rates were achieved of between seven and nine percent. This –combined with a steep drop in growth during 2008 and 2009– has given rise to considerable concern. The Southeast Asian Tigers feel threatened, even though their growth rates have remained above the average for the world and also above the average for developing countries. The underlying worry is that it presages the beginning of a downward trend.

Countries that are stuck in the middle (MICs) tend to have one or two problems (or both): cling on too long to past successful policies; exit prematurely from industries that could have served as the basis for specialisation (Kharas et al., 2010). MICs often continue to consider FDI volumes the key performance indicator for competitiveness. A shift away from assembly manufacturing and diversification (horizontal and vertical) may be adopted rather than deepening growth paths, or targeting a shift from manufacturing to non-manufacturing may take place prematurely as an adequate supply of high-quality and competitive human capital to support transition to higher value-added sectors is not yet ensured. These issues are all apparent in Malaysia as it continued New Economic Policy (NEP) strategies until the end of the 2000s despite changed conditions (Woo Wing Thye, 2009). On the other hand, Malaysia has formulated the Economic Transformation Programme (ETP) that targets to not only stop the downward developments, but also to eliminate barriers for transforming Malaysia into a high-income nation by 2020 (Government of Malaysia, 2010). Diversification into higher value-added parts of value chains is a prominent feature of the ETP; however the question is whether targeted industries/sectors will achieve the intended outcomes, in view of interaction effects with the existing economy.

1.1 Penang

The state Penang is located on the north-western coast of Malaysia (figure 1.1). The state is separated by the Penang Straits into the island of Penang and Sebarang Perai (Penang mainland) (figure 1.2). It is one of the thirteen states of Malaysia. Penang is demographically the second smallest state, holding merely six percent (or 1.6 million of the entire population, but has the highest population density (1,598 people per sq. km.) (Penang Institute, 2015). Most of the people live on the island, around sixty percent.

Figure 1.1 & 1.2: Penang located in Malaysia and the map of Penang
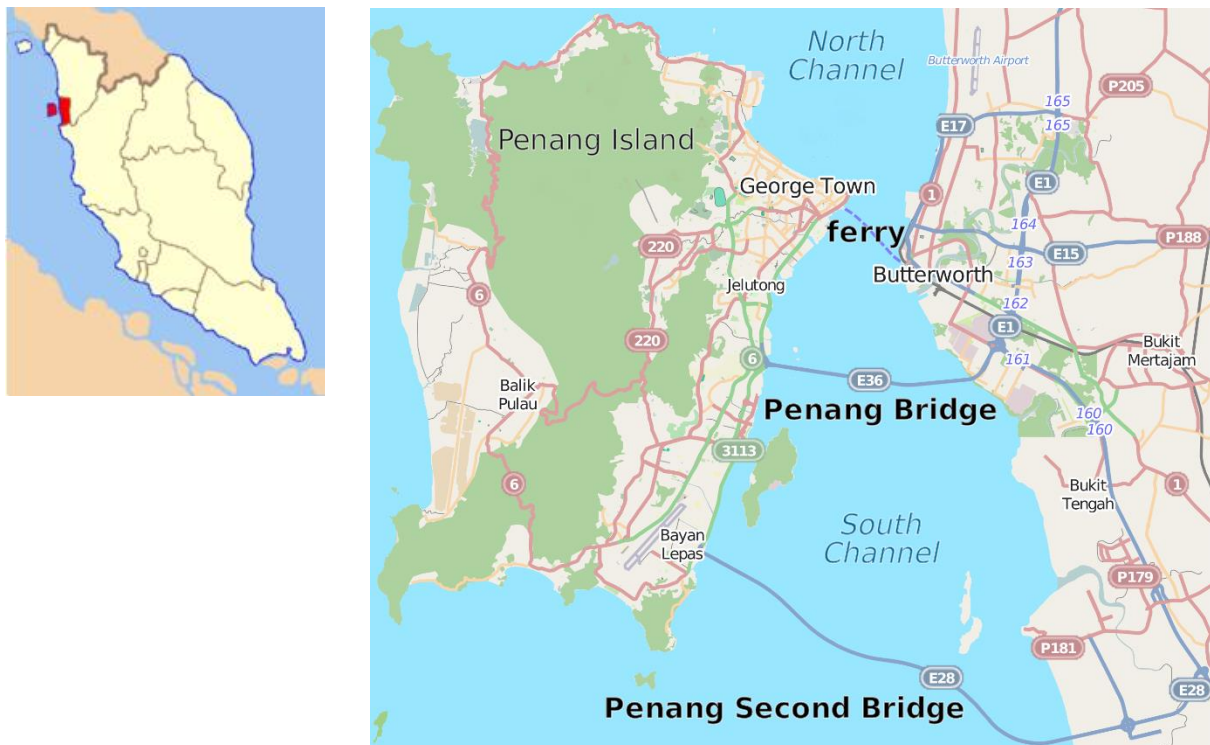
Source: Wikipedia (2015)

In the last five decades, Penang has developed into a manufactured exports hub. However, during the last decade economic growth has slowed down. Declining inward FDI, brain drain, and the insufficient development of SMEs, are some of the problems that the state is facing. The Penang Paradigm is the programme to restore economic dynamism to Penang, besides upgrade the liveability and the sustainability of natural environment, and acceleration of social development (Woo Wing Thye, 2013).

The Penang Paradigm builds on successes achieved through the policies instituted in the period of 2008-2012. It adds another dimension to Federal programmes as it also highlights deleterious effects of Federal policy regime on Penang. Three sets of policies were put into place to reduce the deleterious effects (Woo Wing Thye, 2013):

-   replacing crony capitalism with fair competition, e.g. having open tenders for public projects;
-   beginning the process of decentralising decision-making, e.g. pushing for local council elections; and
-   stopping the decline in the quality of government services, e.g. using CAT (competency-accountability-transparency) principles in governance.

As to economic dynamism the Paradigm resembles the ETP in emphasizing diversification, strikingly not only vertical (e.g. deepening MNC operations along the value chain, or more demanding industries) but also horizontal (making use of the same production factors as existing activities). There are seven areas that the Penang Paradigm seeks to strengthen. One of these is the ' *high-value modern services activities whereby it targets to become a new global centre for outsourced business processing (OBP)*'.

While a debate of what is the best way to restore economic dynamism to Penang is still ongoing, there has been limited discussion of the merits of OBP development. In fact, the decision to promote this sector –mainly by attracting foreign players– was taken prior to publication of the Penang Paradigm. It continues strategies in Penang's earlier development path (exogenous sources of growth); it also links to Malaysia's broadening of development approach of the Multimedia Super Corridor (MSC) by coupling to –and positioning as player in– globally and regionally developing OBP industry. It is

apparent that –in its diversification strategy– the state government has widened the scope, besides activities of MNCs other than production in the form of product development, towards services. The state government sees the development of a shared services and outsourcing (SSO) industry as a big opportunity. As it succeeded to attract shared service centres (SSCs) into Penang set up by reputed MNCs such as Wilmar, Citigroup and First Solar, it announced plans in September 2013 to set aside approximately 17 acres of land in Bayan Baru and Bayan Lepas as a dedicated SSO hub (Choong, 2014).

Such strategic and operational decisions are made there has been and continues to be wide-ranging debate related to human capital availability to support Penang's economy. Partly this debate pertains to long-standing issues of labour shortage and the virtues of importation of foreign labour, as well as shortages of skills and competition for skilled labour between foreign-dominated and domestic sectors. Recently, brain drain has been subjected to more intense scrutiny (Lim Kim Hwa, 2013) as options for well-trained labour have not expanded enough. So, Penang has been and is facing serious structural issues as to labour volume and skills (Kharas et al., 2010). Options for graduates to work with cutting-edge technologies, including the hard sciences (for example, with nanotechnology and grid computing), in many areas of industry, services and management have remained rather limited. Linking SSO development and human capital issues, a pertinent question is whether SSO is a 'blessing' in terms of capacity to retain talented human capital (diminish brain drain that has become more evident nation-wide) and infuse the local labour market with new supply, or whether it could turn out to be a 'curse' as labour competition is heightened through skill relatedness of jobs in SSO and other parts of the economy, resulting in diversification-induced drainage processes. The question is whether the development of the SSO industry will help to stop the drain of skilled human capital out of Penang or divert the attention away from the need to create jobs that increase options for skilled graduates.

It is not clear what kind of effects the insertion of the SSO industry into the economy of Penang has in the labour market and on labour mobility. Workers in the SSO industry are expected to possess the necessary skills. The question is which workers have these skills and whether/where these workers are found in Penang's labour market and economy. Next, what are the implications of labour transfer?

The aim of this research is to unravel the processes created by the SSO industry in the labour market and the availability of human capital in the economy of Penang. It does do this through two approaches: sector labour recruitment characteristics on the one hand, and labour mobility on the other hand. We first go into research questions, aim and relevance, approach and outline of the research.

1.2 Research questions
The theme of this research is the labour market processes created by new variety in the economy. The state government of Penang actively promotes the SSO industry and the sector is developing rapidly with the emergence of several new companies. However, the choice to focus on the SSO sector, with eventually the intention to develop to a high-income state, has been made without taking possible side-effects into account. SSO is already providing employment for more than 7,000 people and this number is growing fast. The question arises what kind of local labour market processes there are created by new variety in the economy of Penang. With this in mind is the following research question drafted:

The main research question:

What local labour market processes and labour flows are created by the establishment of the SSO industry in Penang?

In order to answer the main research question sub-questions are formulated. The focus on labour is divided into two perspectives: demand and supply. The demand of labour are the companies that are recruiting labour in the market in the form of individual workers. These individual workers form the supply of labour. Characteristics of the individual workers, among others mobility, give information about what kind of people are working in the sector, about labour flows, and reasons why employees

started working in the Penang SSO sector. The sub-questions are divided within the two perspectives: labour demand and labour supply.

<u>Labour demand</u>

What is the scale of the shared services and outsourcing operations in Penang and what kind of activities/services are carried out?

What skills are required in the shared services and outsourcing operations in Penang and how is this revealed in recruitment and employment characteristics?

What is the recruitment pattern of the shared services and outsourcing companies in Penang?

What are the attractions for workers to start/keep working in the shared services and outsourcing industry in Penang and how do these attractions differ between various SSO companies?

<u>Labour supply</u>

What kind of educational profile is common for workers in the shared services and outsourcing industry in Penang and how is this related to required qualifications of shared services and outsourcing companies?

What does employment history reveal about mobility and skill relatedness of other parts of the Penang economy in relation to the structure/functioning of the local labour market?

1.3 Research aim and relevance

The aim of the research is to identify processes in the Penang labour market as a result of new variety in the local economy. Results of this research can give insights in what kind of human capital is attracted by the SSO industry and what the implications for the regional labour market are. The state government considers the SSO industry as the right industry to help Penang develop into a high income state, but it is not clear what (side-) processes in the whole local labour market are created by the growing demand of the sector.

Other research performed about labour mobility and new variety in regional economies is available. For example, Neffke and Henning, Van Oort, and Boschma are known researchers on this subject. However, the SSO industry in Penang is a case that has rather not been researched. The scale of the industry and the characteristics of companies has not yet been mapped, and more importantly, the effects of the emergence of the industry for the regional labour market.

1.4 Approach

This research consists of the earlier mentioned two perspectives: labour demand and labour supply. The focus in the labour demand perspective is on the scale of the SSO industry and company characteristics, and on what kind of skilled labour required is in the industry. Specific cases (companies) in the industry give insights about the subjects. Labour supply is the other perspective and focuses on individual workers. Among others, workers' characteristics and the mobility pattern are discussed. In chapter 5, the methodology of this research is in more detail explained.

1.5 Outline

The thesis is divided in eight chapters. In chapter 2 the development of SSO industries in specific Asian countries –and how these differ/correspond with the development of SSO in Malaysia– is described. In chapter 3 the evolution of Malaysia and Penang during the last decades is described more in-depth and the structure of the Penang labour market is discussed. This chapter ends with an overview of the SSO industry in Penang. Hereafter in chapter 4, relevant theoretical concepts are elaborated. This eventually leads to a conceptual framework. Chapter 5 presents the methodology of this research –with among others the research methods and instruments. Chapter 6 zooms in on specific SSO companies and recruitment, attraction/retention of skilled labour, and other issues of these companies in the labour

market. Chapter 7 focuses on the other perspective of this research: labour supply. In that chapter characteristics of employees and labour mobility patterns are discussed. Finally, this thesis ends with the conclusion.

2. Shared Services and Outsourcing in Asia

Prior to the choice of the Penang state government to focus on the development of the SSO industry, other countries already made this decision. In the first paragraphs, the term SSO and typologies of SSO are explained. Hereafter the development of SSO industries in several Asian countries, next to SSO development in Malaysia, is discussed.

2.1 Shared Services and Outsourcing
SSO is the industry of both *shared services* and *outsourcing*. Both are focused on saving costs through outsourcing of internal operations, and this can be internal outsourcing and outsourcing to another company (a third party). Shared services and outsourcing are two forms of optimization of back-office functions in organizations (Marciniak, 2013). Almost all major companies are involved in some type of sourcing activities, but what is sourcing? According to Ilan Oshri (2009) is sourcing:

'Sourcing is the act through which work is contracted or delegated to an external or internal entity that could be physically located anywhere. It encompasses various insourcing (keeping work in-house) and outsourcing arrangements such as offshore outsourcing, captive offshoring, nearshoring and on-shoring.'

In the late 70's and early 80's U.S. companies centralized, as a result of cost-cutting measurements, some corporate functions into corporate headquarters (Marciniak, 2013). However, this tendency did not meet the changes on the market because the companies had to be close to their customers and markets and diversified operations were required. Therefore companies turned into diversification that satisfied market demands better. Both outsourcing and shared services appeared in this time and became popular among the U.S. companies. Outsourcing is driven by two main goals: cost-cutting and quality improvement.

Shared services models and outsourcing models largely overlap each other, but also have differences. A comparison between the two models is shown in table 2.1. Both models are organized along two decisions: one about the restructuring of internal organizational hierarchy (shared service or own-intra company) and the other about crossing the corporate boundaries (outsourcing or third-party outsourcing). This decision determines the other attributes shown in the table. So outsourcing (from now on *third-party outsourcing*) are companies that insource activities and responsibilities from other companies, like accountancy or payroll offices. Shared services is not a real model of outsourcing, because of the fact that it is 'outsourced' internal. The shared services are subsidiaries of companies that can be carried out in the same country but at a different location (on-shore), in a neighbouring country (near-shore) or anywhere in the world (off-shore). More often than not, the work is carried out in cost-efficient countries such as India, China and Malaysia.

Table 2.1: Comparison between shared service and third-party outsourcing models.

Points of view	Shared service / own-intra	Third-party outsourcing
Ownership	100% own property	No own property
Capital investment	High capital investment, all ensured by own	No initial investment
Risk level	All risks are undertaken by own, no long-time commitment	Shared risks, outcomes under agreements (costs)
Implementation speed	Long implementation time (usually 6-9 months)	Quick implementation (usually 1-2 months)
Management focus	On the operational and administrative activities	Free focus on strategy and business issues
Leverage factor	Own environment	Multi-user environment, best practice process model, platforms and cooperation

Flexibility	Less flexibility	Flexible pricing, ability to reduce size of operations
Cost management	Long-time cost reduction	High operational cost
Control	Total operational control	Very small control

Source: Marciniak (2013)

Types of shared services and outsourcing

SSO activities can be divided in different ways. One way is by the three different type of activities: business process outsourcing (BPO), information technology outsourcing (ITO) and knowledge process outsourcing (KPO) (figure 2.1). BPO is the outsourcing of back and front office functions, typically performed by white collar and clerical workers (InvestPenang, 2014). It is the contracting out of the operations and responsibility of specific business functions (or processes) to a third party service provider or to a subsidiary of the same organization (TalentCorp, 2013). Examples of BPO activities are accounting, human resources and medical coding and transcription.

ITO is outsourcing of computer or internet related work to other companies, for example: highly customized software products, development tools and web solutions. It is the use of external service providers to effectively deliver IT-enabled business processes, application services and infrastructure solutions for business outcomes. KPO is outsourcing of core information related business activities which are competitively important or form an integral part of company's value chain. Knowledge- and information related work is carried out by workers in a different company or by a subsidiary of the same organization. It could be outsourced in the same country or in an offshore location to save costs. KPO involves high-value work carried out by highly skilled staff. Examples of KPO-activities are research and development, patent research, pharmaceutical technology and market research.

Figure 2.1: *Types of activities and qualifications in shared services & outsourcing.*

Business Process Outsourcing
- Qualifications:
  - Graduate and Post-Graduate Level
- Activities:
  - Contact (Call centre)
  - Transaction processing
  - Payroll processing
  - Supply chain management
  - Finance & accounting
  - Customer relationship management
  - Human resources

Information Technology Outsourcing
- Qualifications:
  - Graduate and Post-Graduate Level
- Activities:
  - Data centre/Disaster recovery data centre
  - IT Helpdesk
  - Web solutions
  - Systems integration
  - Software development
  - DIgital forensic

Knowledge Process Outsourcing
- Qualifications:
  - Graduate, Post-Graduate and PhD Level
- Activities:
  - Legal services
  - Engineering R&D
  - Tele-medicine
  - Pharma R&D
  - Business & market research
  - Tax & Treasury
  - Equity research
  - Analytics
  - Investment research & analysis

Source: Own draft.

Another way is dividing the activities in SSO by value. BPO and ITO contain low value as well as high value activities, while KPO only contains high value services (figure 2.2). The categories are based on how much value a SSO function adds to the economy. The high value category needs higher skilled labour than the low value category.

Figure 2.2: *Three value levels of SSO.*

Source: MDeC (2015)

2.2 Development of SSO in Asia

All Asian economies are in the process of developing IT-BPO industries, but there are significant differences (Mitra, 2013). The timing of development as well as the scale and scope of operations differ significantly.

Countries with high per capita incomes typically have larger ICT services industries on a per capita basis than countries with lower per capita income levels, but it does not imply that all regions follow this pattern (Mitra, 2013). India, for example, takes the lead in exporting IT-BPO services but lags behind many economies in terms of domestic ICT spending, ICT diffusion and a wide range of other socioeconomic indicators. In large, industrially advanced, high-income economies like Japan and the Republic of Korea, the ICT service industry is to a large extent mostly focused on the domestic market. Also, remuneration levels and value added per employee are typically higher compared to middle- and low-income economies (Mitra, 2013). China, among developing countries, has the largest industry serving a domestic market for IT services. Other developing Asian countries that have developed significant IT-BPO export industries include Malaysia, China, the Philippines, Singapore and Sri Lanka and more recently also Thailand and Vietnam. Countries lagging behind in efforts to develop a more sizeable IT-BPO are among others Cambodia, Indonesia and Myanmar.

India and the Philippines in particular have offered educated human resources at low cost, attractive fiscal incentives, and industrial parks (Mitra, 2013). Although these factors alone do not explain the rapid growth of the ITO industry there, as other countries had the same strengths but failed to develop industries as rapidly. Every situation in a country has its own circumstances and peculiarities, there is no single approach for developing an IT-BPO industry.

Largest Asian IT-BPO economies
The Asian IT-BPO economies of three countries (India, the Philippines and China) are described here.

India
The IT-BPO industry in India continues to expand although at lower annual growth rates as the industry has become larger (Mitra, 2013). The industry is mostly focused on exports, but the domestic market has gradually become substantial as well. Employment reached to nearly three million in 2013, while indirect job creation is estimated at 9.5 million. Revenues has grown, as a proportion of GDP, from 1.2 percent in 1997-1998 to nearly eight percent in 2012-2013.

The success of India ensues from its early development of a large pool of technical, managerial, and entrepreneurial human resources coupled with strong external demand from the late 1980s onwards (Mitra, 2013). This gave India 'first mover advantages' in developing an export-oriented industry that initially focused on low-end IT services and subsequently also developed stronger capabilities in higher-end IT services and software, engineering services, and BPO exports. At first, the development of IT services in India was driven by foreign and local private firms, but as the industry matured many MNCs developed major operations in India at the lower as well as the higher value chain serving the global and local markets. The key factors for development in India were the large pool of educated human resources that could be hired at low cost.

Philippines
Second to India in success in developing a sizeable BPO industry and as well a major ITO industry are the Philippines. BPO has become a major generator of new job opportunities as direct, full-time employment grew from 100,000 in 2004 to 780,000 in 2012 and is projected to reach 1.3 million in 2016. Next to the direct employment, it is estimated that the industry will produce 3.2 million indirect employment opportunities by 2016. The largest parts of the industry are located in the Manila area and Cebu.

Most of the growth has so far been at the lower end of service provision as basic call centres and low-end, BPO non-voice services plus some knowledge process outsourcing (KPO) and legal service outsourcing, IT services and software, and engineering services. It can be misleading to compare the scale and scope of overall industry development with larger economies as China and India, but it is notable that the Philippines has outperformed other ASEAN countries in BPO exports mainly because of access to a large pool of service-minded people with English language and other skills coupled with the limited scope for full employment in other sectors.

China
China is well ahead of India in developing an electronics and ICT hardware manufacturing industry that serves both domestic and international markets. The Republic of China has the ambitions to be a major global participant, in terms of SSO, but it continues to lag behind India in SSO exports and has so far not been able to establish a major foothold in markets in North America and Western Europe (Mitra, 2013; OECD, 2007). The Chinese government has played a more prominent role in ICT development than the governments of other Asian economies. New plans identify promising outsourcing niches, seeks to attract new foreign investment, and intends to build ten target outsourcing cities.

2.3 Malaysia
In the last decades, Malaysia also developed a SSO sector. The emergence of the industry and the efforts of the government to encourage the development are described in this paragraph. The second subparagraph is about the ranking of the current state of SSO in Malaysia, and in the third subparagraph the Multimedia Super Corridor (MSC) Status is explained. The last section presents how the industry evolved during the last decades.

2.3.1 Emergence of SSO in Malaysia
Malaysia developed an electronics industry early on, based on multinational corporations offshoring assembly component manufacturing to serve regional and global markets (Mitra, 2013). PIKOM was formed in 1986 with the objective of creating a conducive environment for the growth of ICT industry, it aimed to be the catalyst for the growth of the ICT industry in Malaysia (Outsourcing Malaysia, 2009). The peak of the ICT development in the 90's is over and MNCs began to favour other lower-cost locations (see 'middle-income trap'). The growth of the hardware industry has slowed efforts to develop ICT services (primarily telecommunication and computer services). However, those services have become a major feature in the country's economic development with the advent of the widespread use of PC's and internet, and the surge in outsourcing services to India and other locations starting in the early 1990s. The country started to lay a foundation for the knowledge-based and outsourcing economy

in the mid-1990s by launching the Multimedia Super Corridor (MSC) and invested heavily in IT infrastructure (Chong, 2012). In the 2000s, telecommunications grew at a compound annual rate of 10.5 percent, and computer services grew at 26.8 percent (MOSTI & PIKOM, 2012).

Most of the IT-services industry has been concentrated in Kuala Lumpur and the Klang Valley. The government has made major efforts to attract investment into Cyberjaya, but also wants developments of the industry in other parts of the country. So, the government invested to develop Penang into a centre for higher-end- electronics manufacturing, engineering, IT-services and other knowledge based industries.

The biggest difference between Malaysia and for example the Philippines (and many other Asian countries) is that the government has been extraordinarily proactive and committed to investing large sums to promote electronics and ICT hardware and subsequently also ICT service industries, though to date the return on this investment has been moderate or low (Mitra, 2013). IT services, and to a more limited extent the BPO industry, have continued to expand in the 2000s and as of 2011 employed about 300,000 people directly, but Malaysia has not yet been able to match India, the Philippines or China in terms of BPO industry growth. However, Malaysia is a prominent destination in the outsourcing industry with more than 5,000 firms from over 40 countries (Chong, 2012).

It seems, when looking at the Malaysian experience, that both the government and the private sector can do a lot to promote ICT development. However, the efficacy of government intervention can be seen as one of the most important elements of success for ICT-development (Mitra, 2013). This is not only illustrated by success in attracting foreign investment and in establishing industrial parks, but also in terms of the ability to solve problems resulting from fragmentation and the poor implementation of government and public-private partnership initiatives, ineffective subsidy regimes, and corrupt practices. Although the mixed results of Malaysia in ICT development suggest that only focusing on government is not enough to enable major IT-BPO industry development. It is essential for Malaysia to educate, retain, and attract technical, managerial, and entrepreneurial talent and to ensure education and training investments are in line with industry demand. Malaysia now continues to face challenges in the scale, focus, and quality of education and in attracting and training foreign and Malaysian talent.

2.3.2 A.T. Kearny Global Services location index

Malaysia is, according to the A.T. Kearny Global Services Location Index, one of the most preferred locations for offshore manufacturing and service based operations as it is ranked third place for eight years in a row (Laudicina et al., 2014). The Asia Pacific is well represented in the ranking; India and China are heading the ranking and Indonesia, Thailand and the Philippines are the numbers five, six and seven (figure 2.3). Currently the services sector is one of the major contributors to the growth of the Malaysian economy (Chong, 2012). The sector includes IT services, SSO and regional headquarters of multinational companies. The strengths of Malaysia according the A.T. Kearny ranking are *'a politically stable, multilingual environment at reasonable rates and a good fit for the companies with mid-sized demand and a lower risk appetite'*.

Although a weakness of the country is a smaller labour pool compared to the nearby Philippines and India, the report also revealed that Malaysia has relative strength in ITO, while industry activities in BPO and voice services are rather limited (Choong, 2013). The fact that Malaysia fares substantially better than India and China in the business environment yardstick and slightly better than China in terms of financial attractiveness is interesting. But when it comes to the variable 'people skills and availability', Malaysia is outperformed by India and China by more than a full point. People skills and availability includes performance on services sector experience and quality ratings, labour force availability, education and language and attrition risk. Despite the small labour pool MSC Malaysia is expecting that there are 70,000 new jobs available by the year 2020 in the SSO sector in Malaysia (MSC Malaysia, 2014).

Figure 2.3: Top 10 of the A.T. Kearney Global Services location Index 2014.
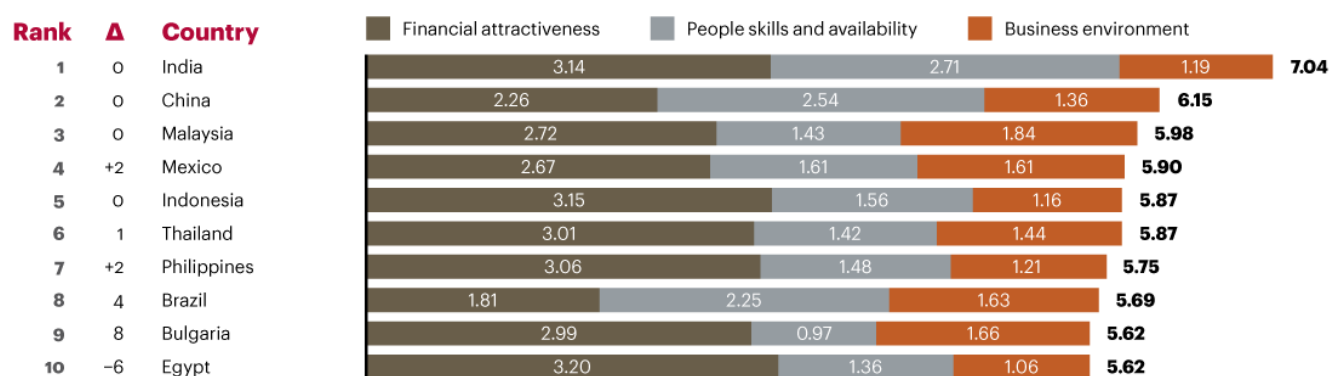
Source: Laudicina et al. (2013)

2.3.3 Multimedia Super Corridor (MSC) Status

MSC Malaysia is '*Malaysia's national ICT initiative designed to attract world-class technology companies while grooming the local ICT industry'* (MSC Malaysia, n.d.). The organisation is fully supported by the Malaysian government. Companies that open a SSC in Malaysia can get the MSC status to get certain benefits:

- Unrestricted employment of local and foreign knowledge workers
- Freedom of ownership by being exempted from local ownership requirements
- Competitive financial incentives, including no income tax for up to 10 years, or an investment tax allowance, and no duties on import of multimedia equipment
- Freedom to source capital globally and the right to borrow funds globally
- No internet censorship

Not every SSO company is able to get the MSC status, there are requirements for a company to get the MSC status (table 2.2).

Table 2.2: Requirements for claiming the MSC status

Criteria	Sector	Foreign MSC companies	Local MSC companies
Headcount	SSO	50 knowledge workers*1 in 5 years or 20 knowledge workers with average salary (>= RM10K)	30 knowledge workers*1 in 5 years or 20 knowledge workers with average salary (>=RM8K)
Exports	SSO + Data Centres	70% exports by 5th year of MSC status	20% or RM0.5 million exports*2 by 5th year MSC Status (whichever is lower)
Location	SSO + Data Centres	70% of investment*3 within designated areas located	30% of investment*3 within designated area located
Investment	Data Centres	RM 10 million capital expenditure (CAPEX) in 5 years	RM 5 million capital expenditure (CAPEX) in 5 years

Source: MSC Malaysia (n.d.). Note: *1: An individual who holds a tertiary qualification from an institution of higher learning (in any field) or diploma in multimedia/ICT with 2 years relevant experience or foreign workers with knowledge-based skills that are not prevalent in Malaysia. *2: Local SSO companies providing their services to MNCs in Malaysia shall be referred to as "exports" *3: The % is based on combination of CAPEX and OPEX investment value of the Approved MSC Malaysia Activities in the MSC Designated Area.

Special MSC Malaysia Cybercities and Cybercentres are set up to *'house companies with a MSC status, serving as a physical location and a centre to help nurture and support the growth of ICT and ICT-enabled industries and extending its benefits to the local community'* (MSC Malaysia, 2015). The reason for implementing this method of attracting similar technology companies to the same geographical

locations is to implement the concept of industry clustering (like e.g. Silicon Valley) to fuel economic growth, raising the level of innovation, development and competencies, both on a regional and national level. Figure 2.4 shows the Cybercities and Cybercentres in Malaysia.

Figure 2.4: MSC Malaysia Cybercities and Cybercentres nationwide

Source: MDeC (2014)

2.3.4 Development of SSO in Malaysia

The Malaysian outsourcing industry has been built on attracting investments in SS ('*captives'*) and third-party outsourcing operations from several leading global companies (DHL, Shell, BAT, HSBC, Standard Chartered) across various sectors (oil and gas, logistics, banks) (Outsourcing Malaysia, 2012). These leading companies have ambitious plans to expand their outsourcing set-ups within Malaysia. However, only a handful of local outsourcing companies have more than 1,000 employees with majority of them offering low value services like contact centre and data management.

Several of the technology companies have been active in the country since the early 1990s. With the formation of MSC, the SSO got a jumpstart. Several MNCs started to invest in Malaysia with setting up their outsourcing operations. Most of these centres started out as maintenance and support centres for IT operations, but they have evolved over the years to handle more complex activities (Outsourcing Malaysia, 2012). This period also saw the emergence of several SMEs focused on development, sub-contracting and maintenance of IT applications for global as well as domestic firms.

The period post-2000, BPO picked up, as both domestic as well as global companies started outsourcing these activities to Malaysian companies. Several large BPO centres now deliver activities that include finance and accounting related work. Over the last few years, several large service providers are looking to expand their services portfolio, adding newer services like HR outsourcing (Outsourcing Malaysia, 2012).

Today, outsourcing in Malaysia evolved to provide services in ITO, BPO and KPO in multiple industries (figure 2.5).

Figure 2.5: *Evolution of Malaysian outsourcing industry.*
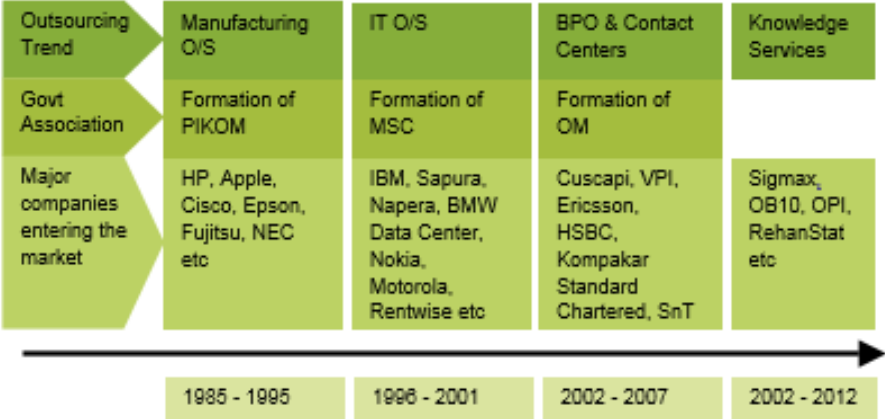
Source: Outsourcing Malaysia (2012)

About two-fifths of the total companies in the Malaysian SSO industry are non-Malaysian owned (Outsourcing Malaysia, 2012). The Malaysian outsourcing industry has attracted companies from various countries like Germany, Netherland, Finland, India, China, Australia, etc. The majority of the domestic SSO companies have less than hundred employees. Majority of the companies from US and Europe that have established a base in Malaysia have a comparatively larger employee base. US and Europe together contribute to 34 percent of the companies which have more than 1,000 employees as compared to ten percent for Malaysia.

SSO companies from the USA that have established an office in Malaysia have service capabilities in BPO, ITO and KPO (figure 2.6). More than three-fourths of the SSO companies from Europe and two-thirds from the rest of Asia Pacific offer ITO services.

Figure 2.6: *Type of service by country or origin.*
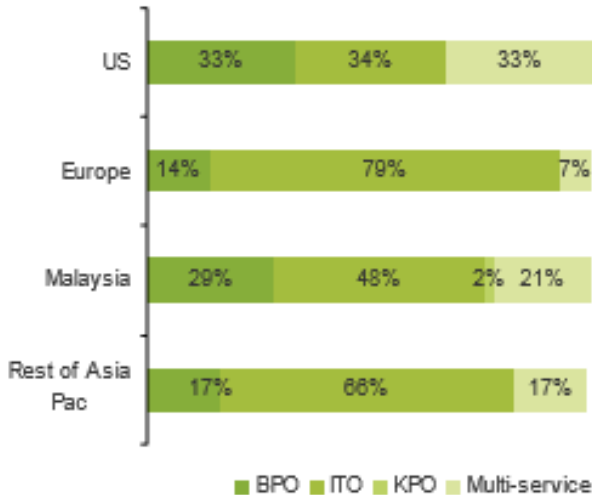
Source: Outsourcing Malaysia (2012)

Outsourcing in Malaysia is characterized by a wide variety of companies and activities. The companies can be broadly classified into three categories as mentioned in table 2.3. In this table are the third-party outsourcers divided into two categories: local and international. The international third-party players

lead the market, while domestic companies have a relatively smaller scale and offer services lower down the value chain (Outsourcing Malaysia, 2012).

Table 2.3: Types of service providers in the Malaysian SSO industry with examples of companies.

Type of service provider	Characteristics	Examples
Shared Service Centres (*Captives*)	- Fully owned by company - Companies primary looking to outsource non-core activities - Wide range of services from IT to finance and accounting to contact centres - Typically over 500 employees - Revenues ranging from $15m to $40m	BMW, Prudential, Standard Chartered, Exxon, Mobil, HSBC, DHL, etc.
Third-party Local	- Local players with strong linguistic capabilities looking to primarily serve domestic along with Asian markets - Services mostly covering contact centre, F&A, application development and information systems - Employees ranging from 20 to about 600 - Majority with revenues between $200,000 and $12m (few touching $30m)	Cuscapi, Scicom, Symphony, V-Source, Sigmax E-services, Axon, Kompakar, Zeltrans, RehanStat, Heitech, EA Consulting, Napera, etc.
Third-party International	- International giants looking to expand presence and diversify to serve their Asian clientele - An array of services in ITO, BPO and KPO based on the client requirement - Employees in the range of 50-600 with a few touching over 2000 - Revenues between $500,000 to $20m with a few crossing the $35m	Kelly OCG, Manpower, TCS, HCL, Teledirect, IBM, EDS, ACS, 3i Infotech, etc.

Source: Outsourcing Malaysia (2012)

The development of the Malaysian SSO industry in the period 2006-2011 is shown in figure 2.7. The figure shows the performance of SSO with revenue, export and the number of jobs created by SSO companies with a MSC status. The sector clearly grew in terms of revenue, export and jobs during the period 2006-2011.

Figure 2.7: Snapshot of Malaysia SSO performance in USD and number of jobs.
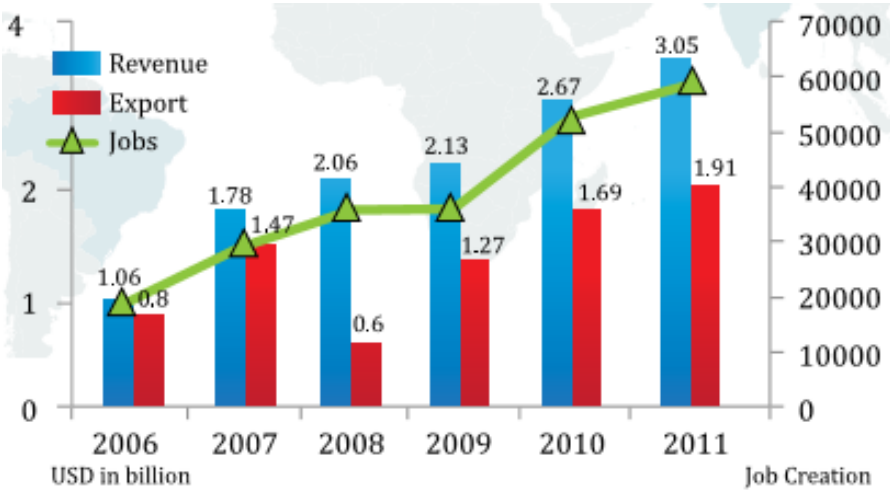
Source: MDeC (2013)

Many companies offer low-value and commoditized services have 'mushroomed'. These players mostly serve the domestic market and few clients from the neighbouring Asian market, most of them have not been able to scale up or graduate to high value services or large global clients (Outsourcing Malaysia, 2012). The future aspiration of the Malaysian government for the SSO industry is to move up the

services value chain. According to a research conducted by Outsourcing Malaysia and ValueNotes (2012): '*service providers and industry initiatives should work toward strengthening this trajectory of evolution, there is a need to identify, invest and strategize for capturing niche opportunities that fit the strengths of its industry. Rather than follow the success of large companies in India and the Philippines.*'.

2.4 Conclusion

The SSO industry consists of SS (shared services, own-intra company, captives) and Outsourcing (third-party *in*sourcing). SS is not real outsourcing, the companies are subsidiaries and fully owned by the same company. Third-party outsourcers are outsourcing companies, but these companies are *insourcing* when talking about the market where they are established.

Malaysia started to develop, like most Asian economies, an outsourcing industry. The scale of the industry is not comparable with nations as India, China and the Philippines, but there are major ambitions. The government was an important contributor of developing the IT infrastructure and promoting electronics and ICT hardware and subsequently also ICT service industries for the development of the IT-BPO industry in Malaysia.

The next chapter is about the development of Penang and how the evolution of the state's economy eventually led to the choice for promoting the SSO industry in the state. Also the structure and functioning of the local labour market is elaborated.

3. Evolution of Penang into the SSO industry and local labour market context

Malaysia gained independence in 1957. In the fifty years hereafter Penang developed in Malaysia into one of the largest global electronics manufacturing hubs (Kharas et al., 2010). In this chapter, the development of Penang, the current condition of the economy and labour market is described. Further, the emergence of the choice for the SSO industry in Penang, and the current scale and characteristics of the state's SSO industry are discussed.

3.1 National context: Malaysia into the middle-income trap

At the time of independence, agriculture and mining accounted for more than 45 percent of GDP and 66 percent of employment (Yusuf & Nabeshima, 2009). A decade later, Malaysia embarked on a strategy to enlarge the share of manufacturing in GDP and substantially augment the contribution of manufactured exports to growth. In 1971, the introduction of the New Economic Policy (NEP) underscored the role of manufacturing, and the Free Trade Zone Act of 1972 signalled the start of an effort to change the composition of exports –from rubber and tin to manufactured products (Rasiah, 2008).

To jumpstart the growth of the manufacturing sector, Malaysia, much like Singapore, needed firms that could compete in the export market and quickly ramp up their sales to the industrial countries (Yusuf & Nabeshima, 2009). Because few, if any, domestic firms had such potential, Malaysia had to provide the incentives to attract foreign manufacturers; it did so effectively, starting with the establishment of a FTZ zone in Penang in 1971. MNCs, initially from Japan and the US and later from Europe, were offered attractive terms, were satisfied by the quality of the labour force for low-tech assembly operations, and were provided the physical infrastructure to meet their requirements.

Malaysia was boosted toward a higher growth path, and by the end of the 1970s, the country was a substantial exporter of raw materials, textiles, other light manufactures, and electronic and electrical (E&E) products assembled in factories established by MNCs in Penang and in the Kuala Lumpur-Port Klang area. The GDP growth was huge and the stage was set for a virtuous spiral. FDI in manufacturing and the efforts of the Malaysian government generated some vertical links which led to the widening of industrialization.

Throughout the early 1980s, steadily rising exports propelled the expansion of agriculture and manufacturing: however, domestic demand remained the principal source of economic growth (Yusuf & Nabeshima, 2009). From about 1983 through the mid-1990s, Malaysia's growth was mainly export led, with manufactured products dominating the export mix. By 1995, a third of GDP was sourced from the manufacturing sector, which employed one-quarter of the labour force. In 1981, Malaysia was an insignificant player in electronics and machinery, but by 2002, it emerged as a main player in these products.

During the period from the mid-1970s through the mid-1990s Malaysia achieved its growth objectives assisted by FDI and a sustained increase in manufacturing exports. Export growth slowed in the mid-1990s because of rising costs and competition from China and because Southeast-Asia was slow to diversify into higher-value products (Yusuf & Nabeshima, 2009). Growth revived within a few years after the crisis in 1997 to 1998 –partly caused by weakening trade performance, and dampened investment and growth–, but it did not climb back to earlier rates. Despite the structural transformation of the economy, Malaysia has yet to build the indigenous capacity to design, to innovate, and to diversify into new and more profitable areas with good long-run prospects. Innovations remains mainly a preserve of the MNCs: indigenous firms only do very little innovation. More disquieting is the sparseness of backward links from MNC operations, which would signify progressive industrial deepening, as has

occurred in Korea and Taiwan, and is already underway in China. This lack of backward links means that domestic value added in manufacturing remains low.

The industrial economy required a lot of labour, and to avoid labour shortages Malaysia started importing low-skilled labour from other Asian countries (Henderson & Philips, 2007). Growth in the import of lower-skilled labour (largely from Indonesia) coincided with the liberalization of the economy and the boom in foreign investment in the late 1980s and early 1990s. In absolute terms, the use of migrant labour in the E&E industries mushroomed from 1,024 in 1990 to 46,470 in 1996 (10.7 percent of all employment in the sector). The availability of the foreign migrants willing to accept lower wages (Ishida & Hassan, 2000) seems to have helped many foreign firms to maintain their traditional utilization of Malaysia as a regional hub for low-cost, labour-intensive assembly of imported intermediate goods (Henderson & Phillips, 2007).

Since 2000, Malaysia's average rate of GDP growth has been more than two percentage points lower than it was during the 1990s. The efforts to promote domestic industrial links, which began in the early 1990s, has not evidently led to an innovative culture. The Malaysian government predicted that the annual GDP growth rate in 2001-2010 would be 7.5 percent, up from seven percent in the 1991-2000 period. This higher growth rate would be generated by Malaysia's transformation into a knowledge-based economy where Total Factor Productivity (TFP) would increase its contribution to GDP growth to 3.2 percentage point from 1.8 percentage point in 1991-2000 (Woo Wing Thye, 2009). This optimism in 2001 has proved to be ill-founded even before the arrival of the global financial crisis in 2008. The annual GDP growth rate turned out to be 5 percent in the 2001-2007 period. The fact that, in the same period, economic growth accelerated in the neighbouring countries of China, India and Indonesia reveals that Malaysia has descended to a much slower growth path.

Malaysia has moved from being a raw commodity exporter to an industrial product exporter, from a banana chip exporter to a computer chip exporter (Kharas et al., 2010). Malaysia has become a middle-income country, and knowledge-led growth is the next development stage for Malaysia. The country has not yet developed the creative environment in which innovation can flourish and yield higher profits and wages, and in which companies are able to move up the value chain (Kharas et al., 2010). Amid changes in the external environment, many of the policies and strategies (e.g. NEP, and focusing on FDI) that are used to achieve the current state of development are now inadequate to take Malaysia to the next stage (NEAC, 2010). Other countries have faced this situation of the middle-income trap, some have succeeded in escaping from it and gone on to become advanced economies, but others have failed and have had extended periods of slow growth.

Development policies: Economic Transformation Plan (ETP) and the Eleventh Malaysia Plan (EMP)

Four main development policies have contributed to the economic development of Malaysia during 1971 until 2020. Each development policy had his own focus (figure 3.1).

The Government of Malaysia formulated the ETP and the EMP to stop the downward developments and help the country transform into a high-income nation by 2020 (Government of Malaysia, 2010). The programme provides strong focus on a few key growth engines: the twelve National Key Economic Areas (NKEAs). These NKEAs are expected to make substantial contributions to Malaysia's economic performance, and they will receive prioritised public investment and policy support.

The ETP must eventually lead to the GNI per capita of a high-income economy, but also the structure of the Malaysian economy has to change significantly. To become the service-based economy that Malaysia wants to be, there are four focusing points (Government of Malaysia, 2010). Most important are developing the characteristics of a high-income economy –whereby among others services will account for a much greater share of the economy–, and the economy must be driven by innovation.

The EMP for the period 2016-2020 is the last programme to develop Malaysia into a high-income nation (Government of Malaysia, 2015). Most important for the SSO sector is the aspiration to produce high-value goods and services which generate the high-paying jobs associated with an advanced nation. In the services sector, there will be a shift towards modern services, which include among others Islamic finances and ICT. The question is how Penang fits into these new transformation programmes.

Figure 3.1: Malaysian development policies in the period 1971 until 2020.

New Economic Policy 1971-1990

National Development Policy 1991-2000

National Vision Policy 2001-2010

National Transformation Policy 2011-2020

The New Economic Policy, 1971-1990, focused on poverty eradication irrespective of ethnicity and eliminating identification of ethnicity by economic function.

The National Development Policy, 1991-2000, focused on ensuring the balanced development of major sectors of the economy and regions, as well as reducing socio-economic inequalities across communities.

The National Vision Policy, 2001-2010, focused on building a resilient and competitive nation.

The National Transformation Policy, 2011-2020, maintains the people-centric focus through the New Economic Model, which sets the goal of becoming a high-income economy that is both inclusive and sustainable.

Source: Government of Malaysia (2015)

3.2 Evolution of Penang as a manufactured exports hub

There are similarities in the development of Penang as a region and Malaysia as a whole, but also a lot of differences. In this paragraph the development of Penang, in the context of the development of Malaysia, is described. Box 3.1 presents a brief history of the beginning of Penang as a manufactured exports hub. In the forty years hereafter Penang's export evolved rapidly.

The 'plugging in' the global economy (box 3.1) entailed that Penang tried to strategically couple the regional economy into global production networks (GPNs) (Yeung, 2009a). Chapter 4 contains an explanation of the *strategic coupling* process. In 1971, National Semiconductor (NS) from the US was the first MNC to set up an assembly plant in Penang. After the establishment of NS, seven other MNCs (among others AMD and Intel) set up assembly plants in Bayan Lepas between 1971 and 1975 (Athukorala, 2012). These eight MNCs, which drove the industrial transition in Penang, are locally known as the 'Eight Samurai'. A network of ancillary industries began to emerge to meet the requirements of the Eight Samurai. At the beginning these supporting industries were dominated by foreign SMEs, but subsequently local firms began to emerge, most of them created by former MNC employees. The Penang Development Corporation (PDC), what was formed as the principal development agency by Dr Lim, played a critical role in the 'coupling process' of the MNCs with Penang (Yeung, 2009a).

By the mid-1980s an export cluster with a sizable number of branch plants of major E&E MNCs and a network of supporting industries was well established in Penang (Athukorala, 2012). The state had become the world's largest exporter and the third largest assembler of semiconductors after the US and Japan. However, during the first decade of industrial transition, electronics firms in Penang were almost exclusively engaged in simple downstream assembly processes in the semiconductor manufacturing chain. Only a few companies, such as Intel and AMD, had started testing facilities. Four-fifths of the workforce in 1970s and 1980s was engaged in jobs requiring little or no skills. By the late 1990s most electronic factories had fully automated and integrated assembly and testing facilities. The ancillary industries that evolved around the major electronics and auto firms expanded rapidly adding to network cohesion during this period. Some Penang firms became suppliers to other high-tech firms, operating both locally and overseas, in addition to supplying their MNC partners.

The next phase of expansion of the Penang export hub began in the late 1980s with the arrival of consumer electronics and computer peripherals. Until the late 1980s, Motorola was the only firm involved in consumer electronics assembly.

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Box 3.1: Brief history of the beginning of Penang as a manufactured exports hub

At independence, Penang's economic status was healthier than the other Malay states and comparable to Singapore and Hong Kong (Athukorala, 2012). Trade-related infrastructure was better than other parts of the country, there were well developed banking, insurance and freight forwarding services, water supply, electric power, telecommunication services and transport facilities. The early years of independence shifted the focus of economic and administrative development to Klang Valley, in particular to the new capital, Kuala Lumpur. The trade-dependent economy slipped rapidly because of the dwindled trade originating from Thailand, Burma and Indonesia, and the revocation of its free port status (inclusion of Penang into the principal customs area of Malaysia) in 1967, while the population grew rapidly as a result of the post-war baby boom. By the end of 1960s, Penang's per capital income was 12% lower than the national average. The unemployment rate reached nine percent and the population's general mood was rebellious. Penang was plagued by frequent strikes, social unrest and racial tension. New political leadership, with the election of the newly formed Malaysian People's Movement Party –led by Dr Lim Chong Eu–, ushered in an era of policy reforms, which set the stage for the emergence of Penang export hub.

In 1969, the central government engaged a US-based consultancy firm (Robert R. Nathan Associates) to analyse opportunities and challenges facing Penang's economy. The Nathan Report, or Penang Master Plan Study, called for a shift in economic structure through export-led growth strategy (Athukorala, 2012). After taking into account Penang's limited agricultural potential and lack of mineral resources, the report emphasized **'plugging in' into the global economy** based on human resources as the only viable strategy for Penang. The report foresaw the onset of an international division of labour: at the time the electronics industries in developed countries had begun to look for cheap labour doing repetitive work. Lim Chong Eu embraced the report as the blueprint for policy reforms. He selected the electronics industry as the priority sector, and the establishment of FTZs as the vehicle for attracting electronics MNCs to set up production facilities in the state. The choice of electronics was based on two considerations: its labour-intensive nature, and it was –unlike heavier polluting industries– compatible with Penang's role as a centre of tourism.

In 1971 the NEP was formulated (figure 3.1), whereby the development strategy was formulated with emphasis on export-oriented industrialization. The choice for export-oriented growth as a key element of the new development strategy at the national level greatly facilitated the Penang government's export-led industrialization move by avoiding a possible policy conflict (Athukorala, 2012). Starting with the investment by Matsushita in 1972, FDI has enabled Penang to become a manufacturing hub in E&E machinery (Yusuf & Nabeshima, 2009). Like the electronics industry, the medical device industry also started with FDI, by B. Braun in 1972. The Bayan Lepas industrial park, the first free trade zone (FTZ) in Malaysia, became a significant pillar of Penang's economy after the island lost its free port status (Kharas et al., 2010).

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From the late 1990s a number of MNCs (among others Sony, Sanyo, NEC and Dell) established assembly plants for consumer products. In the area of computer peripherals assembly, most significant was the arrival of disk drive firms starting in 1988. Between 1988 and 1991, most major players in this industry set up assembly plants in Penang. Local industry begun to produce disk drive components which require a high level of precision engineering technology.

Over the past two decades, the Penang export hub had undergone notable structural transformation driven by domestic cost pressure –mainly increasing wages and rents due to land scarcity– and on-going changes in patterns of global production sharing (Athukorala, 2012). Competitive pressure from China for final assembly has led to significant contraction in final assembly of consumer electronics and electrical goods. Companies like Sony, Dell and NEC have significantly scaled down their operations in Penang. While at the same time, firm in disk drive industry have shifted relatively more labour intensive segments in the production process to other low-cost locations (Thailand and the Philippines).

The structural shift has not resulted in a 'hollowing out' of the Penang export hub for two reasons (Athukorala, 2012). First, electronics firms restructured their operations by moving into high-value tasks

in the value chain, while shifting simple low-end assembly activities to other low-cost locations. Osram, Motorola and Altera have regional R&D hubs in Penang, and Intel, AMD and Agilent engage in supplying global SS within their global networks. Second, while the electronics industry is still the main engine of growth in Penang, in recent years the production base has begun to diversify into a number of electronics-related dynamic product lines. These include medical services and equipment, light emitting diodes (LED), and photovoltaic design and development.

So, Penang has gained a strong foothold in the development in integrated manufacturing of computer and semiconductor products. After over three decades of active promotion of the industry at both the federal and state levels, Penang is now well articulated into the electronics *global production network*s, primarily through such lead firms as Intel, Dell, and Seagate, and their different tiers of foreign and domestic suppliers (Yeung, 2015). However, despite the reasons why the Penang export hub is not hollowing out, the state's transition is not yet sufficient to compete with other nations of superior production and innovation capabilities, such as Singapore and Taiwan.

In figure 3.2 the industrial development of Penang is summarized.

Figure 3.2: Industrial development in Penang, 1960-2010.
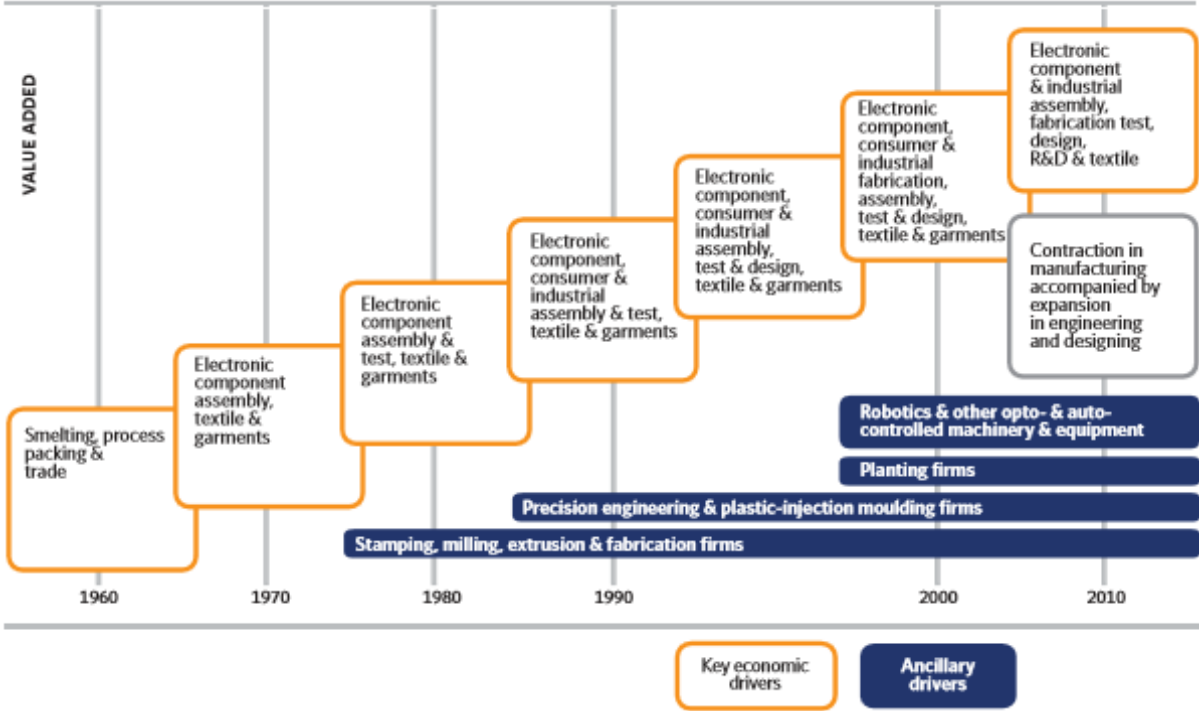
Source: Kharas et al. (2010)

3.3 Current state of Penang: middle-income trap
This paragraph describes the current condition of Penang. First the structure of Penang's economy and GDP are discussed. Hereafter the Penang paradigm and the choice of the state to focus on SSO development is explained.

3.3.1 Penang's economic structure
Penang's economic structure has substantially evolved from agricultural based activities in the 1960s, labour intensive manufacturing operations in the 1970s to high capital intensive manufacturing operations in the 1990s and into the 2000s. Penang acquired manufacturing capabilities through a concentration of MNCs operating in the electronics industry (Yusuf & Nabeshima, 2009b). Today, Penang's economy is marked by a high level of diversity. Inflow of foreign investment in manufacturing has resulted in a sizeable base of MNCs in a range of industries. Over time the composition of these

industries has changed due to amongst others changes in labour costs and state level industrial policies. Although the pull exerted by other locations in Asia, there is little risk of a mass exodus of the MNCs. Most MNCs have focused on downstream activities (in particular assembly and testing), although some engage in design and development. The reasons for establishing in Penang is that *'the quality of the workforce is at least equal with that of neighbouring countries, the incentives and overhead costs are competitive, local suppliers of components and support services are experienced and reliable, the logistical arrangements are efficient, and given the need to maintain multiple production sites so as to contain risks, Penang compares favourably with other locations in the region.'* (Yusuf & Nabeshima, 2009b). The export competitiveness of the manufacturing activities in Penang –and in Malaysia more generally– have made wages rise steadily. This is a positive development but it is undermining the 'low cost' model of development and necessitating a move up the value chain (middle-income trap). In other words, the future of the E&E engineering industry and of other industries rests upon a successful transition to profitable and higher value adding activities (Yusuf & Nabeshima, 2009b). Instead of the traditional 'high volume, low mix' production of electronic products, Penang's industry must graduate to a 'low volume, high mix' of technology intensive products –meaning that production volumes decrease and production variety increases. Since around 2000, MNCs began aggressive workforce transformation programs to accommodate activities such as R&D, order fulfilment, marketing, SS, and applications development. In addition, although still classified as manufacturing the activities carried out in a significant number of companies in several industries has shifted and/or diversified towards non-production parts of the value chain. Knowledge-driven manufacturing and service activities have gained importance. However, *'the competency gap is a very challenging one and the lack of skilled and experienced human capital continues to be a big transformational 'speed bump' for Penang.'* (Yoon Chon Leong, 2010). The challenges for local companies are even larger, they do not have the financial strength and global reach to achieve the desired transformation as quickly and effectively as MNCs. The future growth of Penang's economy also calls for further diversification of tradeable activities so as to complement the core electronics industry and nurture new leading sectors (Yusuf & Nabeshima, 2009b).

In 2015, Penang's GDP formed only 7 percent of the national GDP, but its manufacturing sector contributed nearly 14 percent of the national manufacturing output (Penang Institute, 2015). In 2013, this sector continued to contribute as the key driver in Penang's economy, it accounted for about 48 percent of the total output of RM55bil while about 47 percent of the total output was made up by the services sector. However, 2014 was the first year that the share of the services sector exceeded the share of the manufacturing sector in the state's GDP. The last couple of years, the growth already was higher as compared to the growth of the manufacturing sector, a development that is forecasted to be the same in 2016. Important to keep in mind is that the manufacturing sector is not only production and assembly, also R&D and design are part of manufacturing nowadays –the industry evolved (like described in the last two paragraphs).

Table 3.1: Penang's GDP growth and share (2014 & 2015)

Sector	Penang			
	Growth (%)		Share (%)	
	2014	2015	2014	2015
Agriculture	4.5	3.5	1.9	1.8
Mining and quarrying	14.5	13.5	0.1	0.1
Construction	0.8	-0.2	2.3	2.2
Manufacturing	4.8	3.8	47.8	47.4
Services	7.1	6.1	48.0	48.6
GDP growth/share (total Malaysia)	5.9	4.9	7.0	7.0

Source: Bank Negara & Penang Institute (2015)

So, the economic structure has evolved over the last decade (2005-2015). The manufacturing sector contributed over half of Penang's total GDP in 2005 (54.6 percent), but the share declined to about 50.7

percent in 2010, and 47 percent in 2015 (Penang Institute, 2015). The services sector, in turn, overtook the manufacturing sector and grew from 41.5 percent in 2005 to 48.6 percent share of Penang's GDP in 2015 (table 3.1). This development is rather convincing as it goes in line with the state government's initiative to converge manufacturing and services industries through SSO related businesses.

3.3.2 Penang Paradigm and the choice for SSO
The further development of Penang is being constrained by structural impediments. The state has grown strong for the last four decades, mainly driven by the developments outlined in paragraph 3.2 (FDI in the assembly of E&E products, and export of manufactured products) (Kharas et al., 2010). The negative effects on GDP growth from the brain drain, capital flight, and insufficient soft and hard infrastructure were not clearly seen prior to 1995, mainly because they had been more than offset by massive inward FDI (Woo Wing Thye, 2012). However, the post-1990 expansion of globalization to the former Soviet-Union, India and China has caused the proportion of global FDI received by Malaysia to drop significantly. Among others, this drop in Malaysia's share of global FDI share, together with the weaker financial strength of the Federal Government have brought about an investment collapse in the 2000s, thus moving Malaysia, and Penang, in the middle-income trap for the last decade and a half. Meanwhile, the low cost model of development in Penang is not sufficient anymore and only a couple of the Penang-based companies are moving up the value chain as fast and efficient as desired.

The *Framework for Creating an International & Intelligent State* (Penang Paradigm) is introduced in 2013. The global financial crisis, that started in 2008, cannot be blamed for the economic stagnation in Penang (Woo Wing Thye, 2013). The average income in Malaysia was 30.7 percent of US income in 1996, and was only marginally higher in 2007 at 31.9 percent. In contrast during the same period, Korean income grew from 49.9 percent to 61.4 percent, and Taiwanese income from 55.7 percent to 66.8 percent. The Penang Paradigm proposes policies for Penang to restore economic dynamism in the state. Programmes of the Federal government unleashed a series of new policy packages (e.g. the Northern Corridor Economic Region (NCER) development plan, and the ETP) to jumpstart the economic catch-up process in Malaysia, but these new policies are ineffective (Woo Wing Thye, 2012). According to Professor Datuk Woo Wing Thye (2012), former executive director of Penang Institute, are the new policies: *'mainly focused on ameliorating the symptoms of the Malaysian economic malaise and not on addressing the root causes of these symptoms. The Federal government has been attempting to cure the economic malaise without first identifying explicitly the specific factors that have been making the Malaysian economy sick, and then designing policies targeted at these specific factors.'*.

The Penang Paradigm introduces a new set of policies to try to offset the ill-effects caused by existing policies. The paradigm is divided in three sections: *Economic Dynamism*, *Liveability & Sustainability* and *Social Development & Inclusion*. New growth engines are necessary to revive economic dynamism in Penang, whereby the state government provides a catalyst role that enables the growth engines to appear. As to economic dynamism the Paradigm resembles the ETP in emphasizing diversification, strikingly not only vertical (e.g. deepening MNC operations along the value chain, or more demanding industries) but also horizontal (making use of the same production factors as existing activities).

Kharas et al. (2010) identified, prior to the publishing of the Penang Paradigm, six focus areas to overcome the constraints and achieve excellence, and to avoid 'blind diversification' in Penang. Many countries try to diversify their production base but do so without reference to core competencies. The result of blind diversification is often an expensive mistake, like the saying is '*by trying to be good at everything, you'll end up being excellent at nothing*'. One of the six areas is *business-process outsourcing*. The choices are based on the potential to generate scale economy, link Penang with regional and global demand as well as to build on Penang's existing strengths while offering opportunities for further technological upgrading, and moving up the value chain. Like mentioned in the introduction, the choice to focus on BPO/SSO is also one of the focus areas of the Penang Paradigm, essentially as a measure being taken to move Penang out of the middle-income trap.

Thus, the choice for Penang to focus on the SSO industry is a choice with an underlying thought. Like the chief minister of Penang, Lim Guan Eng, mentioned on the 'Penang SSO Conference 2015' is the goal to *'move further up the value chain by focusing on high value-added industries such as shared services and outsourcing'* (Lim Guan Eng, 2015). The development of SSO is seen as a way to develop Penang to a 'high income/knowledge driven economy'. So, the SSO sector needs to assist Penang to move up the value chain, but the government also claims that the state has got a lot to offer for SSO companies that establish in the state. Lim Guan Eng (2015) said the following: *'Penang has the potential to become a promising destination of choice to the SSO industry because it offers a unique value proposition especially to foreign investors. At the top of the list is the fact that Penang has world-class infrastructure, including a high-capacity digital fibre-optic network in business hubs and cities. This is complemented with a pool of highly skilled workforce with cultural adaptability, efficient transportation system and a comfortable living environment.'*.

3.4 Overview of the Shared Services and Outsourcing industry in Penang
This section describes how the SSO industry emerged and developed in Penang. The development of the industry, all the companies and their characteristics, and policies for future development of the industry in Penang are presented.

3.4.1 Development of SSO in Penang
The focus on the SSO industry in Penang started with the introduction of the MSC status for SSO companies in 2004 (InvestPenang, 2015). KPMG saw the potential of Penang as an emerging SSO city in the APAC-region in 2009 (KPMG, 2009). The company identified Penang in the report 'Exploring Global Frontiers' as one of the new emerging ITO and BPO destinations that allow companies to provide diversity to their global operations as well as to lower business costs globally. The main reasons for identifying Penang as an outsourcing hub of the future were the availability of a skilled multilingual workforce coupled with Penang's proximity to major clients.

The industry developed in two phases in Penang. At first, the companies that already had a manufacturing firm established in Penang started to diversify operations. These companies chose to open next to the manufacturing department a shared services department. Most of the companies have two main reasons to diversify their operations. The companies already knew Penang and for example the labour market and the supply of offices. Another reason is the proximity to other establishments of the company. Examples of these companies are AMD, Dell and Intel. The development of companies that diversify their operations happened at the emergence of the industry in Penang, but is still ongoing with e.g. the recent opening of Osram Global Services (2015).

The second phase saw also companies without direct ties with Penang (or Malaysia) open a SSC in the state. Companies like Citigroup and First Solar already had establishments somewhere else located in Malaysia and moved their SSO operations to Penang. Other companies like UST Global and Thomson Reuters that established quite recently in Penang have no direct ties with Malaysia and Penang.

Since 2009 the sector achieved rapid growth with the arrival of many new companies. The revenue has doubled from RM 6.39 billion in 2009 to RM 12.79 billion in 2013 in the whole of Malaysia (Lim Guan Eng, 2015). Cumulative investments of SSO companies with MSC status in Penang between 2009 and 2014 have reached RM 4.073 billion. According to Lim Guan Eng and an estimation of InvestPenang is the SSO sector providing more than 7,000 (high income) jobs to locals in 2014 (Lim Guan Eng, 2015; InvestPenang, 2015). The expected growth of the industry is sixty percent in the next three years. Penang is now the number two outsourcing location in Malaysia after Cyberjaya. The more developed SSO industry in Cyberjaya is not the only difference between the industries in the two states. Cyberjaya has a higher percentage of third-party outsourcing companies compared to Penang, which is more niche focused (InvestPenang, 2015).

Penang-based SSO companies recognize the strengths of the state (high-skilled labour, good living environment, etc.). Next to the strengths as pull factors, the state government is trying to attract more SSO companies into the state with different measures. The Penang Development Corporation (PDC) and Temasek, Singapore's sovereign wealth fund, signed a Memorandum of Understanding (MoU) in 2014. With this collaboration they agreed to develop two integrated SSO technology parks, the BPO Prime and Penang international Technology Park (PITP) (figure 3.3 and 3.4), over the next five to ten years. The two facilities will provide more than 838,000 square feet of available office space, which should create interest for companies in locating their businesses in Penang. The BPO Hub must generate some 30,000 high-paying jobs when the project is fully developed in ten years (PenangPropertalk.com, 2014).

Figure 3.3 & 3.4: Location of BPO Prime and PITP in Penang (left), source: EDI Singapore (2014) & An artist impression of the BPO Piazza and the BPO Prime building (right), source: PenangPropertytalk.com (2014).
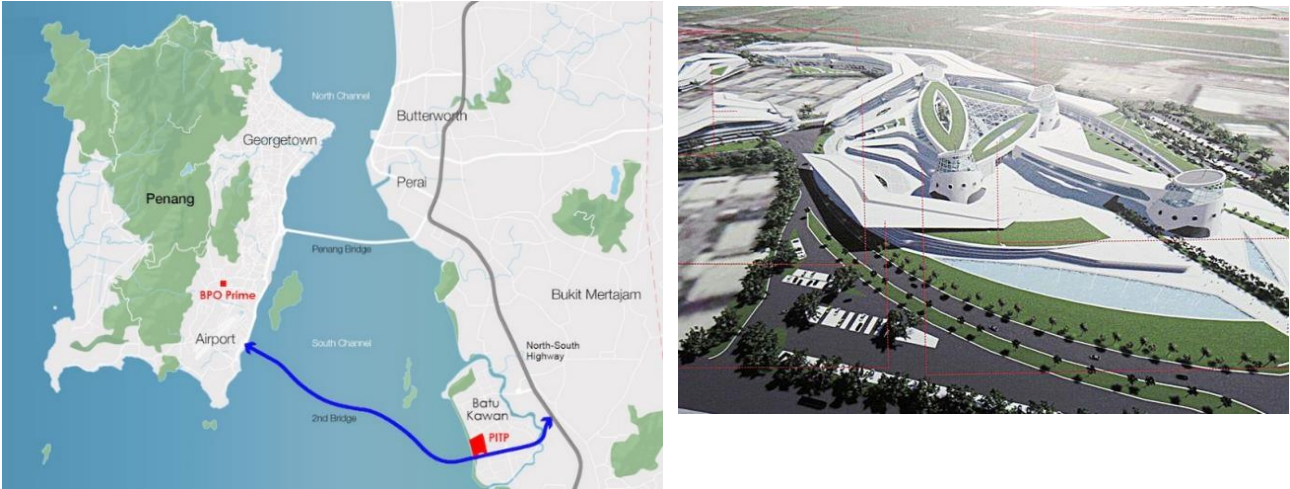
Another concept of the state government to facilitate progress towards a high-income economy is the 3T concept of Talent, Technology (IT) and Tolerance. The aim of this new concept is to 'raise high knowledge and highly skilled talents as well as retaining top talent in a creative and viable industry'. The state government already invested around RM 30 million in several projects (Penang Science Café, Penang Learning Centre, etc.) to increase the local talent pool that will be able to cater for the demand of the SSO industry.

3.4.2 Overview of SSO companies, employment and activities
Since the efforts of the state government and organizations like InvestPenang to attract SSO companies to the state, the scale of the SSO industry is growing. So far, sixty-two SSO companies established in Penang, twenty-six SSCs and thirty-six third-party outsourcing companies (tables 3.4 and 3.5). The tables also show other characteristics of the companies. The first category is based on the described categorization of BPO, ITO and KPO. A lot of the companies are classified in two of the categories because of the diversity of activities in these companies. A company e.g. performs payroll and finance services (BPO), but as well has a technical support department (ITO). In the next column, the level of the company's services is shown. The column MSC shows whether the company has the MSC status or not. The next columns show the headcount and the year of establishment of the company in Penang (if this information is available). The column after, 'Position of Penang SSC in Malaysia', shows information about what kind of services the company performs, and how the company is organized as to other establishments in Malaysia (if this is applicable).

Twenty SSO companies in Penang have MSC status, fourteen of these are captives and six are third-party outsourcing companies (tables 3.2 and 3.3). There is a huge difference as to origin in the two categories (captive and third-party). Only five of the captives are domestic. Logically, because these

SSCs are mostly MNCs that outsource parts of their operations to other countries (such as Malaysia) for cost advantages or e.g. proximity to clients. The majority of these MNCs are from the USA (fourteen). Strikingly, thirteen of the captives are companies that also have manufacturing operations in Penang. These are all companies that diversified the Penang-based departments from manufacturing only to additional services (customer services, accountancy, R&D, IT helpdesk, etc.). The other way around, first shared services and eventually diversifying to manufacturing, has not been the case yet, and is not expected to happen.

Twenty-eight of the thirty-six third-party outsourcing companies are Malaysian companies. Most of these companies perform HR or ICT services. Some of the companies began their business in the 80's with the start of ICT development in Malaysia. Other companies, like UST Global and Echo Broadband, established in Penang during the period that the SSO companies are attracted by the state government. The companies vary a lot according to the number of employees.

Only one of the SSCs is categorized as a pure low-value level company (Osram GBS). The other companies combine low-value level activities with mid and/or high value level activities. Ten of the third-party outsourcing companies offer only low-value services.

Tables 3.2 & 3.3: Origin and value-level of the outsourcing companies in the two categories.

Shared Services Centres			Level*		
	Companies	MSC	Low	Mid	High
Origin	**26**	**14**	**1**	**12**	**13**
United States	14	8			
Malaysia	5	4			
Germany	3	0			
Singapore	2	1			
Taiwan	1	1			
Australia	1	0			

Third-party outsourcing			Level*		
	Companies	MSC	Low	Mid	High
Origin	**36**	**6**	**10**	**20**	**6**
Malaysia	28	2			
United States	3	2			
Germany	1	1			
Singapore	1	0			
Netherlands	1	0			
Finland	1	1			
Australia	1	0			

*Source: database (2015), * According to highest value-level of the offered services.*

Table 3.4: List of shared service centres and characteristics								
Company	BPO	ITO	KPO	Level**	Origin	MSC	HC	Since	Position of Penang SSC in Malaysia
Agilent Technologies*	X	X		L/M	United States	Yes	30	2014***	Payroll & employee data administration Also manufacturing in Penang Other SSC (customer services) in Petaling Jaya
AirAsia Global Shared Services	X	X		L/M	Malaysia	Yes	300	2013	Only SSC: F&A processes, accounting, HR, IT helpdesk
Altera Corporation*	X		X	L/H	United States	No	-	-	Accountancy, Centre of Excellence (CoE) Used to have manufacturing in Penang
AMD Global Services*	X	X		L/M	United States	Yes	300	2004	Business services, IT support Other SSC in Cyberjaya Also manufacturing in Penang
Atmel (Arrow Components)*	X	X		M	United States	No	200	-	Head office Also manufacturing
B. Braun Medical Industries*			X	H	Germany	No	-	-	CoE, R&D Also manufacturing in Penang Asia-Pacific head office, sales office in Kuala Lumpur
Citigroup Transaction Services	X			L/M	United States	Yes	1300	2013	Two offices with transaction services in Penang
Dell Global Business Centre*	X	X		L/M	United States	Yes	600	2006 (MSC)	Also manufacturing Services & support, HR, payroll processing
EG Global (R&D)			X	H	Malaysia	Yes	30	2014 (MSC)	R&D
First Solar	X	X		L/M/H	United States	No	100	2013	Trade & cash processing centre Mid/High-level services, low level outsourced to India Manufacturing and other SSC in Kulim
HTC Global Services	X	X		L/M	Taiwan	Yes	-	2001 (MSC)	Global services Other office in Kuala Lumpur
IHS Global	X		X	L/M/H	United States	No	200	2013	Trade & cash processing centre, CoE Other office in Kuala Lumpur
Intel*	X	X		L/M/H	United States	Yes	600	2000	SSC: finance, HR, IT & planning Assembly & test site Sales & marketing office Kuala Lumper, assembly in Kulim
Jabil*	X	X		L/M	United States	Yes	600	2008 (MSC)	Technical services, accounting and maintenance Also manufacturing services in Penang
JED Centre			X	H	Singapore	No	200	2014	Design centre
Keysight Technologies*	X	X	X	L/M/H	United States	Yes	-	2013	R&D, sales & marketing Also manufacturing Other offices in Petaling Jaya and Kuala Lumpur
Kontron Asia Pacific Design*	X		X	H	Germany	No	-	2012	Customer services, R&D, design Used to have manufacturing in Penang
Motorola Technologies	X	X		L/M	United States	Yes	-	2004 (MSC)	Global strategic sourcing, procurement, customer services & design Other office in Petaling Jaya
NCS Global Technology		X	X	M/H	Malaysia	Yes	-	2014 (MSC)	IT helpdesk, application development, engineering & process design HR office in Kuala Lumpur

Company				Level	Country		No.	Year	Description
Osram Global Services*	X			L	Germany	No	50	2014	Finance, Contact & support services Also manufacturing in Penang
Penang Seagate Industries*	X	X		M/H	Malaysia	Yes	200	2009 (MSC)	IT services & support, software development, HR Also manufacturing in Penang
PMC-Sierra International	X			H	United States	No	-	2010	Payroll, customer services, International head office
Spansion*	X			M	United States	No	-	-	Also manufacturing in Penang
Toll Global Forwarding	X			L/M	Australia	No	100	-	Customer services Other offices in Ipoh, Johor Bahru & Port Klang
VADS Berhad	X			L/H	Malaysia	No	-	-	Data & contact centre Other office in Kuala Lumpur (head)
Wilmar Global Services	X	X		L/M	Singapore	Yes	200	2013 (MSC)	Only SSC: application development, F&A, software development

*Companies that also have manufacturing operations based in Penang, **L=Low, M=Mid, H=High, (MSC)=year of approval of MSC status, ***At this year (2014) the company separated from Keysight Technologies,
Source: database (2015)

Table 3.5: List of 'third party outsourcing'-companies and characteristics									
Company	BPO	ITO	KPO	Level*	Origin	MSC	HC	Since	Position of Penang SSC in Malaysia
Agensi Pekerjaan All Staff Outsourcing	X	X		L/M	Malaysia	No	-	2001	Finance, HR, payroll, helpdesk, datacentre
Agensi Pekerjaan Career Wise	X			M	Malaysia	No	-	1996	HR
Agensi Pekerjaan Zenith Services	X			M	Malaysia	No	-	-	HR
Boardroom Corporate Services	X			L/M	Singapore	No	-	-	Accounting, HR, payroll, taxation Other offices in Kuala Lumpur and Johor Bahru
CSC Malaysia		X		L	Malaysia	No	-	-	IT. 27 offices in Malaysia
Cuscapi Berhad	X				Malaysia	No	-	-	Customer service, sales & marketing, finance & accounting Headquarters in Selangor and 12 other offices in Malaysia
Echo Broadband		X	X	H	Germany	Yes	-	2006 (MSC)	Design & development, GIS, network engineering Other office in Kuala Lumpur
Encelabs		X		M	Malaysia	No	15	2006	Specify in web- or windows-bases software development
Exabytes Cloud		X		M	Malaysia	Yes	100	2001	Web hosting, servers, domain registration
Fastrack Corporate	X			L/M	Malaysia	No	-	-	Finance, accounting, HR, payroll
Fusion Data		X		L	Malaysia	No	-	2010	IT services Other office in Kuala Lumpur
Global	X	X		L/M	Malaysia	No	-	-	Finance, accounting, HR, payroll, IT
Intradeco	X	X		L/M	Malaysia	No	200	1984	IT solutions and services
IRC Global Search	X			L/M	Malaysia	No	-	-	HR, payroll, recruitment
J. Heng Corporate Advisors	X			L	Malaysia	No	-	1980	Accounting, payroll
Kelly Services	X			L/M	United States	No	-	-	Customer services, sales & marketing, finance, accounting, HR, payroll Other offices in Johor Bahru, Kuala Lumpur, Klang Valley and Melaka
Manpower Staffing Services	X			M	Malaysia	No	-	-	HR Other offices in Kuala Lumpur
MCSB Systems	X	X		L/M	Malaysia	No	-	-	HR, payroll, IT, global service desk operations Other offices in Malaysia
Mesiniaga Berhad		X		M	Malaysia	No	-	1981 (head)	Application, software & infrastructure management, managed security Headquarters: Subang Jaya, other branch office in Johor Bahru
Monster Services Group	X			L	Australia	No	-	-	Cloud accountancy
NCS Information Systems		X		H	Malaysia	No	400	-	Web design, database integration, applications programming, electronic document delivery, and e-commerce solutions
Neuvos		X		H	Finland	Yes	3	2009	Technology infrastructure, business applications & processes
Raintree Alliance	X			L	Malaysia	No	-	-	Corporate secretarial
Resoft Synergy		X		M	Malaysia	Yes	-	2010	IT service desk outsourcing, level 1 & level 2 technical support
SH Associates Consulting	X			M	Malaysia	No	-	-	Customer services, advisory on new business start up
Softegic Systems Management		X		H	Malaysia	No	-	1999	Business-oriented software solution, consulting, outsourcing, and professional services Head office in Penang, other office in Kuala Lumpur
Strateq Group	X	X		M	Malaysia	No	-	-	Industry solutions, IT infrastructure and enterprise business Head office in Petaling Jaya, other SSC also in Petaling Jaya
Symphony Corporate House	X			L	Malaysia	No	-	-	Corporate secretarial services

									Head office in Petaling Jaya, other offices in Malaysia
Synergy 101 Solutions	X			L	Malaysia	No	30	2006	Finance, accounting, HR, payroll
Technovation Consulting	X	X		M	Malaysia	No	-	-	End-to-end consulting services, IT infrastructure
Thomson Reuters		X		H	United States	Yes	200	-	Financial, risk management solutions, pharma & life sciences, tax & accounting, scholarly & scientific research
TMF Group	X			L	Netherlands	No	7	2007	Accounting, payroll, process agent, trust management solutions
Tricor Corporate Services	X			L/M	Malaysia	No	-	-	Accounting, HR, payroll Other offices in Malaysia
UST Global		X		L/M/H	United States	Yes	200	2006 (MSC)	IT, engineering
Virox Software House	X	X		M	Malaysia	No	-	2010	HR, payroll, IT, software included sales procurement
Visual Solutions	X			M	Malaysia	No	-	-	HR Head office in Petaling Jaya, other branch office in Johor Bahru

L=Low, M=Mid, H=High, (MSC)=year of approval of MSC status
Source: database (2015)

Employment
In table 3.6 employment is categorized by activity (BPO, ITO or KPO). The exact number of employees is not known, because some companies did not contribute by giving the number of employees, and of some companies only an estimation of the headcount is known. In 2015, InvestPenang estimated that the SSO industry in Penang counts around the 7,000-8,000 workers, so there is a maximum lack of 1,800 workers in this table. BPO is by far the SSO activity with the highest number of employees in Penang. In Penang, this activity mainly is focused on accountancy, payroll and other finance activities.

Table 3.6: *Employment in the Penang SSO sector (in absolute number of workers).*

Activity	Employees
BPO	4,056 (65.8%)
ITO	1,629 (26.4%)
KPO	480 (7,8%)
Total	**6,165 (100%)**

Source: database (2015)

In the period 2011-2015, the Penang SSO sector has gone through the highest growth of employment. During this period, there was an inflow of eleven companies and in 2015 nine of these companies had a total headcount of 2,410 employees. BPO contributed the most with 1,919 workers, most of them are employees of Citigroup (1,300). Thus, the emergence of the BPO companies have caused a significant increase in the demand for financial workers. The other plus-minus 500 are working in ITO (420) or R&D (80).

Doubts have been raised about the quality and longer-term prospects of employment in the SSO sector, with among others labelling the work as *'digital Taylorism that is undertaken in electronic sweatshops'* (Kuruvilla & Ranganathan, 2010; Thite & Russel, 2010). In a number of offshore service activities, workers carry out relatively well-paid activities for which they are over-qualified and this leads to an educational mismatch (Upadhya, 2008). The sector is often criticized for providing employment to only a narrow labour market segment of *young, urban highly educated people* (Beerepoot & Hendriks, 2013). Sometimes considered as 'call centre and software coolies' with previously unknown lifestyle and consumption patterns but with unclear longer-term employment prospects and opportunities for career development (Ofreneo et al., 2007).

However, it is the question whether the pessimism about SSO is applicable on the Penang SSO sector. The overview of companies presents that there is a mix of the value-level (low, mid and high) of the activities of the companies. Penang is more expensive –e.g. higher wages and office-rent– than a lot of other popular outsourcing regions in Asia, so companies generally outsource high level services for high skilled workers to Penang.

Activities
Figure 2.1 shows the differences between the categories BPO, ITO and KPO, and what kind of activities are classified in each category. Every regional/national economy can have different activities per category. Table 3.7 shows which activities there are established in Penang divided by the three categories.

Table 3.7: Activities in the Penang SSO sector by category

BPO	ITO	KPO
Accountancy	Application development	R&D
Customer services	IT helpdesk	Engineering services
Finance	Maintenance	Design
HR	SAP	
Payroll	Software development	
Planning		
Procurement		
Sales & Marketing		

Source: database (2015)

3.5 Penang labour market context

This paragraph is about the Penang labour market. It starts with labour market statistics. Hereafter, the structure and functioning of the labour market is elaborated.

3.5.1 Labour market statistics

Table 3.8 shows employment statistics of Penang. Penang has been consistently experiencing lower unemployment rates, 1.5 percent in 2014, than the country as a whole, Malaysia had an unemployment rate of 3.0 in the same period. The unemployment rate of only 1.5 percent can mean that there is a tight labour market in Penang. It could indicate that there are certain sectors with a shortage of suitable workers to fill in the vacancies. According to the chief minister of Penang, Lim Guan Eng, is Penang short of some 20,000 workers in various industries (Penangpropertytalk.com, 2014). Currently the Penang labour force stand at 823,100 people. Labour force participation rates hovered at about 70 percent in for the first three quarters of 2014. The remaining 30 percent of the workforce aged 15-64 years consisted of students, housewives and unemployed persons. Based on a sample market survey done at the end of 2014 is projected that the state will need an additional 1,000-plus engineers, more than 600 technicians and 240 accountants over the next three years (Looi Sue-Chern, 2015). Among the required key skills are computer science, software engineering, E&E, and accounting & finance, says the director of InvestPenang Lee Kah Choon (2015).

Table 3.8: Employment statistics of Penang (2014)

Labour force (x1.000)	823,1
Employed (x1.000)	810,8
Unemployed (x1.000)	12.4
Labour Force Participation Rates, LFPR (%)	70.0
Unemployment Rate (%)	1.5
Outside labour force	349.8

Source: Department of statistics Malaysia (2015)

According to the Q4 2014 Labour Force Survey published by the Department of Statistics, 61.5 percent of Penang's total working population are employed in the services sector, and some 28 percent are employed in the manufacturing sector. Given that there will be a mild shift in Penang's economic structure with the merging of services activities in the manufacturing sector, the share of labour force in the services sector is therefore expected to stay robust, while the share in the manufacturing sector is predicted to be subdued in 2015 (Penang Institute, 2015).

The majority of Penang's labour force consists of secondary school leavers (table 3.9). University graduates make up the next largest proportion consisting 28.5 percent, followed by 11.5 percent with primary education as their highest qualification. To become an 'intelligent city', the Penang state

government set up the RM20 million *Penang Future Foundation Fund* in April 2014. Such initiatives are two-pronged, primarily to help make tertiary education more accessible, but also to stem the brain drain by retaining local talents within Penang (Penang Institute, 2015).

Table 3.9: *Number of labour force by education attainment in Penang (2012 and 2014)*

	Penang (2014)
No formal education (x 1.000)	9.9 (1.2%)
Primary (x 1.000)	94.7 (11.5%)
Secondary (x 1.000)	484.0 (58.8%)
Tertiary (x 1.000)	234.6 (28.5%)
Total (x 1.000)	823.1 (100%)

Source: Department of Statistics Malaysia (2014)

The employment breakdown reflects the educational attainment of the state's labour force (figure 3.5). The number of technicians and associate professionals, professionals, and legislators, senior officials and managers is roughly in equal proportion to the number of university graduates at 28.5 percent (Penang Institute, 2015). Brain drain is one of the reasons for the lower number of people working in these sectors; it is estimated that sixty-four percent of Malaysia's brain drain is concentrated in these three sectors as stated by the World Bank Bilateral Matrix.

**Figure 3.5:** *Penang's employment breakdown by occupation (%), (Q3, 2014)*

Source: Penang Institute (2015)

3.5.2 Demand and supply, and functioning of Penang labour market
Labour market statistics, made available by recruitment agency Jobstreet, give a lot of information about the functioning of the Penang labour market. The Penang economy continues to exert significant and robust labour demand. Over the past three years (mid-2013 to mid-2015), there have been around 21,000 vacancies annually. More than a half of these have been in the manufacturing sector; electronics/semi-conductor/water fabrication has continued to account for about 40 percent of the vacancies in manufacturing (Jobstreet, 2015). Data for the top-20 specializations (functions) shows that over the same period on average there have been a hundred times more applications than vacancies (figure 3.6). There has been little variation between specializations as to this 'multiplier'. Individual vacancies therefore draw a large number of applications, though the unique number of applicants is substantially less: due to the fact that individual applicants respond to a substantial number of vacancies. The high number of applications as compared to vacancies indicates that there is excessive, or an excessive 'urge' to, mobility of workers in the Penang labour market, which is enabled by shortage. Workers apply on a lot of vacancies, probably even when they do not possess the required skills/qualifications.

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Figure 3.6: Vacancies and applications received in top 20 specializations in the Northern Region according to Jobstreet, first half 2015. If the red line is higher than the blue bar, it means that jobseekers are more active in that group, so high chance for employers to fill the vacancies.
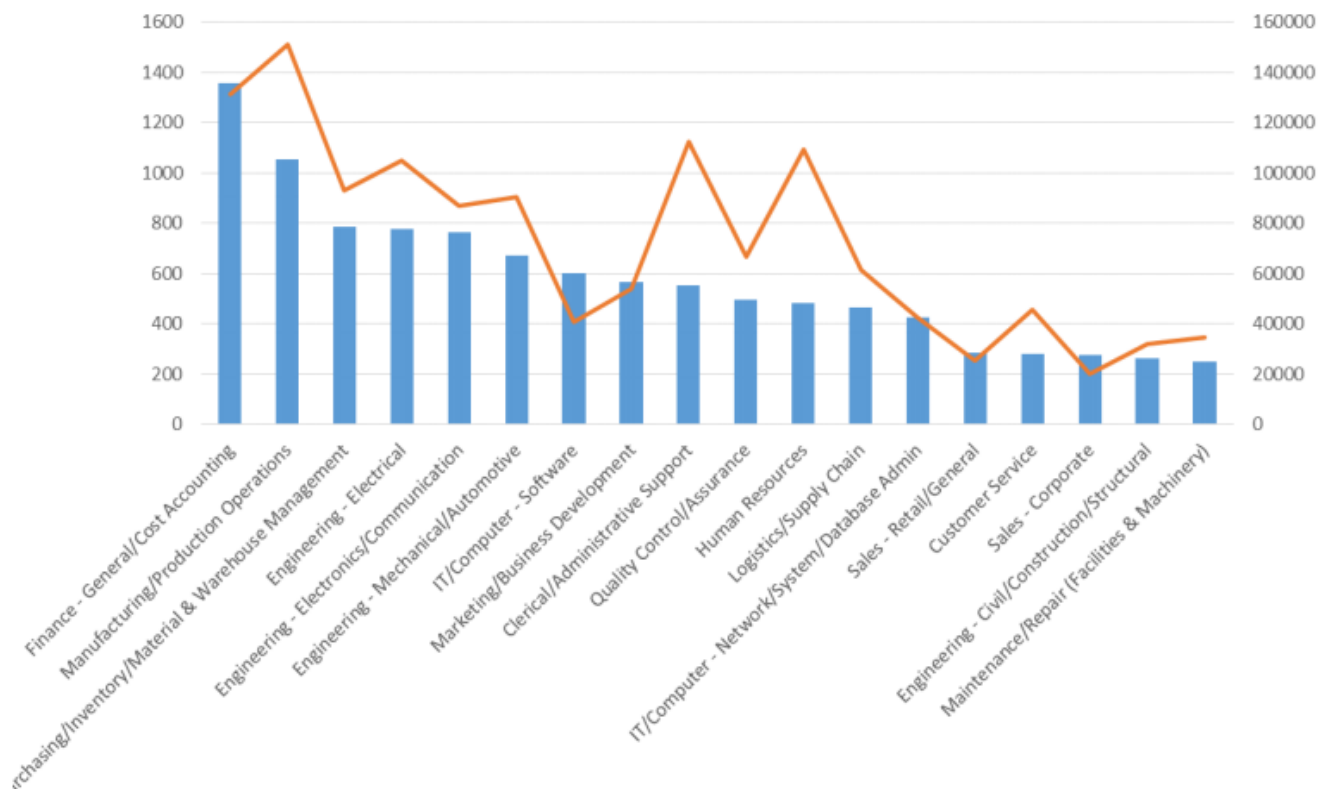
It is generally stated that the core of the Penang economy can be deconstructed into a number of clusters, some homogeneous some more heterogeneous as to firm composition. SSO companies can be 'placed' in these compartments according dominant characteristics of groups of firms. The following characteristics produce demarcations: foreign/local origin, large/small company size (headcount and turnovers), category of SSO (BPO/ITO/KPO), technological level (value-level) or sophistication of activity/operations ranging from high to low. According to these characteristics of groups of firms, the SSO sector can be 'broken down' into a number of compartments.

It seems that labour market divides occur, parallel to the compartmentalization of the economy, with sub-markets marked by differential levels of skilled labour attraction and retention. The level of attraction and retention is influenced by preferences of labour for industries and groups of firms in different 'compartments' (market preferences ranging from high to low, correlating with wage level, terms of employment, working conditions, fringe benefits and the like). But there are also other factors at play such as firm's attractiveness to labour (MNCs are often more attractive for workers as compared to local SMEs (Fields, 2009)) –especially higher-skilled– as well as firm's labour preferences (like the preferences of SSO companies discussed above), competitiveness in the labour market with respect to categories of labour (in terms of qualifications and skills), labour poaching practices, and firm responses to exaggerated labour expectations/demands. Out of a check of 'Malaysia's 100 Leading Graduate Employers' covering some 14,000 graduates from Malaysian Universities, is detected that there is preference of graduates towards working for MNCs. The top 4 sectors that are most favoured by graduates are banking/financial services, FMCG retail, energy/O&G and high-tech industry. Of the top 100 companies preferred by graduates a clear majority (60 percent) are MNCs while the remaining 40 percent are local. In the banking/financial services industry the majority of graduates prefer local firms. In the ICT sector a clear majority prefer MNCs.

Figure 3.7 shows compartments divided by attractiveness for skilled labour. Attraction/retention is based on the earlier mentioned company characteristics/preferences. In the top left corner are the most attractive companies that are able to obtain sufficient labour that suits the requirements from available supply and/or are able to dictate the conditions of employment, the latter especially if labour supply does not fully meet the requirements (buyer market). It is the other way around for the companies in the bottom right corner, employers need to meet the conditions set by labour (seller market).

Figure 3.7: *Skilled labour attraction/retention divided compartments.*

Compartments skilled labour attraction/retention
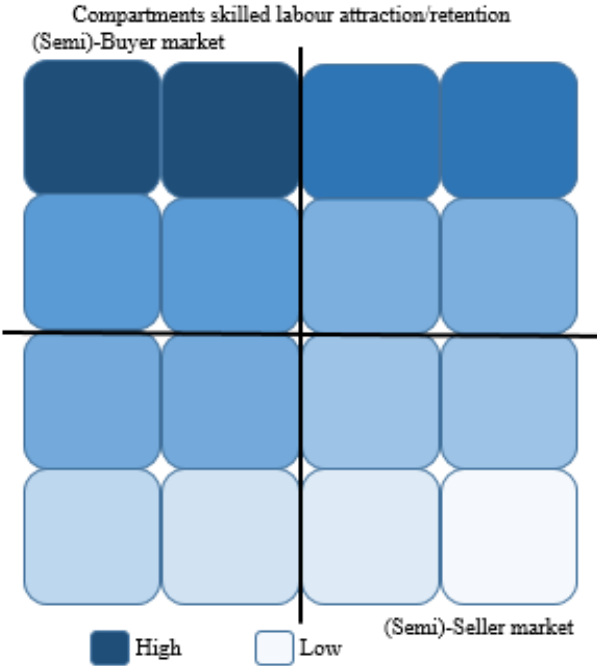
3.6 Conclusion

The evolution of Penang has come to the 'next chapter' with companies that are moving up the value chain, among others into SSO, and with other new SSO companies establishing in the state. What kind of processes there are created by the emergence of the industry in the labour market is yet the question. In the next chapter theoretical concepts about new variety and labour market processes are discussed.

4. Strategic coupling, new variety and processes in the labour market

The emergence of SSO companies in Penang has effects in the labour market; labour demand for certain workers is increasing in the local labour market. The central topic in this theoretical chapter are labour market processes that can be created by the emergence of new variety in various regional labour market structures. The first paragraph is about the concept strategic coupling.

4.1 Strategic coupling to a new value chain activity
The evolution of Penang with the industrial development through the emergence of manufacturing companies into the state is described in paragraph 3.2. These companies are attracted to Penang through *strategic coupling*. The establishment of new variety in a regional economy, can be better understood in relation to the concept of strategic coupling initially developed in the GPN genre of literature.

A key contribution of research about global production networks (GPNs) has been to 'globalize' regional development (MacKinnon, 2012). GPNs are *'organizational configurations of intra-firm coordination of economic activity and inter-firm transactional relationships that take place in two or more national economies'* (Yeung, 2015). In each global industry (e.g. agro-food, electronics, and automobiles) such production network can be identified. A production network involves a significant number of firms that are responsible for different functional segments of global production, ranging from initial resource extraction to the entire manufacturing process, and equally important, service inputs. In its *World Investment Report 2013,* UNCTAD (2013) estimated that some eighty percent of international trade was now organized through GPNs, co-ordinated by lead firms investing in cross-border productive assets and trading inputs and outputs with partners, suppliers, and customers worldwide.

In figure 4.1 the relations between regional assets, regional institutions and GPNs are shown. Regional institutions and assets are historically and geographically specific such that they cannot be easily reproduced and transformed within a relative short period of time (Yeung, 2015). In other words, there is a certain degree of mutual path dependency in regional institutions and assets. GPN dynamics are much less governed by pre-existing institutions at the regional or even the national level. Instead, these dynamics are primarily constituted by economic actors such as global lead firms, strategic partners, specialized suppliers, industrial and final customers, and so on. These economic actors are mostly driven by the competitive logics of seeking cost efficiency, market access and development, capital gain, and risk minimization through GPN organization.

Both regional assets and institutions play an important role in the attraction of new variety/actors in GPNs to the regional economy. Regional assets in the form of specific kinds of knowledge, skills and expertise; which must be harnessed by regional institutions to 'complement the strategic needs of multinational actors situated within GPNs' (MacKinnon, 2012). Strategic coupling is the process of coupling between the regional assets and GPNs, or in other words: *'strategic coupling is defined as a mutually dependent and constitutive process involving shared interests and cooperation between two or more groups of actors who otherwise might not act in tandem for a common strategic objective'* (Yeung, 2009a). The process of coupling regional assets with strategic needs of GPNs depends critically on the bargaining and co-operation relationships between regional institutions and key actors in GPNs (see figure 4.1). The effects of strategic coupling are not always positive, in box 4.1 is more about the negative –or 'dark'– sides of strategic coupling elaborated.

So, selection is a two-way process; regional institutions seek to foster and harness regional assets in order to attract inward investment, and lead firms effectively select regions for investment according to the degree to which regional assets fit with the strategic needs of the firm in question (Coe et al., 2004). In favoured regions the regional assets attract the GPNs without the necessity of regional institutions,

while in less favoured regions the regional institutions a more important role in the coupling process play.

Figure 4.1: Process of strategic coupling between regional assets and regional institutions and GPNs.
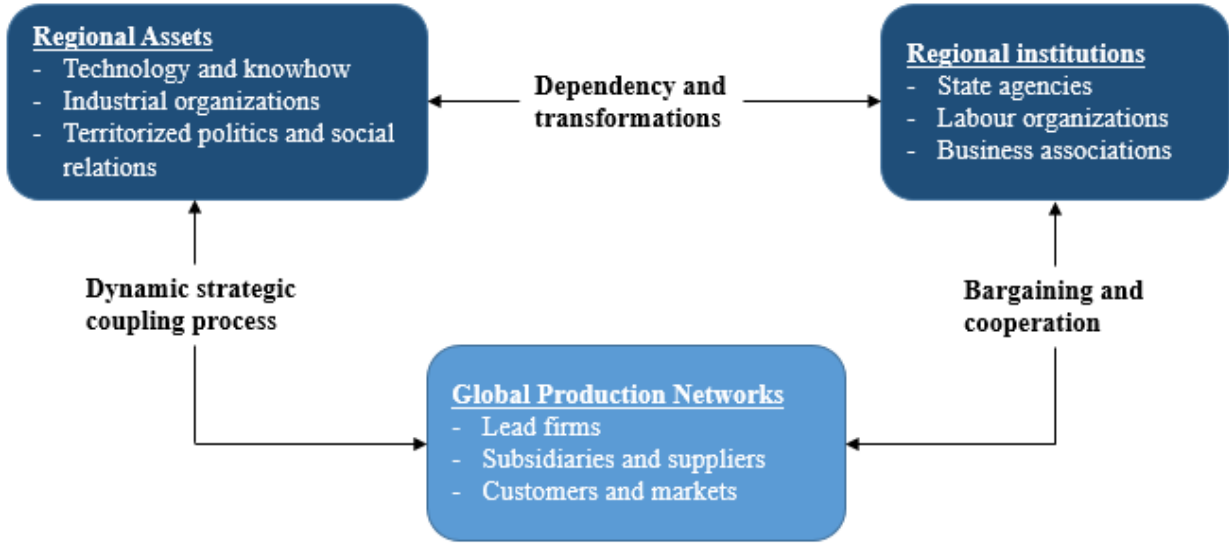
Source: Yeung (2015)

Box 4.1: 'Dark sides' of strategic coupling.

Strategic coupling may also lead to negative consequences for regional economies, termed as the 'dark side' of strategic coupling. Argued by Coe and Hess (2011), *'the embedding of GPNs into regional economies is of course no guarantee of positive developmental outcomes, even if the results in new or enhanced opportunities for value capture at the local level… In other words, although the articulation of regions in GPNs can produce significant economic gains on an aggregate level, in many cases it also causes intra-regional disarticulations, for instance, through uneven resource allocation and the breakup of existing cultural, social and economic networks and systems.'* One of the greatest dangers of strategic coupling in GPNs is external path dependency and regional 'lock-ins' (Yeung, 2015). This dependency is particularly troubling if a region is locked into a 'race-to-the-bottom' pathway to industrial development and social upgrading. The dark sides are most apparent in the 'production platform' mode of articulation into GPNs ('structural coupling'). The lack of indigenous technological capabilities and lead firms in such regions, has compelled them to take the low road to industrialization and strategic coupling. Their strategic coupling in GPNs through serving as production platforms can be considered relatively successful, but there is no doubt that these regions exhibit a much wider range of ruptures (e.g. divestments, financial risks, and limited local linkages) and friction (e.g. external path dependency, labour exploitation, and social and class conflicts).

4.2 Main concepts to explain labour market processes

For a better understanding of labour market processes, it is necessary to explain important concepts.

4.2.1 Skills and knowledge

The first concept is skills and knowledge. Key regional assets in growth regions include the presence of prestigious research universities, an attractive residential environment for creative workers, and most importantly the availability of pools of skilled labour (MacKinnon, 2012). Skills and knowledge of workers determine how skilled a region's labour pool is, and are important for the coupling of labour demand (skills- and knowledge requirements of companies) and labour supply (available skills and knowledge). Still, the concepts skills and knowledge are both rather vague. In this section we discuss several relevant aspects of skills and knowledge: first, definitions of skills and knowledge, and second, typologies of skills. Hereafter, an explanation of the term *skills shortages* is presented.

Definitions of skills and knowledge

Skills can be described as 'developable' knowledge, capabilities, attitudes and values which contribute to the realization of goals through individual action (Van den Berge et al, 2014). To perform a particular task, a person who possess such a skill is likely to carry out this task more productive than someone who does not possess this skill. The sources of skills acquired during an individual's life are diverse: among others the upbringing (home environment), education (primary and secondary schools, universities), and on-the-job training. Notwithstanding the importance of formal education, but people acquire many of their distinct skills through imitation and learning-by-doing (Polanyi, 1959). Education or training can be seen as an investment whereby the expected returns are higher than the expected costs (Becker, 1964).

Knowledge is the result of an interaction between intelligence (capacity to learn) and situation (opportunity to learn) (Winterton et al., 2005). Knowledge includes underpinning theory and concepts, as well as tacit knowledge gained as a result of the experience of performing certain tasks. Understanding refers to more holistic knowledge of processes and contexts, and may be distinguished as know-why, as opposed know-that. A distinction is often made between general knowledge, which is essential irrespective of any occupational context or basic 'life' knowledge, and knowledge that is specific to a sector or to occupations (Winterton et al., 2005).

It is argued for some time already that –as economic organization and technology evolves– skills beyond 'learned knowledge' are becoming more important. Therefore it is important to discuss skills typologies.

Typologies of skills

The concept of skills is still broad. A lot of typologies make the concept more concrete. A first, natural, distinction is to look at the *area* where skills are used (Van den Berge et al., 2014). Hereby is taught in terms of tasks, like IT-tasks and technical tasks. IT-skills are often general and can be used in different areas, while technical tasks are more specific. Another typology used here is the distinction between general and specific skills. General skills are *transferable* and generic in nature across a range of different occupations in diverse firm groups, skills such as: basic literacy, interpersonal skills, team work, etc. These transferable skills are generic, whereby one can think of across positions/jobs, occupations, firms/employers in the same industry, industries and regions. Job-specific skills are linked with particular positions either specific to an individual employer or applicable across employers. Transferable skills are important with respect to, opportunities for, labour mobility (introduction of labour mobility, see box 4.2). Workers will often avoid skill-sets that are too employer-specific (unless there is sufficient reward), because job-specific skills are often only transferable between firms in the same branch/industry.

Another popular distinction is in term of *disciplines*, like cognitive, interactive and physical skills. Cognitive skills are linked to learning in a broad sense, like problem-solving skills but also the learning of new skills, and for example reading and writing. Interactive, or interpersonal, skills are focused on communication with others (with all stakeholders), while physical skills relate to body strength.

One of the most common typologies is the distinction between *hard* and *soft* skills. Hard skills are teachable abilities or skillsets that are easy to quantify, e.g. proficiency in a foreign language, a bachelor's degree, and ability to work with Excel. These are specific, teachable abilities that may be required in a given context, such as a job application, and are relevant to a specific job. The soft skills relate to interactive skills, e.g. communication skills, teamwork and flexibility. It is a lot more difficult for employers to find an employee with the right soft skills because these skills are not easy to 'measure'. Job-specific skills, or hard skills required for performing the job, are probably more required for jobs that require experienced workers.

For every type of skill is also the level of commanding and applying it important, ranging from basic to advanced whereby application or performing of tasks become more routine, or knowledge/expertise

applied is more complex. More complex skills will generally take more time and investments to pick up than less complex skills.

Interrelationship between occupation, qualification and skills
Different levels as to each of the types of skill is also reflected in occupation and occupational classification (ranging from unskilled to highly skilled). Occupations are marked by specific, and at times unique, skills profiles. So are job-functions. There is therefore an association between job-function and occupation. Obviously formal, educational, qualifications enter here as bearing on hard skills. Occupations are often defined along two dimensions: a) a set of tasks done by a person occupied in it, b) a bundle of skills a person is supposed to or should possess in relation to qualifications. Conversely, skills-sets and qualifications are often framed in terms of occupations.

It used to be that you trained for a given occupation (nurse, engineer, etc.). Within that occupation, individual jobs were almost the same and were performed in similar environments using similar tools (ESCO, 2015). However, the boundaries between occupational categories have become less standardised and alike. Within one occupation, the skills needed for a specific job can vary tremendously. It is not anymore the qualification/occupation that employers want to see. No longer is the question; *are you a fireman?*, but rather; *can you work with a search and rescue dog to find earthquake victims?*. Thus in terms, specific skill-sets are becoming more important to use for e.g. recruitment than an overall occupation.

Skills shortage
Skills shortage is a characteristic of industries, sectors and/or economy at large (=external) denoting the absence of sufficient workers with desired/demanded/needed skills. Referring to the skill deficiencies of the potential workforce. UKCES (2014) defines skills shortages as occurrences where *'organizations cannot recruit sufficient people who are appropriately qualified, skilled or experienced to fill the vacancies they have'*. An important indicator of skills shortage therefore is so-called skills shortage vacancies or –a more common term– hard-to-fill vacancies. Thus, particularly a shortage is always associated with the difficulties in filling vacancies, and the vacancies may remain unfilled for a certain period. Much of the literature argues that skill shortages are occupation and industry specific, and it makes less sense to refer to skill shortages across the economy (MAC, 2008).

Skills shortages occurs when the demand of workers with needed skills profile and level, or for a particular occupation respectively, exceeds the supply of workers who are qualified, available and willing to work at the offered wage (Shah & Burke, 2003). It is sometimes argued that skills shortages only occur at a given wage as a rise in wages for that occupation to an appropriate level will clear the market, although this may take time.

Two further concepts in relation to skills shortage should be referred to here, namely *recruitment difficulties* and *employability*. Recruitment difficulties again is a firm/industry branch characteristic: firms and/or agencies cannot fill vacancies because of inadequate skills supply, or –in spite of adequate supply– due to: remuneration level, working conditions, image industry/firm, working hours, location, skills specificity, irrespective whether the labour market is constrained or not (but more often in case of a constrained and competitive labour market). Practically, recruitment difficulties are also hard-to-fill vacancies that experienced by a limited number of firms only (Shah & Burke, 2003). *Employability* is a worker characteristic pertaining to ease of being employed or finding a job given skills-set in relation to characteristics of the economy and overall labour market. In the next sub-paragraph, different labour market structures are explained.

Box 4.2: Labour mobility

Labour mobility is an important factor for processes in the labour market, because mobility connects employers (labour demand) and employees (labour supply). It is a process that is always ongoing in the labour market; companies are looking for new employees and employees for better opportunities. Employees could have different reasons to change to another job, e.g. higher wages, better working conditions, or a better contract. Most of the time employees change voluntary from job, but it could be a forced movement when employees get fired and turn jobless. Movements within the labour market allow workers to be matched with a suitable job that fits their preferences and in which they are economically productive (D'arcy et al., 2012). There are basically seven flows of jobs: flows from unemployment to a job and vice versa, flows from non-participation to a job and vice versa, flows from unemployment to non-participation and vice versa, and flows from job to job. Flows from job to job can be divided in changes in the location of workers across physical space (geographical mobility) and across a set of jobs (occupational mobility) (Long & Ferrie, 2006). The process of matching workers to jobs is influenced by a range of factors, including the career and life-cycle considerations of workers (which determine their job preferences) and economic developments, acquired skills and knowledge, including the business cycle and structural change (which determine the number and types of jobs available in the economy).

The decision to move to another job, broadly, depends on two factors: the desirability of a job and the ease of movement to other jobs (March & Simon, 1958). The desirability of a job is related to the degree of satisfaction with someone's current job. Satisfaction is based on aspirations (a subjective expectation) and opportunities (representing to objective opportunity set). The basic rationale would be that when the actual state differs sufficiently from the desired state, this generates job dissatisfaction, which when coupled with available opportunities would in turn trigger a job change (Eurofound, 2007). Mobility allows for improvements in the economic circumstances of those whose skills or aspirations are a poor match for the job or location in which they find themselves.

The ease of movement to another job depends for a large extent on the similarities among acquired skills and the skill requirements of another job. *Human capital* is often treated as if it were readily quantifiable, for instance by numeric values that reflect educational attainment or the number of years of work experience (Neffke & Henning, 2012). However, human capital is no homogenous quantity, it consists of sets of heterogeneous skills. It is therefore more appropriate to discuss human capital in terms of *which skills* an individual possesses rather than in terms of *how many skills*. People establish skill portfolios that reflect their work experience. This way, skills can be associated with specific jobs, and human capital must be viewed as highly specific in a number of different ways. Becker (1964) highlighted the firm-specificity of human capital, and more recently Neal (1995) and Parent (2000) showed that human capital is often specific not only to a firm but also to an industry. The current consensus in labour economics seems to be that human capital is *neither fully general nor completely job-specific*.

Human capital specificities may constrain labour mobility, because changing jobs may 'destruct' certain skills (Neffke & Henning, 2012). However, because human capital is to some extent replaceable, the destruction of human capital associated with job switches may be reduced if workers search for employment in industries that value skill sets similar to those used in the workers' current industries. And moreover, employers will prefer to hire employees who possess the right skills for a job. So, changing to another job with different skill requirements will be valuable for the individual worker and for the employer (Neffke & Nedelkoska, 2012). The worker needs to invest in new skills and the other skills are getting less trained, and the employer will have costs for retraining of their new employee. Thus, labour flows should be stronger among occupations whose human capital is more interchangeable, among occupations that are *skill related*.

4.2.2 Labour market structure and situation (constrained or abundant)

The labour market processes that are created by new variety in a regional economy are dependent on the structure of the labour market. The attraction (and degree of retention) of a job depends to a large extent on the preferences of a worker for specific segments of the economy and/or employers, and conversely employers also may have specific worker preferences (certain demographic or ethnic groups, and skill requirements). On a perfect competitive market this would not be the case, but if there are segments that

show differential characteristics in terms of attractiveness –and wage, competitiveness, etc.–, than the labour market structure reflects tendencies in the economic structure and industries towards *segmentation* or *compartmentalization*. A competitive, segmented and compartmentalized labour market structure are outlined below.

Competitive labour market

At the core of neoclassical economics is the model of competitive markets (Kaufman, 2006). The competitive model gives rise to one of the most important diagram of modern labour economies: the diagram of wage determination by supply and demand (figure 4.3). A labour market presumes the existence of an employment relationship: firms are the employer who go to the labour market and hire people as employees to provide a certain amount of labour services and follow the direction of the employer in return for a reward per time period. In a constrained competitive labour market (demand>supply) it is more difficult for companies to attract employees and wages will be higher, while this is the opposite in a competitive labour market with a labour surplus (demand<supply). In this model, the only difference between different workers' wages and conditions arise from individual differences in their human capital (skills, experience, qualifications, etc.) or preferences. Those who prefer risky or dirty jobs receive higher wages than those who take safe or clean ones. So, differences in compensation for labour arise only on the supply side.

Many labour economists confirm the idea that employers set the terms of employment while workers choose among available offers (Mortenson & Pissarides, 1999). The presence of search friction in the form of incomplete information on the workers side about specific employer offers is a source of monopsony employer power in this setting. The model's structure is asymmetric in that it gives the power to set wages to the employer. Unlike the standard model of static employers monopsony, an employer's market power is constrained by competition with other similar employers over time. The basic idea is that employers post wage offers and workers seek the highest offer. Each employer chooses a particular wage policy, say to be either 'high' or a 'low' wage firm. Those that offer high wages are more attractive to outsiders and retain insiders more readily. Facing the same trade-off between wage, size and quit rate, some choose the high wage even though profit generated per worker is lower, making up the difference in higher volume. More productive firms can find it profitable to acquire more workers by outbidding their less efficient competition.

In a perfectly competitive labour market, where the wage rate is determined in the industry, rather than by the individual firm, each firm is a wage taker. This means that the actual equilibrium wage will be set in the market, and the supply of labour to the individual firm is perfectly elastic at the market rate.

Segmentation

Models that assume that everybody who works, participates in a single undifferentiated labour market are unrealistic (Fields, 2009). A better description is that jobs differ in quality and these different groups of jobs are 'segments' or 'sectors'. In case of labour market segmentation there is an extreme separation between the different segments. A segmented labour market has two characteristics: (1) jobs for individuals of a given skill-level differ in terms of their pay or other characteristics, and (2) access to the more attractive jobs is limited because not all who want the better jobs can get them. So a segmented labour market is not only based on wage differences between sectors. Even if the market is competitive as a whole, comparative advantages remain for almost all workers (Magnac, 1991). Neither observable wage differences or potential wage differences should be taken as evidence against the motion that the labour market is competitive. In the theory of labour market segmentation, there exists important differences on the demand side which imply differences in wages and the like that are not explained by individual workers' characteristics.

Segmented labour markets can be conceived most simply by distinguishing two labour market segments, top and bottom (Fields, 2009). A realistic assumption is that all who participates in the labour market want the jobs in the top segment, but on one hand; in an *ample* market there are not enough of such jobs

(only available for a small part of the labour force) and on the other hand skill requirements and employer preferences probably render a large part of the supply ineligible. The result may still be upward pressure in the top segment if those who meet the requirements are able to command a premium. Those who do not meet skill and other requirements may still be hired at less favourable conditions. In case the suitable supply in the top segment is too constrained employers may be 'satisfied' with below optimal skill profile while playing the 'advertised' wage. In an ample market those who initially don't manage to get employed in the top segment may wait for new opportunities, shift to the bottom segment, remain unemployed, or may move out of the labour market area. Figure 4.2 shows a graphic of a segmented labour market. In a market where the best skilled and most preferred workers are fully absorbed by the top segment, the bottom segment is confronted with a range of labour dilemmas and may easily perceive shortages that translate in actual gaps in case labour needs are identical to those in the top segments. Labour markets with just two segments are called dualistic labour markets. When two sectors are not enough, than 3- or *n*-sector structures may also be conceived.

Figure 4.2 presents the discussed situations in a dualistic labour market; too constrained supply of the top segment (left) and labour supply in an ample labour market (right). The arrows indicate labour flows from labour supply to companies (demand) differentiated by segments (top and bottom), based on preferences of workers and companies. All the workers want a job in the top segment, and all companies prefer high skilled workers. When labour supply in the top segment is too constrained, the employers may be satisfied with people below the optimal skill profile or they try to attract workers from outside the local labour market. The cause of the constrained supply in the top segment can be a real shortage of high skilled labour, but another cause can be low skill relatedness of the high educated workers and industries/functions in the top segment. It is the other way around in an ample labour market, high skilled people may be satisfied with jobs that require skills below their level and wait for the opportunity to pick up a job in the top segment, or may move out of the labour market area.

Figure 4.2: Dualistic (segmented) labour market, with on the left too constrained labour supply for the top segment, and on the right labour supply in an ample labour market. The arrows indicate preferred/expected labour flows (the two large arrows indicate the assumption that all workers want a job in the top segment). The dotted arrow on the left indicates skilled labour that might be attracted from outside the local labour market, while the dotted arrow on the right indicates skilled labour that might move out of the local labour market.
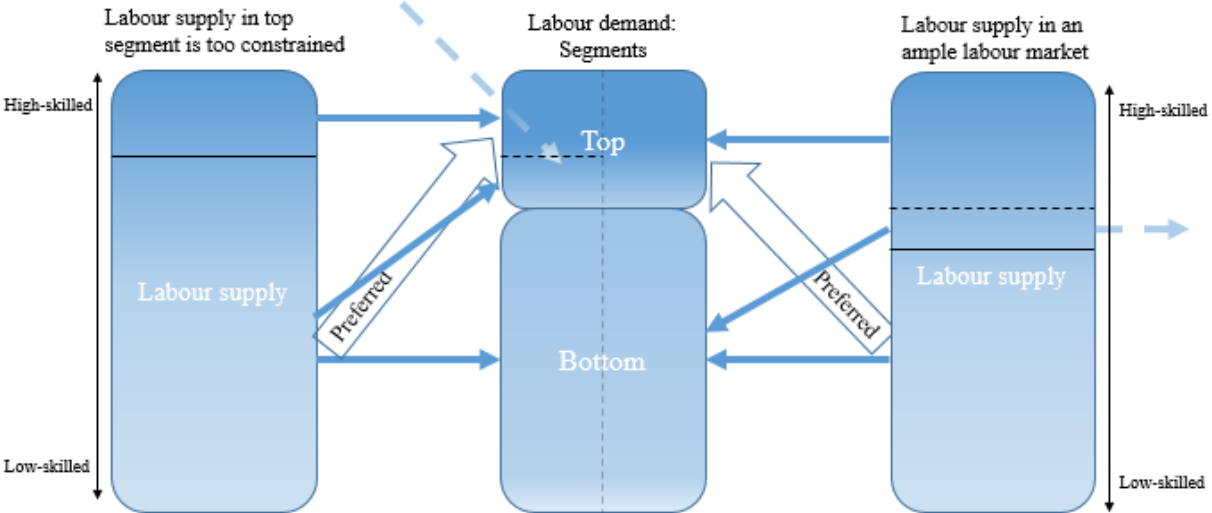
Source: Own draft (2016)

Complementarity
Complementarity in the labour market is less 'extreme' than labour market segmentation. There is complementarity when there is low interaction between compartments because skill requirements of the

companies are very different. This difference of skill requirements produces less competition and denotes low skill relatedness between jobs in the local labour market.

### 4.2.3 Wage clearing model

Wage-clearing models simulate the process of wage determination in different labour markets. The diagram of wage determination by supply and demand in a perfect competitive market is presented in figure 4.3. Box 4.3 presents wages set by other forces than demand and supply. The three essential features of the market-clearing labour market model are:

1. The amount of labour demanded is taken as a decreasing function of the wage, other things equal. The market labour demand curve slopes downward because of the decreasing marginal revenue of labour. The associated substitution and scale effects of a wage change are also included.
2. The amount of labour supplied is taken as an increasing function of the wage, other things equal. The market labour supply curve slopes upward because a higher wage induces workers to enter this labour market from other labour markets and induces non-workers to enter the labour force.
3. The wage is set by labour supply and demand in order to clear the market.

Three equilibrating forces operate: behaviour of firms, behaviour of workers and behaviour of wages. These three forces will work in a rational way, firms behave profit-maximizing and workers behave utility-maximizing (Fields, 2009).

As figure 4.3 shows, there is no unemployment in a competitive labour market. At the market wage (w*), the number of persons who want to work equals the number of workers firms which want to hire. Persons who are not working are also not looking for work at the going wage (Borjas, 2009). Of course, many of these persons would enter the labour market if the wage rose (and many would withdraw if the wage fell).

Figure 4.3: *The market-clearing labour market model. Labour market is in equilibrium when supply equals demand. E* workers are employed at a wage of w*. Triangle P gives the producer surplus; the triangle Q gives the worker surplus.*
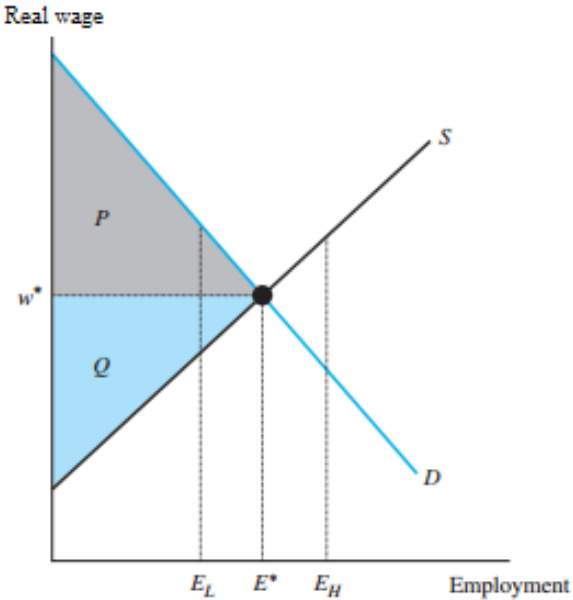
Source: Borjas (2009)

The value of skills (in the context of labour) is dependent of the value on the market determined by supply and demand. This is the salary that people with that kind of skills earn, what is equal to the

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marginal product of labour in a competitive market (Van den Berge et al., 2014). So wage differentials, which are observed within professions, are supposed to be able to attribute to differences in skill levels between people. Wage differentials between professions are attributed to demand and supply of skills in the labour market. However, this approach presupposes that skills are identifiable and measurable. The value of skills is in sociological approaches linked to the complexity of the job in terms of required skills. So jobs with similar skills are on a similar value-level, while more complex jobs (more complicated skills) are jobs of a higher value, or so called high-skilled jobs. At last, productivity of skills is only a good measure in an abundant labour market; in a constrained labour market some skills are scarce or even not available and thereby worth more in the labour market.

To the extent that complexity coincides with a higher wage, the economic and sociological concepts can both use wages as the indicator for skills. The concepts differ from each other when certain skills for simple tasks yield more than skills for complex tasks. This could be the case with relative simple technical skills with low supply, opposite more complex administrative skills with high supply.

The discussion above focused on equilibrium in a single competitive labour market. However, the economy consists of many labour markets, even for workers who have similar skills (Borjas, 2009). These labour markets might be differentiated by industry, by region or by segment. When two regions next to each other are perfectly competitive –similar skills (persons working in one region are perfect substitutes for persons working in the other region) and free movements across the regions– wage differentials will never persist. Wage differentials between the regions will be noticed by workers and move to the region with the highest wage-level, while employers want to hire cheaper labour and move to the other region. Eventually, supply and demand –and the wages determined by supply and demand– will be equal in both regions. In theory, the same should happen in a labour market differentiated by (skill-related) industries, but there can be assumed that workers in different industries are not perfect substitutes of each other. Workers will start working in the industry with a higher wage-level when the wage differences are higher than the investments to pick up the right skills, but wage-clearing in this situation may take time (workers need to be retrained).

In a labour market differentiated by segments, the equilibrium between supply and demand differs between segments because there is no perfectly competitive market. For this reason it is important to discuss the process of labour market *tightening*.

4.2.4 Tightness of the labour market and supply/demand clearing with skills mismatches, and buyer/seller characteristics of industry segments

Labour market tightness can be defined as describing the balance between labour demand and supply (Brigden and Thomas, 2003). The labour market is tight (constrained) when there is an imbalance between labour demand and labour supply, which will exert upward (downward) pressure on real unit labour costs, or on the labour share. The labour market can get more constrained through growing demand (e.g. establishment of new companies) or decreasing supply (e.g. emigration or brain drain).

There are different labour market models that deal with labour market tightness. Of interest is the model that combines it with skill mismatches. The standard mismatch model is based upon a labour market that is comprised of skilled and unskilled employees (Brigden & Thomas, 2003). When there is a shift in labour demand towards skilled workers, which is not met by equable rise in supply, then it will tend to raise their wages and reduce their unemployment rate while lowering the wages and raising the unemployment rate of the unskilled. And vice versa, when there is a shift in supply of skilled workers, which is not met by equitable rise in demand, then the opposite will happen: it will tend to lower their wages and raising their unemployment rate. The wages of unskilled labour will increase and the unemployment rate will decrease, but it also could be that high-skilled workers take on jobs which require less skills: due to this development the unemployment rate of unskilled workers can raise. High-educated workers may end up in unskilled jobs which they are willing to accept transitorily, as long as they pay a higher wage than their reservation wage (Dolado et al., 2002). A wage-setting function for each skill group that is decreasing and convex in unemployment will lead to a rise in aggregate unemployment. The amount of this extra unemployment depends on the flexibility of real wages, while its persistence will depend on the speed of adjustment of the relative supply of skilled workers.

However, in a segmented labour market is the theory of labour market tightness in a single labour market less applicable. The tightness of the labour market differs in every segment and is among others dependent on the preferences of workers and preferences of employers. Due to the fact that attraction, and retention, of workers in a segmented labour market is not only based on the level of wages but also on other preferences (company size, origin, etc.) and companies have specific labour preferences that not only are based on skills. Some higher segments, or the top segment, might have a surplus of (high-

skilled) labour, while lower segments, or the bottom segment, experience a constrained labour market. The industry segments show characteristics of buyer or seller markets. In a buyer market is the supply higher than the demand: the result is that employers have the power to set the wages and other terms of employment. This is vice versa in a seller market: demand is higher than supply, and employees are able to set requirements. However, the attractions (other than wages) probably are determinative to a certain extent: some of the workers will still be satisfied with a job in a 'lower segment' if the wage-difference compensates the missing of other factors.

Tightening of the labour market may cause firms to pay more in real terms for a given quality of labour –depending on the desirability of employees–, but it does not follow immediately that there are consequences for the general price level. An increase in the vacancy to unemployment ratio means that, if a wage negotiation fails, the unemployed worker can expect to find another job more quickly than the firm can expect to find another unemployed worker. This causes the unemployed worker to be offered a higher real wage.

Tightening of the labour market decreases the speed of labour adjustment towards its optimal value (Burgess, 1993; Gorter et al., 2002). In a tight labour market hiring becomes more expensive, there is a prolonged period of adjustment towards the optimal value, and the probability of hiring all employees instantaneously smaller. However, this is not the case when there are significant differences in the preferences of workers between segments; then, hiring will only become more expensive in certain segments (seller markets). The labour market thus affects the hiring behaviour of individual firms. Instantaneous adjustment means that firms wait until they have enough vacancies so that they can benefit from scale effects by hiring all employees at once. Firms do not necessarily get the type of adjustment they wish (Gorter et al., 2012).

Due to a lack of supply, firms have to search harder before they get the right employees, what reduces the probability of instantaneous hiring. In other words, the specification of the adjustment cost function depends on the state of the labour market. The nature of adjustment varies over time: in an abundant labour market shock-wise adjustment of labour may dominate but in a constrained market, labour moves gradually towards the optimal value. However, mobility is not only dependent of unemployed labour. In a constrained market is mobility from skill related parts of the labour market more logical; workers almost have job-security –due to the lack of substitutes– and use the possibility to change job to look for better opportunities. As well, the constrained labour market can cause the development of labour poaching by skill related companies (labour poaching and pooling are elaborated in box 4.4).

Box 4.4: Labour poaching and pooling

A tight, or constrained labour market can cause the development of labour poaching. Workers will have access to crucial knowledge about their own firms –be it about products, production methods, marketing, management, etc. A realistic assumption is that this type of knowledge can almost impossibly all be patented and that exclusive labour contracts are not always available (Combes & Duranton, 2005). Labour market poaching can be described as the 'stealing' of workers from other (competing) companies. The loss of key workers to competition leads to a higher wage bill to retain the other workers.

Distance will act as a barrier for job mobility of workers, so the clustering of firms on the same local labour market (labour market pooling) can lead to labour market poaching and the local diffusion of knowledge. This can be a potential problem to job-specific training programs (Léné, 2002). Training is a means of developing employees' technical expertise, and the aptitudes and cognitive competences that enable them to work effectively in a rapidly changing environment. Once trained, (young) people can be poached by rival firms, which threatened the training firm's investment.

4.2.5 Labour mobility and skill relatedness

In box 4.2 the concepts *labour mobility* and *skill relatedness* are introduced. Skill relatedness can stimulate mobility between certain industries/occupations. Experiences and knowledge bases of individual workers have more to do with their occupational and educational background than the industry dimension (Wixe & Anderson, 2013). Thus, workers' experience and on-the-job learning may to a large extent be considered as occupation- and education-dependent, rather than industry-dependent. For example: a software engineer developing steering-systems for industrial robots at ABB corporation (company in power and automation technologies) may have cognitive proximity with a software engineer at an engineering service company, albeit the two industries are radically different as judged by their industrial classifications. Inter-firm job switching of personnel between such firms may also be large for the same reason.

Like mentioned in box 4.2, the ease of movement to a(nother) job depends to a large extent on the similarities between acquired skills and skill requirements of (other) occupations, or in other words on the *skill relatedness*. A factor that is linked with skill relatedness, and that helps workers to find another job is their *social network*. Social networks are an important channel through which people become informed about job openings, because someone's social network often includes former colleagues and classmates who are similarly skilled. Sometimes these networks even reflect membership in skill-based communities, such as communities of practice (Wenger, 1998). Industries that are skill related may also have overlapping social networks, so the elevated labour flows among skill related industries might in part reflect the higher visibility of jobs due the existence of social networks among such industries.

Another characteristic of skills –linked to skill relatedness–, the transferability of skills discussed earlier implies a potential of labour mobility, especially if the overall labour market is constrained. Labour mobility is not random, it shows close connection between relatedness and transferability (or portability) of skills. High skill relatedness (may) translate(s) in high labour turnover in branches and intra/inter-branch mobility, and vice versa. Labour mobility patterns reveal exactly which branches are skill related; mapping enables the demarcation of skills 'clusters' in the economy and labour market. The presence of large and dense clusters augments the probability of significant competition for similar labour (skills) and shortages if the labour market is constrained (with demand significantly exceeding supply). Mobility may then result in drainage in other branches.

Job or industry relatedness, in terms of skills, can be measured by worker mobility between jobs (among others; Neffke & Henning, 2012). Generally, the more related activities are in a range of sectors and/or industry branches, how larger the opportunities for mobility, and how large real mobility is. Mobility is between jobs/occupations that are similar in terms of skills profile. Relatedness of jobs/occupations in industries in terms of skills/competences as indicated by the occurrence of labour mobility is an interesting and valuable aspect as it allows gauging commonalities. Another aspect that can be examined with skill relatedness, is the aspect of *skills competition* in the labour market (firms and industries competing for workers with similar skills).

4.3 New variety under constrained and segmented labour market

Concepts and examples of processes in the labour market are discussed in paragraph 4.2, and the structure and functioning of the Penang labour market in paragraph 3.5. It still is the question what labour market processes there could be created by the emergence of SSO in the Penang case.

Penang has faced some of the 'dark sides' of strategic coupling: lack of development of indigenous technological capabilities, limited local linkages, and symptoms of lock-in. However, some of the former manufacturing establishments of lead firms have upgraded their operations into a higher value chain activity –like R&D, design, and shared services. The MNCs selected Penang for their operations above other regions, among others because of the existing relationship through earlier investments in the state. While Penang became too 'expensive' for low-level manufacturing, as compared to surrounding Asian countries/regions, and lock-in threatened, is the state still attractive for established

MNCs to upgrade their operations. Penang is (not only) strategic coupled to a new GPN (SSO), but also the same GPN is upgrading their operations into another value chain activity. However, the state is also actively trying to 'strengthen' the new development path with the attraction of SSCs and third-party outsourcing companies. Regional institutions as InvestPenang couple these companies with Penang's regional assets (e.g. skilled labour pool).

Due to the emergence of SSO in the local economy, the demand for labour in the labour market is growing. The low unemployment rate already indicated that the Penang labour market is constrained and figure 3.6 substantiates this. The applications/vacancy-ratio shows –next to the excessive (urge to) mobility– that the labour market is constrained. On the first sight, the graph could have indicated the opposite (a workers surplus), because of the high number of applications. However, the high number of applicants per vacancy –in combination with the low unemployment rate– is only possible in a constrained market: workers know that they are almost certain of having a job and keep searching for a 'better' job (based on preferences) than their current. Individual applicants tend to cast their net wide. This would not be the case in a labour market with a labour surplus; workers are happy with a job because there are a lot of competitors in the labour market that could replace them.

The Penang labour market is not only constrained but also segmented/compartmentalized (figure 3.7). In a segmented labour market is the model of wage determination by supply and demand in a single labour market not useful. Wage determination is differentiated by the segments, because supply and demand differ between the segments due to different levels of skilled labour attraction/retention influenced by preferences of labour and preferences of companies. There is a lot of variety between the established SSO companies (see sub-paragraph 3.4.2). The SSO companies perform different activities –meaning various preferences of labour– and probably differ in the level of skilled labour attraction/retention; meaning that the companies can be placed in different segments/compartments in the labour market.

The establishment of SSO companies in the constrained market can cause skills competition, depending on the skill relatedness with other industries/occupations in the labour market. Due to the segmentation in the labour market is competition for the similar skills by firms mainly causing recruitment difficulties for companies with a 'low level' of skilled labour attraction/retention and can lead to skills shortages. Labour poaching can be a serious problem for these companies. Normally firms will behave profit-maximizing and workers utility-maximizing. What in practice means that if market conditions change, firms and workers will do what is in their interest to maximize profit or utility. However, this is different in a buyer or seller market: in a buyer market wages are not the most important factor of attractiveness of firms: meaning that workers might be able to work for a higher wage in another firm, but choose to keep working for their current employer because of other factors (attractions). The theory is further conceptualized in the next paragraph.

4.4 Conceptual model and expectations
The conceptual models contain the discussed theoretical concepts, and are elaborated in this paragraph. Out of the conceptual models, and based on the theory and structure/functioning of the labour market, are expectations formulated.

Figure 4.4 presents the first conceptual model. The model contains the theoretical concepts in the perspective of labour supply within the context of Penang. The model simulates the process of workers changing to a job in the SSO industry. The blue coloured variable (*skill relatedness (with required skills of jobs/industries)*) is a context variable.

The model starts with workers' characteristics, e.g. age, gender, place of residence, etc., of individual workers and ends with labour mobility to new variety (SSO) as dependent variable. This is influenced by the desirability of a(nother) job and the ease of movement to a(nother) job –'nother' is within parentheses because a worker might be a fresh graduate. The ease of movement depends for a large

extent on the job-history and attained education of a worker, because these are two important sources of skills/qualifications. The ease of movement to another job is related to skill relatedness, which determines the employability of a worker (ease of being employed given skills-set in relation to characteristics of the overall economy and labour market). Desirability of another job is dependent on the degree of satisfaction with someone's current job and related to a worker's preferences (segment/employer, and wage-level). Eventually, a worker decides to stay in their current job or change to a job in the SSO industry. This might influence –some of– the worker's characteristics (place of residence, family status) and the process can start all over.

Figure 4.4: Conceptual model on the perspective of labour supply.
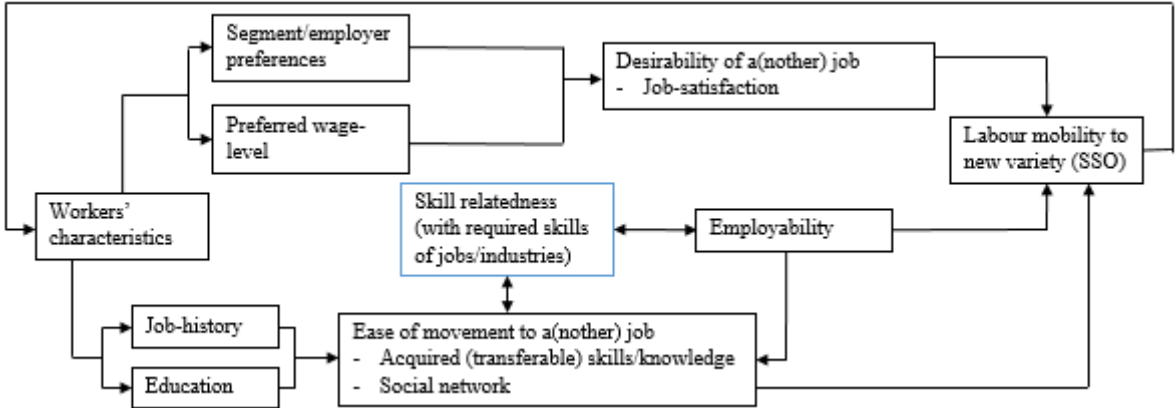
Source: own draft (2016)

The conceptualization on the perspective of labour demand can be seen as a simulation of processes in the labour market created by SSO as new variety. So, the causality in this model is between strategic coupling to new variety/companies –and the establishment of the companies– as the cause and labour market processes as the effect (see figure 4.5). Again, the blue coloured variables are context variables. Three main concepts broadly influence a company's –strategy for– labour recruitment: level of skilled labour attraction/retention, a firm's labour preferences, and the degree of an employers' power to set terms of employment. Whereby the level of skilled labour attraction/retention and the degree of employer's power to set the terms of employment are related with each other: there can be assumed that if a company has a high level of skilled labour attraction/retention, the employer the power to set the terms of employment has. The tightness of the labour market in the different segments is related to the degree of the employer's power to set the terms of employment; if supply is higher than demand in a company's segment than the terms of employment are set by the employers (buyer market), but it is the opposite when demand is higher than supply (seller market). These two variables are related to wages; wages are for an important part determined by supply and demand. A constrained supply of labour in a segment can cause labour poaching, especially between skill related parts of the labour market in which firms are competing for similar skills (this is indicated by the relation between the variables: a firm's labour preferences (skill requirements), skill relatedness with other parts of the labour market, skills competition, and labour poaching). Labour poaching, wages and labour recruitment can cause labour mobility. The tightness of a labour market segment and labour mobility influence the variable skills shortage/abundance of a company (meaning that a company experiences a shortage or abundance of skills). A skills shortage will only occur at a given wage-level as a rise in wages for that occupation to an appropriate level will clear the market, although this may take time (wages→labour mobility→skills shortage/abundance).

Figure 4.5: *Conceptual model on the perspective of labour demand.*
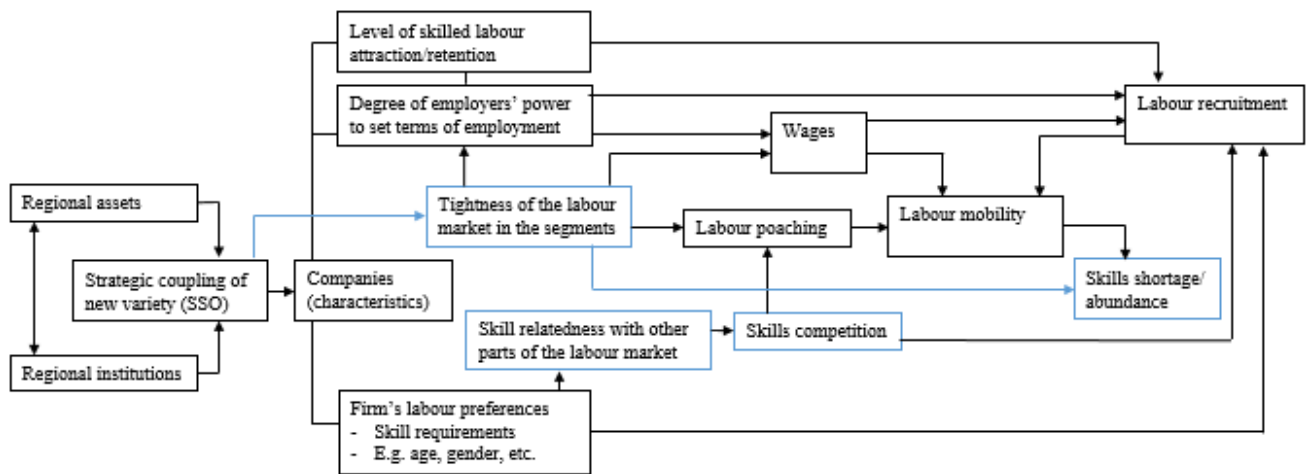
Source: own draft (2016)

Expectations
The following expectations are derived from the theoretical and conceptual framework.

Demand

1. The attractiveness of low/mid-level SSO MNCs in the Penang labour market causes the fact that these companies recruit over-skilled/overqualified workers.

2. The low/mid-level SSO companies in Penang have problems with retention of employees and this is observable in the turnover-rates.

3. SSO SMEs in Penang experience trouble with setting the terms of employment when hiring new employees due to a low level of skilled labour attraction.

Supply

4. Attractions other than the wage-level are more important for workers to start working for a SSO company in Penang.

5. The SSO sector in Penang is not skill related with a particular industry (measured with labour mobility), but with functions all over the local labour market.

5. Approach of the research

This chapter contains an overview of the methodological research decisions regarding the modes of data collection and analysis. As is mentioned in the introduction, the aim of this research is to map the processes in the labour market created by the establishment of the SSO industry in Penang. First the research design is explained. After that the methods for collecting and analysing the data are elaborated. Finally, the limitations of this research are discussed.

5.1 Research design

Bryman (2012) mentioned that deductive and inductive research overlap each other in practice of doing research. This research is in a sense deductive and also inductive. There are expectations derived from existing theoretical insights, but these expectations are not real hypotheses. By testing the expectations, this research will reflect on the theory about the SSO industry and processes in the labour market. So it is inductive in a way. The research is exploratory because it is meant to provide details on a relatively new subject.

This research is a *mixed methods research*: a survey is conducted by administering a self-completion questionnaire to employees of SSO companies in Penang and semi-structured interviews are conducted with the employers. Both the questionnaire and the interview contain qualitative as well as quantitative questions.

The survey conducted is an example of a *cross-sectional research design*. Data is collected in the same period and employees are linked to multiple variables (Bryman, 2012). Thus on this perspective of the study, employees are the units of analysis (Yin, 2009). A negative side of a cross-sectional design is that internal validity is typically weak, because it is difficult to establish causal directions from the resulting data. It produces associations rather than findings from which causal inferences can be unambiguously made. However, the external validity is strong because of the randomly selected cases (employees).

On the company-side of this research, a *multiple-case study* is used. A multiple-case study entails studying more than one case using more or less identical methods. Hereby, the unit of analysis is the company. The key to a multiple-case study (or comparative design) is its ability to allow the distinguishing characteristics of two or more cases to act as a springboard for theoretical reflections about contrasting findings (Bryman, 2012). The data collection strategy takes the form of collecting the data about variables of all the cases. Internal and external validity are similar for a multiple-case study and a cross-sectional design.

5.2 Methods of data collection

Data is collected from companies (employers) and employees in the SSO industry in Penang. In this paragraph the methods of data collection are explained.

Overview of the SSO industry

First, data about the SSO companies that currently are established in Penang was collected. In chapter 3 an overview of all the SSCs and third-party outsourcing companies already is presented. Data for the following variables is collected:

- Shared services or third-party outsourcing
- Kind of services (BPO, ITO, or KPO)
- Value-level of services (low, mid, or high)
- Address
- Year of establishment
- Contact details (phone number, e-mail, website)
- Country of origin of the company
- Headcount (number of employees)

With the use of several sources a database has been constructed in Excel. The first step was to find out which SSO companies are established in Penang. A database of all the companies was not yet available prior to this study. Sources to collect all the SSO companies were InvestPenang, Multimedia Development Corporation (MDeC), press-messages, and company-websites. InvestPenang had a list available with a sufficient number of third-party outsourcing companies, but this list, unfortunately, was incomplete. The website of MDeC contains a directory which includes all the companies with a MSC status in Malaysia. The data for the variables are in the same way collected and originate from all the different sources.

Interview and survey methods
All the companies are approached for an, semi-structured, interview about the research subject. With a semi-structured interview the researcher had a list of questions or topics to be covered –an interview guide– , but the interviewee has a great deal of leeway in how to reply (Bryman, 2012). The questions are somewhat more general in their frame of reference from that typically found in a structured interview schedule. Also, the interviewer has some latitude to ask further questions in response to what are seen as significant replies.

The questions in the interview guide are based on the theory and the information that is required of the companies. Some questions are open and some are 'multiple choice' (see Appendix 1). The interview schedule is organized in the following order of themes:

1. Operational characteristics
2. Employment
3. Labour recruitment
4. Labour turnover and retention
5. Skills
6. Statements

It was preferred to have a face-to-face interview with respondents. In case potential respondents had a tight schedule or other reasons for not cooperating with a face-to-face interview, they also had the possibility to fill out the questionnaire and send it back. In practice, it was hard to find respondents for an interview. A lot of companies did not want to share information because of several reasons: information is seen as confidential, a tight time schedule, or there is no way of getting an answer of a company.

Different methods were used to approach the companies. A first approach was to call or e-mail them, if there was a phone number/e-mail-address available. This approach was not as effective as hoped. Another approach was networking with people of companies on meetings (e.g. the Penang SSO conference) and try to arrange a meeting. This approach resulted in some contacts. A third approach was to go to company-buildings and see if there is someone available to arrange a meeting for an interview. This led to mixed results. Some of the company-buildings are guarded by security and are even impossible to enter or to convince the security to find someone that can answer some questions. Other buildings are open for visitors to enter, but the people were not so keen with unannounced visitors. It also led to some successes, some people were positive about the research and willing to cooperate.

Due to the lack of respondents, the representativeness of the labour demand perspective of this research is not completely sufficient; meaning that the information is not totally generalizable. However, the six companies selected as cases are companies in different segments in the local labour market and show various insights of the SSO industry.

Survey
A survey is used to collect data on the micro-level of the Penang labour market; individual SSO workers. The survey is conducted with a *self-completion questionnaire*, what means that the respondent answered the questions without the aid of an interviewer (Bryman, 2012).

A lot of information about the employees of SSO companies is interesting, but the questionnaire also needed to be easy and fast to fill in (see Appendix 2 for the complete questionnaire). The questionnaire is composed in the following order of themes:

1. Current job
2. Job-history
3. Skills
4. Job-satisfaction
5. Personal characteristics

The questionnaire is handed to the workers in several ways. One way was by approaching the companies and ask for permission to hand out the questionnaire to a sample of the employees. Some respondents cooperated with this approach. Another way was by waiting in front or inside a company-building, and approach employees that passed by entering or leaving the building. Some of the approached workers were friendly and filled out the questionnaire, but the employers were less satisfied with this approach. The security sometimes gave permission to hand out the questionnaire, but the manager/employer was not keen with the direct approach of their employees. Most of the managers/employers thought that the questionnaire contained too confidential questions. But, it still resulted in some interesting conversations –with employees and managers– and completed questionnaires.

The questionnaire has been filled out by 53 employees divided over five companies. This number of respondents is not representative for the total Penang SSO industry. With the use of the other method of data collection (LinkedIn-method) the representativeness is increased.

Vacancy analysis
The SSO companies recruit labour to find the right employee(s) for their operations. Data collection to find out how the companies recruit labour and what kind of skills they require of their employees is conducted. Skill requirements of companies can be found in the description of a job-advertisement. Malaysian companies have (and use) the opportunity to post job-advertisements on websites such as jobstreet.com.my, monster.com.my and jobscentral.com.my, when they need new employees. It was possible to collect the following variables of these online job-advertisements:

- Job (designation)
- Description of tasks
- Requirements for skills, knowledge and qualifications (education, experience)

A database is constructed in Excel and the variables are presented per function. The collected data are used to analyse the requirements of SSO companies and to find out what kind of workers the companies recruit. Data about the ways of recruiting labour are collected in the same way, but also with the aid of the interviews with respondents of SSO companies in Penang. The interviews gave more in-depth information about labour recruitment and the skill requirements of companies.

Employees' data
With the earlier mentioned survey-method (self-completion questionnaire) and with the aid of social media website *LinkedIn* is data of individual workers collected.

LinkedIn is a business-oriented social networking service. On the website, workers have the possibility to upload their cv with attained education and job-history. It is an effective way to present your cv to recruiters of companies that are searching for new employees. Most of the site's revenue is therefore derived from selling access to information about its users to recruiters and sales professionals. The website was also very useful for this research, because a lot of employees of Penang-based SSO companies are accessible via the online platform. Not all of the information that has been asked with the questionnaire is available on the worker's profiles on LinkedIn, but the most important data is available (employment history). The information that is needed of the workers in the Penang SSO industry is

presented in table 5.1. The exact age of workers is not shown on LinkedIn-profiles, so the age of the respondents of LinkedIn is estimated. However, most of the profiles show the year of graduation of the workers and the average age at graduation for a bachelor's degree is 24 years in Malaysia (Nases, 2010). This average is quite high, but this is because the later school start in comparison to many other nations. So it is possible to take the year of graduation and estimate the year of birth of the respondent (year of graduation minus 24).

Eventually there is a response of 296 employees, whereby 53 employees filled out the questionnaire and 243 LinkedIn-profiles of workers are used.

Table 5.1: *Needed information of workers in the Penang SSO industry*

Category	Variable
Personal characteristics	Age
	Gender
	Highest level of education completed
	Place of residency
	Wage-level
Job in SSC	Job/function
	Employer (company)
	Wage level
	Why to a SSO company
Employment history	Previous jobs
	Previous employers
	Periods
	Locations
	Reason for leaving previous job
Skills	Experience
	Skills used
	Firm-specific training
Job-satisfaction	Rating of some aspects

Secondary sources
Secondary data is obtained from several sources. First of all, data about the SSO companies is derived from a directory of MDeC and data of InvestPenang. General information is collected from firm websites for all of the companies in the database (if available). The development of SSO in Malaysia is described with using data of MDeC and a research conducted by the organization 'Outsourcing Malaysia'. Outsourcing Malaysia is an initiative of the outsourcing industry and a chapter of PIKOM (Malaysia's national ICT industry association). Data from Penang Institute, the Department of Statistics and Jobstreet.com is used to explain the functioning and structure of the labour market.

Next to the derived data, available literature was important for several sections of this thesis. Important sources to describe the evolution of Malaysia and Penang were Kharas et al. (2010), Yusuf and Nabeshima (2009), and Athukorala (2012). The theoretical framework contains more theory among others about strategic coupling, skills and the labour market that is retrieved from several scientific articles. A research conducted by Beerepoot and Hendriks (2013) about labour mobility in the BPO sector in the Philippines was useful for the research method of this thesis.

5.3 Operationalising concepts

Certain concepts need to be operationalized in a way they can be measured. The concepts derive from the theoretical framework.

Skills and knowledge

Different typologies of skills are explained in the theoretical framework. The most used typology in this research is the difference between hard qualifications, on-the-job-skills or occupation-specific-skills, soft skills, and attitudes. Hard qualifications are the level of education and years of experience, which are easy to measure. On-the-job-skills are skills like 'accounting skills' or 'programming skills', and are specific for a job-function or a number of comparable functions. These skills are harder to quantify than hard qualifications, but applicants can be tested with certain tests to see if they really possess the required skills. Soft skills are interactive skills, like communication skills and interpersonal skills. And attitudes are more like skillsets such as ability to work in a changing environment or ability to learn new skills, these are closely connected with soft skills. Knowledge also is strongly connected with skills, but is the theoretical or practical understanding of a subject. An employee might have knowledge of a system used for accounting, but this does not mean that the employee knows how to be an accountant.

Job-satisfaction

Job-satisfaction of the respondents is measured by eleven factors in the survey: wage earned, bonus offered, social status of work in SSO sector, career progression in SSO so far, career progression in this company so far, future career opportunities, challenging work environment, learning of new skills. fringe benefits offered, daily work, and job security. The respondents were asked to rate all the factors on a scale of 1 (very dissatisfied) till 5 (very satisfied).

Labour mobility

Labour mobility is measured by the employment history of an employee. The employment history, the previous jobs done by the worker, make it possible to see what jobs the workers had before they started working for their current employer. With data about job-history is a database constructed in Excel, which contains these variables in the following order: number (used to sort out data), year of birth, field of education, level of education, institution of education, begin (year), end (year); and of the worker's current and last three previous jobs: job-function, employer, sector/industry, begin (year).

Labour turnover

Labour turnover is the ratio of the number of employees that leave a company through attrition, dismissal or resignation during a period to the number of employees on payroll during the same period. There is asked for turnovers in a period of a year, or for another period as used by the company.

Skill relatedness

The concept of skill relatedness can be used in two ways; labour mobility shows which industries/occupations are skill related or vice versa skill relatedness shows opportunities for labour mobility. The first implicates that skill related industries or occupations can be recognized through the (amount of) mobility between them. The other way around is that there is a higher expectation of mobility between certain industries/occupations because these are skill related on the basis of similarities in skill requirements. In this research the first way is used.

Level of skilled labour attraction/retention

The level of skilled labour attraction/retention ranges from high to low. It is influenced by preferences of labour for industries and groups of firms correlating with wage-level, terms of employment, working conditions, fringe benefits and the like. This is measured with the following questions for employers: *Is it difficult to find employees with the right skills and qualifications?, What are the barriers/challenges in finding employees with the right skills and qualifications?*, and *do you experience labour turnover in your SSO operations?*. These questions are focused on attraction and retention of workers.

Skills shortage/abundance

The variable skills shortage/abundance indicates if a company experiences shortage or abundance of skills (skilled labour). The following question in the interview guide 'measures' the variable: *Are the qualifications and level of skills of the employees on average lower or higher than the company requires of them?*.

5.4 Data analysis

The collected data is analysed in several ways. This paragraph contains an explanation of these methods of data analysis.

Interview, survey and LinkedIn

The interviews with employees are transcribed. Due to the semi-structured way of interviewing the answers already are broadly structured by subject. The information is used to describe the situation at the different cases and the overall industry. Citations of respondents support the story of the cases.

Data collected with the survey and LinkedIn is brought together in two databases; one with the job-history of respondents (see previous paragraph) and another one with the other variables. The data about job-history is used to see which companies the workers used to work for, in which industries and what kind of functions the workers had. Skill relatedness is also measured with job-history. The other variables are among others used to see what the most important skills for the employees are, and how satisfied the workers are with their current job.

Skill requirements

With the vacancy analysis an overview of job-functions and the required skills and knowledge is constructed. Also, the requirements show what skills specific companies need and how the requirements differ/correspond between different companies.

Labour recruitment

Employees and job-seekers are brought together for potential matches through their recruitment and job search activities (DeVaro, 2005; 2007). One type of classification of recruitment focuses on the distinction between active and passive recruitment (Henkens et al., 2005). Employers can be passive and just wait until an applicant gets in touch with them, such as unsolicited applicants. With active recruitment, employers may post help wanted signs, run newspaper advertisements, or seek referrals from private employment agencies. Job-seekers may speak with friends and relatives, solicit the aid of the state employment agency, or simply walk in and apply. Another classification is based on the distinction between formal and informal recruitment. A type of formal recruitment is posting a job advertisement in a newspaper or on the internet. Formal recruitment methods involve the use of some intermediary between the employer and the potential employee. An example of informal recruitment is using the employer's network of contacts. Current employees can act as 'preliminary screeners', as they pass on information on job openings to particular member of their network and leave other members uninformed. Employer's recruitment choices therefore depend on the type of worker desired, the direct costs of the recruitment method, and on what term the worker is needed. These recruitment and search activities help both parties acquire information about each other, and the more information they obtain prior to entering an employment agreement the higher the likelihood of a good employment match.

An employer begins the recruitment campaign by choosing in the first period a worker type (skill level), a recruitment strategy (a bundle of recruitment methods, and a posted wage offer ('high' or 'low' for simplicity)) (DeVaro, 2005). If the campaign is not going fast enough the employer can influence the hiring speed in different ways: through the recruitment choice or through the posted wage offer. Since match quality will be relatively more important to some employers and hiring speed relatively more important to others, recruitment choices can be expected to vary by firm characteristics and the desired worker skill level. Other ways to influence the hiring speed is by changing the geographical distance of the search to a bigger area. Different companies will hire new employees at different frequencies. There

is also a difference in labour-turnover between companies, this is often high in call centres but may be low in R&D centres.

The above makes clear that there are different strategies to recruit workers. Labour recruitment needs to be measured with more than one variable. The different categories are shown in table 5.4. Within the categories are some variables. The recruitment strategy is the choice of a company to search employees in a certain way. The first choices for a company are: 'passive or active recruitment?' and 'formal or informal recruitment?'. A second choice is the height of the starting wage, this can be either low, mid or high. The height of the wages is based on the average wags of workers in BPO, ITO and KPO. Average wages in BPO and ITO are 4000/5000 RM per month and for KPO 8000 RM per month. In the BPO and ITO are other wages low/mid/high than in the KPO, so these are divided in different categories. The third category is the recruitment field. SSO companies can basically choose to search local for employees (in Penang, regions around Penang, other regions in Malaysia or outside the nation borders. Another category is 'frequency of hiring employees', so how often are there new vacancies available and are the SSO companies looking for new employees.

Table 5.4: *Operationalizing of labour recruitment*

Category	Variable
Recruitment strategy	Passive/Active
	Formal/Informal
Strategy in a tight labour market	Wages
	Working conditions
	Amenities
Starting wage in BPO and ITO (RM per month)	Low
	Mid
	High
Starting wage in KPO (RM per month)	Low
	Mid
	High
Recruitment field	Penang
	Region's around Penang
	Other regions Malaysian regions
	Outside Malaysia
Frequency of hiring employees	Low
	High
Labour turnover	Low
	High

5.5 Discussion

During the collection and analysis of data, certain limitations and obstacles of the research instruments/method came to light. The use of LinkedIn for this research appeared to be very useful, but this also has some limitations. Not all of the employees in the Penang SSO industry use LinkedIn, so the survey is in a way not conducted in the whole research population. The information derived from the LinkedIn-profiles covers not all the questions of the questionnaire, which is unfortunate for the results. Difficulties in arranging meetings with employers are also unfortunate for the overall results of the research and it might be that not the whole 'picture' of the industry is shown. An effort to increase the representativeness of this research could have been the approaching of recruiters/employment agencies. However, the in advance drafted methods of data collection have been 'trusted' too long in the hope of more responses of employers and/or employees.

6. Labour demand of SSO companies in Penang

This chapter starts with the vacancy analysis in which skill requirements of SSO companies are analysed. Hereafter the multiple-case study is presented.

6.1 Jobs and skill requirements

This paragraph presents what (kind of) skills the SSO companies require of their (future) employees and how these requirements are reflected in recruitment characteristics. Skill requirements indicate what kind of employees companies want for certain job-functions.

Table 6.2 shows 32 functions in different SSO companies in Penang with the following characteristics as found in job-advertisements on recruitment websites: short description of tasks, the required skills and knowledge, minimum qualification, and required years of experience. In table 6.1 the functions are categorized along a low-end-high-end classification. The level of complexity is based on the requirements concerning the four characteristics in table 6.2. Every SSO category (BPO, ITO, KPO) contains low- and high-level jobs –regarding to complexity.

Table 6.1: *Categorization of SSO functions in Penang along a low-end-high-end classification, regarding to the level of complexity of each function (based on requirements in job-advertisements).*

Low-end	Medium-end	High-end
Accounting service executive	Database administrator	AP/AR Lead
Administrative assistant	IT analyst	Application developer
Customer service	IT technician	Electronic design engineer
Finance assistant	Senior accountant	Software engineer
Financial accountant	Senior tax analyst	Software release manager
Financial service consultant	Stock administration analyst	Technical leader
Refund Executive	System administrator	Test engineer
Sales support executive	Tax accountant	
Secretarial associate	Internet marketing executive	
Technical pre-sales engineer	Payroll analyst	
Technical support		
Telesales executive		
Transaction service analyst		

Source: Database (2015)

Table 6.2: *Functions in the SSO sector in Penang and the tasks, required skills and knowledge, minimum qualification, and required experience*

Job (designation)	Short description of tasks	Required skills and knowledge	Minimum qualification	Experience
Accounting service executive	Consolidation of group accounts and head office reporting for clients with multiple subsidiaries Cash forecasting of client funds and bank reconciliations on a monthly basis	S&w English MO Understanding of financial reporting standards Must be able to meet tight deadlines and work under pressure	Prof. level in accounting/ finance/ commerce or rel. field	2 years' work related exp.
Accounts & administrative executive	Handle full set of accounts Prepare monthly closing of accounts including: monthly bank reconciliation, weekly/monthly summary and reports on sales and costs, etc.	S&w BM, English Knowl. in use of accounting softw. Able to work independently and proactively MO Exc. interp., comm. & written skills	BD in finance/ accountancy/ banking or rel. field	3 years' work related exp.
Administrative assistant	Data extraction, data entry, tracking Responsible to perform a set of process or activities generally with pre-defined parameters/steps	Attention to details and focus on accuracy Customer orientation Problem solving skills MO Flexible and adaptive to change Initiative to learn and self-development	Diploma in business administration or rel. field	-
AP/AR lead	AP/AR team management Assisting the cash analyst with short-term cash flow forecasting Dealing with agent queries	Results oriented Highly motivated, results oriented, consistently accurate, committed to work and a team player Strong organizational & comm. skills	BD in accounting/ finance or rel. field	8 years' work rel. exp.
Application developer	Work on developing web-based and desktop-based solution or system to improve efficiency System/apps enhancement and improvement per provided requirement	Exc. comm., analytical and problem solving skills Understanding and practicing ITIL knowl. Technical leadership to deliver innovative solutions in SAP SCM, ECC	BD in computer science, IT or rel. field	2-3 years exp. in SAP ABAP application support
Customer service	Handle customers' complains and enquires Build and maintain good relationship with customers by providing appropriate solutions based on their needs	S&w BM, English Exc. comm. & interp. skills Exc. phone manner Exc. time management	SRP/SPM	0-2 years' work rel. exp.
Database administrator	Establishing the needs of users and monitoring user access and security Mapping out the conceptual design for a planned database	S&w BM, English, Chinese Good knowl. of PCs, LAN & MO Working knowl. of devel. languages as Javascript, HTML, etc	Diploma in computer science, IT, engineering or rel. field	1 or 2 years' work rel. exp.
Electronic design engineer	Responsible for creating design of analog and digital/embedded circuits Ensure all drawings and documents are up-to-date based on engineering change requests	S&w BM, English, Chinese Electrical software Evaluate circuits	Prof. certificate engineering (E&E) or rel. field	3 years' work rel. exp.
Finance assistant	Inputting invoices for cash/cheque authorization request Communicate effectively with vendors Prepare monthly vendor reconciliation	S&w BM, English, Chinese Accounting, Bookkeeping MO Good interp. skills	Prof. certificate in finance/accountancy/ banking or rel. field	-

Financial accountant	Prepares monthly statements by collecting data, analysing and investigating variances, summarizing information and trends	Handle tight timeline MO	BD in accounting	2 years' work rel. exp. Fresh graduates encouraged to apply
Financial service consultant	Provide professional advice on financial products based on customer needs Provide customer satisfaction and excellent sales and after sales service	Result-oriented Passionate in sales Customer orientation	Diploma in any field	1 year' work rel. exp.
Internet marketing executive	Managing social media presence (Twitter, Facebook, etc.) , creating new social media campaign and strategies Researching strategic growth opportunities and partnerships	S&w BH, English, Chinese Computer knowl. Exc. spoken and written comm. skills Strong team player Strong understanding of new technologies	Diploma in business studies/ administration/ marketing or rel. field	Experienced in integrated marketing & communications strategic planning
IT analyst	Analyses, detects, identifies and corrects technical problems and deficiencies Monitors and collects data on system performance Plans, develops and implements backup and recovery procedures	Working knowl. of UNIX/Linux operating systems Customer focus Working in virtual team Good verbal, presentation and technical writing skills Cross cultural awareness	BD in computer science, information systems or rel. field	5 years' work related exp. in application devel. 3 years of programming exp.
IT helpdesk	Provide helpdesk support and resolve problems to the end user's satisfaction Monitor and respond quickly and effectively to requests received through the IT helpdesk	S&w English MW and/or SAP Proficient at multi-tasking Exc. telephone & comm. skills Good team player	Certificate in IT/Computer science or rel. field	1 year exp. in technical and helpdesk support
IT technician	Provide technical assistance and support for incoming queries and issues related to computer systems, software, and hardware Respond to email messages from customers	Good interp. skills Ab. to work in team/under press.	SPM in IT/Computer science	Min. 3 years' work exp. in rel. field
Payroll analyst	Ensuring that payroll activities, results and processes are compliant Monitor and manage the payroll vendor to ensure monthly payroll payout accurately and on schedule	S&w English MO Attention to details Working under press. Analytical & problem solving skills	BD in statistics/finance/ accounting or rel. field	1-2 years of payroll & accounting exp.
Refund executive	Help achieve Sales targets and revenue Manage and resolve all operations issues eg. refunds, escalations, etc.	S&w English Result-oriented 'can-do'-attitude	Diploma in business studies/administration/ finance	-
Sales support executive	Processing new sales leads Monitoring customer accounts Providing data and reports to help the sales team	S&w English Detail oriented Responsibility	Diploma any field	1 year' work rel. exp.
Secretarial associate	Answer the telephone, take messages, transfer calls to suitable staff Offer visitors, clients, partners pertinent information	Spec. in taxation or corporate secretarial practise or GST/accounting Ab. to work under pressure, basic interp., pc and comm. skills	Prof. certificate in finance/ banking/ or rel. field	-

	Type, print and make copies of important documents			
Senior accountant	Prepares and records asset, liability, revenue, and expenses entries by compiling and analysing account information	Strong project management Exc. comm. & interp. skills	BD in accountancy	-
Senior tax analyst	Preparing transaction tax Researching transaction tax issues Interpreting and complying with state, local and international statutes, regulations and legislation	Tax technical and regulatory compliance skills Advanced problem solving skills Knowl. of us gaap and ifrs GST/VAT exp.	BD in commerce/ economics/ finance/ banking or rel. field	3-5 years' work rel. exp.
Software engineer	Responsible for developing firmware for comm. devices for the prof. and mission critical markets Coordinate and participate in software design and code review	Exp. in real-time embedded softw. devel. Embedded system debugging and strong analytical skills Good programming skills in UML, C/C++, etc. Driving for engineering excellence	BD in electrical/ electronic/ telecommunications/ computer engineering or computer science	3-10 years' work rel. exp.
Software release manager	Develops, audits, monitors and enforces established release management processes and policies in support of cross-domain configuration integration, testing, completeness and consistency	MO Exp. in creating complex project schedules Ab. to express thoughts and communicate clearly Strongly committed to the mission Good self-management skills	BD in E&E/ telecommunication/ engineering or science	5 years exp. in project or program management
Stock administration analyst	-	MO Strong attention to details Ab. to work under press. Customer orientated Strong organizational skills	BD in finance/accounting or rel. field	3-5 years working for in an accounting or stock administration
System administrator	Monitor and maintain production servers and workstations for health and performance Implement updates and upgrades to systems and applications	S&w English Strong knowl. in MS Windows Server OS, Active Directory Strong problem identification and resolution skills Multi-task	BD in computer science and/or Microsoft server administration certification	3 years' work exp. in rel. field
Tax accountant	Managing the corporate tax compliance function Coordinating and liaising with the company entities for their internal reporting purposes	S&w English Positive, energetic and willing to learn attitude MO	BD in finance/ accountancy/ banking or rel. field	-
Technical leader	Work with technical and business experts to create and support optimal production and test Identify gaps in processes and services across environments	Strong analytical, problem solving, negotiation and comm. skills Strong business processes knowl. for designing, developing and testing SAP functions Exp. with Hyperion and tax softw.	BD in computer science, IT or rel. field	10-15 years exp. in FICO and EPM modules
Technical pre-sales engineer	Primary technical pre-sales interface with the customers, recognize the client's business needs, interpret them, and produce the business winning proposal	S&w BM, English Technical skill in IT Passionate & enthusiastic on ICT, etc.	Professional certificate any field	2 years' work exp. in rel. field

Technical support	Responds to customer technical problems/issues related to hardware and networking Identifies, researches and provides input on unique or recurring customer problems	S&w English Ability to multitask Exc. comm. & listening skills Ab. to work under press. Customer service oriented	Junior college degree	Exp. working with PC, customer service exp.
Telesales executive	Sell the products and services of the company by calling prospective clients Market research	S&w English, BM, Chinese Computer literate, MO Exc. comm. & list. skills Knowl. about comp. products	Higher secondary in business studies/ administration or rel. field	-
Test engineer	Develop procedures and tools for testing, calibration and verification of the equipment Ensure accurate document, record and archive measurement data pertaining to product parameters	Obtained electronics troubleshooting skills Obtained programming knowl. in LabVIEW test stand	BD in E&E	3 years exp. in test engineering
Transaction service analyst	Perform day-to-day operational tasks in trade finance transactional processing or handle cash management processing Deliver services in line with agreed service standards	Customer focus with exc. interp. & comm. skills Proficiency in MO Proficiency in s&w English and Chinese Ab. to work under press.	Tertiary qualification in finance/economics	1 year banking exp.

Abbreviations:

- Ab. = ability
- BD = Bachelor's Degree
- BM = Bahasa Malaysia
- Comm. = communication
- Comp. = company
- Devel. = development
- Exc. = excellent
- Exp. = experience
- HR = Human Resources
- Interp. = interpersonal
- Knowl. = knowledge
- List. = Listening
- MO = Microsoft Office
- MW = Microsoft Windows
- Press. = pressure

- Prof. = professional
- Rel. = related
- Softw. = software
- Spec. = specialised
- S&W = speak and write

The skills and knowledge requirements of the 32 functions show quite an overlap with each other. For most of the functions mainly soft skills are required. For example the requirements for a payroll analyst –speak and write English, Microsoft Office, attention to details, working under pressure, analytical and problem solving skills– are all soft and/or, more importantly, transferable skills. It would not be possible to guess the job-function with only the skill requirements. Of course, the minimum qualification of applicants needs to be more specific, but is still rather broad and more industry-specific than job-specific. SSO can hereby be divided in BPO, ITO and KPO as different industries –or BPO and ITO/KPO, the minimum qualifications of ITO and KPO are more similar.

Most important skills according to SSO employers
With the workshop titled '*Talent attraction and retention in Penang SSO and skillset required in SSC'* at the Penang SSO conference on the 16th of June 2015 employees –with HR-functions– and employers of companies as Dell, Intel, Agilent and Keysight gave their opinions and thoughts about the subject. Eventually they came to the conclusion that the following top three of (soft) skills/knowledge and attitudes are the most important to succeed as an employee in the SSO sector (specifically the BPO-category).

Top 3: (Soft) skills/knowledge	Attitudes
1. Communication/multi-lingual	Adaptability, open mindedness, self-awareness
2. Stakeholder-management	Willing to learn
3. Project-management	Innovative thinking/out of the box

Communication skills are seen as the most important skills, and multilingualism is needed for good communication. Not every individual needs to have the knowledge to speak multiple languages, as long as there are people available in the company that speak the important, foreign languages. Good communication skills are required for communication with all the stakeholder of the company. Thus, the communication skills are connected with the as number two ranked skillset: 'stakeholder-management'. Stakeholder-management is the ability to keep all stakeholders satisfied. Final skillset in the top three are the skills to manage all aspects of a project from begin to end (project-management).

The number one attitude according to the employers at the workshop is 'adaptability', or the ability to adapt in a rapidly changing environment. Required attitudes to be adaptable are open-mindedness and self-awareness. 'Willing to learn' and 'innovative thinking (out of the box)' are the second and third most important attitude. These attitudes are also connected to adaptability and focused on self-development and change. All three skills and attitudes are transferable, soft skills that are hard to quantify. Only multilingualism is measurable, but this is seen as knowledge or as an instrument communication skills. The fact that mainly soft skills and attitudes are important for employers of SSO operations makes it difficult to reveal the right employee only out of a cv of a candidate and a response on a job-advertisement.

The stories of employers and online job-advertisements made clear that a skillset of soft skills and attitudes is necessary to succeed in the SSO industry, but also that the required qualifications are more industry- than job-specific. The required skillset is transferable and applicable in a wide range of functions or in other words; the required skills are skill related with functions in the total SSO industry.

6.2 Case study companies
The form of data collection in a multiple-case study is outlined in chapter 5. In this section, the data per category based on the outline of the interview schedule is presented:

1. Operational characteristics
2. Employment
3. Labour recruitment
4. Skills
5. Labour turnover and retention

The cases provide a picture of the companies in the Penang SSO industry. Companies are not named by the real company-names, but are just identified through a number to maintain anonymity. The parts in *italic* are citations of the respondent of the concerned company.

At first some operational characteristics are presented in table 6.3. These characteristics are below explained in more detail.

Table 6.3: *Operational characteristics of cases*

	Company 1	Company 2
Country of origin	Malaysia	United States
Location	One of the Cybercentres in Penang	Industrial zone in Bayan Lepas
Year of establishment	2013	2014
Headcount	300	30
MSC status	Yes	Yes
Company-sector	Aviation	E&E industry
SSC / Third-party	SSC	SSC
SSO-activities	F&A processes, HR and IT helpdesk	Asia Pacific payroll hub Worldwide employee data maintenance centre (HR)
Level of services	Low- and mid-level	Low- and mid-level
Reasons for locating in Penang	Proximity to customers High skilled labour (Location of) office-building	A skilled and multilingual workforce Sustainable economic growth Progressive government
	Company 3	**Company 4**
Country of origin	United States	The Netherlands
Location	Gurney-area in Pulau Tikus on Penang island	Menara Northam on Penang island
Year of establishment	2013	2007
Headcount	100	7
MSC status	No	No
Company-sector	Solar panels	BPO
SSC / Third-party	SSC	Third-party
SSO-activities	Trade and cash processing centre	Accounting, payroll, process agent and trust management solutions
Level of services	Low-, mid- and high-level	Low-level
Reasons for locating in Penang	Strategic reasons: attraction and retention of talent	Gateway to a large regional market Productive and multi-lingual workforce Attractive incentives
	Company 5	**Company 6**
Country of origin	Finland	Germany
Location	Suntech-building on Penang island	MWE Plaza on Penang island
Year of establishment	2009	2014
Headcount	3	50 (prognosis: 150)
MSC status	Yes	No
Company-sector	ITO	Semiconductors
SSC / Third-party	Third-party	SSC
SSO-activities	Technology infrastructure, business applications and processes	Back-end finance, procurement, customer services and HR support
Level of services	High-level	Low-level
Reasons for locating in Penang	Multilingual workforce Low-cost as compared to Singapore	Labour intensity High educated workforce

Company 2 and Company 6 are examples of manufacturing firms that diversified their operations in Penang: both companies have been established in Penang since 1972. The SSC of Company 6 is established in Penang because of the: *'labour intensity and the ability to provide services on a timely manner and with zero errors.*

We need good educated workers for the services and we can get that kind of labour in Penang. However, these are low-level shared services, level 1. The finance services consists of accounts receivables/payable, general ledger and fixed analysis. HR are the employee claims, hiring/recruitment and employee data administration. So, the HR-department of this SSC support the HR all over the APAC-region.'

Companies 4 and 5 are third-party outsourcing companies that both originally have the same business concept as a foreign-owned firm. The firms globally offer the same services. Company 4 is *'part of a global organisation and our head-office is in Amsterdam. In Malaysia, actually globally, we provide the same kind of services, we do corporate consulting. And basically help clients to set up companies, in order for them to write their business. And then we also do outsourcing services, like payroll and accounting, and also global ISA applications for publics, and we help clients to set up trust. Okay, so in Malaysia we have three offices, three offices that are in Penang, Kuala Lumpur and Johor. So in addition to the services we provide, we do offshore accounting and also offshore payroll. (...) Amsterdam is not exactly the leading office, it is just that we provide the same kind of services and globally they require local entities and new start-ups. And so globally we provide the same kind of services and clients here, let's say they want to expand their business here or in China or Taiwan or another country, then they will just actually come to the office in Penang. Previously we were a local operation and we actually came over in 2007, and acquired the local entities and then they just took it over.'*

Company 5 is thinking about offering different outsourcing services: *'We are doing here, we are providing IT-services for our customers in Europe. So it's kind of a production facility. We have an office in Penang, and we also have companies in other countries but they are not related to this. The other companies only have the same name, but there is further no relatedness between the operations. (...) Basically what we are doing is, we are doing, sort of observing monitoring. And kind of things that require some skills. So I would say maybe level 3 to level 5 services on a scale to 5. More high-level services. (...) Actually, we have thought to do services in a bit of different area. So now we are doing IT-outsourcing services and sort of IT-maintenance services, the maintenance word is not used here but the outsourcing is what the people are talking about. But we are trying to do more on the outsourcing of staff to Asia. So we are planning to do, still it will be focused on IT, but it will be more widening kind of the service-package so that the customers in Europe get an employee. The employee can assign different work-tasks and we would take care of the management here and all things that are related to what needs to be done her in place. So the company in Europe gets good quality workforce for the specific needs.'*

The SSO-department of Company 3 is not the only department in Malaysia: *'The office here (Penang) is actually both finance and IT. So finance is basically all your APR and costing, so they are housed here: the shared services for finance. And for IT-side, we have the SAP, so which is cross-functional SAP. Which is business functions as well as technical, I mean service administration as well as the development side, and developing meaning programming. In Kulim we have the shared services for the service desk, testing and training, and also infrastructure. Kulim is the primary location, that's the location where everything originate from in Malaysia, that's where the main operation is in the world as well as in our company perspective. In Kulim works about 4,000 people.'*

The reasons for locating in Penang, and the services offered by the SSO-department differ a bit compared to other SSCs. Further, the company is outsourcing low-level services to India.

'So the reason why we have this location is for strategic ones, so to attract talent to come work for us because we are present on the island. So people don't have to travel to Kulim anymore. And also for retention too, we want to be able to retain people who are assisting employees who are from the island. So two reasons: retention and to attract new talent.'

'A lot of people even though they're sitting here, but depending on their function, if you are from the functional side, you will most of the time: well time is split depending on needs. Well at least once or twice a week they will be on site to engage with the customers. So this is a little bit unique, in a way, we have the facetime with

our customers, so that's what is a little bit different from typical shared services where you are just sitting in an office environment and you don't engage. That's what makes us different.'

'So the team in US then, you know, let's say you have an issue and we couldn't solve it we send it to the US so they can solve it. But we also have an extension of services as third party support in India. But this are mainly for SAP only, so we have about thirty people over there. They mainly handle level 1 type of problems. So the team here handles level 2 and level 3 kind of issues. Level 1 is very basic, even say level 1-type of issues. When you look at IT-structure: let's say somebody picks up the phone to call in, the service desks means the person that receives the phone-call. So even service-desks have different levels, level 1 and level 2. Level 1 is basically the one who receives your phone-call and take your details. It depends what the problem is, but they might be or might not be able to resolve the problem. And if they can they will just close it. And if it's SAP-related problem this person most likely can't solve it. Well this ticket is getting rounded to SAP level 1 first, so they might or might not be able to resolve it depending on the complexity. That's when level 2 comes in right, and then we also have another level: level 3. Level 3 is the most expensive, most senior resource that we have. Typically level 2 will be able to resolve most of the problems, only certain very complicated/very specific types of problems will go to level 3.'

The qualifications of the operations in Penang can be seen as low-, mid and high-end: *''So for this I will say it covers all the spectrums, because for SAP it covers all the way to the higher spectrum. If you think about in the context of the IT-skillset in Malaysia, the level 3 guys have the highest skills of the spectrum. But then of course, you know if you look at level 1 those are more at entry- or mid-level. Service desk and infrastructure the same thing.'*

Conclusion

The skilled labour pool is clearly the most important regional asset for SSO companies to establish in Penang. So, the companies are strategically coupled to the state by the skilled labour pool as regional asset. Even though the constrained labour market, the companies are still attracted to Penang by the supply of skilled workers. Also companies that offer low-level services establish in the state because of the educated workers, like the manager of Company 6 mentioned: *'we need good educated workers and we can get that kind of labour in Penang'*. However, the SSC of Company 3 is outsourcing low-level services to a third-party in India and is more focused on high-level services in Penang.

6.3 Employment

This paragraph is about the employment of the companies. Breakdown of the employees and the development of headcount of the cases are discussed.

Around three-quarters of the 300 employees of Company 1 is working in the BPO activities, the rest of the employees work in the IT-helpdesk. The thirty employees of Company 2 are as follows divided over the two departments: fourteen work in the payroll-department and the other sixteen in the employee data-administration department. The SSC developed, in terms of number of employees, from fifteen to the current headcount; so there has been a growth of fifteen employees throughout the years.

Ninety of the 100 employees of Company 3 are working for the finance department and ten for SAP. In 2013, the firm started with thirty-five employees: thirty on the finance side and five on the IT-side of the company. In terms of employment, the SSC developed throughout the years as follows:

'The finance-side is basically stable, but if you asked me if we are growing two or three years ago you would have got a different answer because we were just starting the shared services and you hire like crazy. So we are stable now, stable as the meaning that we add some people here and there. But it's not like before, we are up to the level that we want to be. For IT-side I thinks it's kind of the same, our model is a combination of using other party. We don't want to just simply add people, for the sake of adding people. We want to make sure that the people are needed, so then we use our third-party to adjust for the supply. The third-party is the offshore team of about thirty people in India, that is a flexible workforce so we can tune up and down. The number of employees in India has been quite stable, because of the growth. The past few years has been challenging but for this year

and starting to the end of last year it is going more than alright, so having a flexible workforce is more important. We are also still adding people here and there but not in huge numbers. I mean like every year we're adding four to six people, like just this recent quarter year we added about eight people and we are adding more this quarter too.'

Companies 4 and 5 are, regarding to the headcount, small firms. The background of the employees of Company 4 is quite similar:

'The branch in Penang has seven employees. The number of employees didn't grow since we took over the local operation. It is growing, we had a few manager take-overs and changes. So at the time we have seven and hopefully we grow further before the end of the year. We are looking for two new employees now.'

'I just can tell you something about the staff we have here, all of them or except maybe one or two. Okay all of them actually start of in the kind of business, including me. So, when we finished our school and come of university, we actually came from this line of business, of course from other companies. But in the same business, except two. One of them is from sales and marketing, and then he found that he didn't like that and he came here and he did some on-the-job-training and now works here. And one is a fresh graduate, she did an internship with us and she came back. Actually she did International studies for het university degree but came her for an internship and came back. Now she decided that she wants to stay, and we needed somebody so that was a good solution. All of them are from Penang, well a lot of Penang people like to stay in Penang. No, one of them is from Kuala Lumpur but she married someone in Penang...'

Company 5 has only three employees: *'Currently we only have three employees. Basically, Suze is the administrator, there is me the service-director, and the monitor director. And these are directors, so basically the same functions. So Suze is the administrator and secretaries.'*

'At first, we had something like four core employees employed right away. And then we have had a different number of people during the years depending on the situation in Europe. And what kind of customers and what kind of operations we had. So currently we have really specific kind of function, so very specific kind of services what we are doing. At the moment we don't need much workforce to produce that output. If we are going to change to the different kind of model, then we certainly need more employees.'

In table 6.4, the breakdown of the employees of Company 6 is presented. Due to the recent establishment of the SSC in 2014, the firm is still growing and searching for the right number of employees to operate in the most effective way. The financial activities have the highest headcount and these job-functions do not require workers with a degree –minimum qualification is a diploma. The years of experience shown are not requirements, but is the experience of the current employees.

***Table 6.4:** Breakdown of employees of Company 6.*

Job-function	No. of empl.	Educational backgr.	Experience
Book to report	11	Degree	0-1 years
Source to pay	10	Diploma/degree	0-20 years*
Hire to retire	20	Diploma/degree	1-5 years
Migration	2	Degree	5-20 years
IT	1	Degree	10 years
Management	6	Master's degree	>20 years

*a transferred employee has the high years of experience, normally less experienced workers.

Conclusion
In these cases, the third-party outsourcing companies are smaller (according to the headcount) than the SSCs. The headcount of the companies mainly increases after establishment until the company reaches the optimal level for performing the activities in the most effective way. When the optimal level is reached, companies only hire/fire new workers if the company changes its activities or if the amount of work –with similar activities– is increasing (hiring) or decreasing (firing).

6.4 Labour recruitment

The strategy for recruiting labour depends on the level of skilled labour attraction/retention, a firm's labour preferences, tightness of the labour market in the particular segment, and of course the number of employees that needs to be recruited. A large firm is –normally– more often recruiting for labour than a small firm and is more experienced with labour recruitment. There can be expected that the recruitment strategies and level of attraction/retention of the cases varies.

Company 1 offers high wages and the brand name is attractive: *'we have relatively high wages compared to other companies with this kind of jobs, so also than other companies in the SSO sector. There are internal options for career advancements and we tell the possibilities for this at the start of the job. So our employees know what kind of opportunities they have for promotion. Further, we are a new company with an attractive brand name. Our brand is a big attraction for the employees. And our office building is quite new and in a good location. So we don't have real problems or challenges with labour recruitment at this moment.'*

Company 2 is using employment agencies, online advertisements and career fairs to recruit labour. The HR director of the company named that the company both recruits experienced workers and fresh graduates. *'We recruit from multiple sectors on the existing labour market. Because for example payroll is work that is common in a lot of different sectors, so the employees can come from all these different companies/sectors. This is the same with educational institutions: the employees have several backgrounds according to education. So employees can be fresh graduates or experienced workers, it depends on the function.'*

Workers are employed on contract-basis for short term and only recruited within the state's borders. New employees are quarterly hired by the company. Company 2 faces some problems regarding to labour recruitment. For this firm there are two sides on the question if it is difficult to find employees with the right skills and qualifications:

'No it is easy to find the right employee, because there are always applicants who have the right qualifications for the job. But the answer is also 'yes' because it is not easy to contract these people. The people with the right qualifications and skills are having too high demands concerning wages or other requirements. So we have challenges on the offer package. The wage demands are simply too high, because SSO is for low-cost services and to keep it low cost these people are too expensive to hire. And generation Y and generation Z are always comparing their life with the lives of other people and they want to live good and comfortable, they often think that the grass is greener at the other side. This makes it difficult for us to hire and contract the right applicants, but we are able to find them. This is also the reason why qualifications and skills of the employees are on average lower than the company requirements. People with the right skills want higher wages than we want to pay them. So we try to hire people that can develop themselves to the required level. We select the right employee in maximal two interviews.'

Company 3 has several strategies for recruiting new employees: *'so typically our process when we have a new job, we will post it internally and open it for internal candidates. And then we also get head-hunters. So we post on the typical jobsites: Jobstreet.com, Monster and then we also have recruiters to help us. We also do career-fairs at universities, but those are more lower level, let's say entry level. So for fresh-graduates and interns.'*

'The area of where a person lives doesn't really matter in the way that we work. If I come across a candidate that's really good and if the person is living in Penang and they want to come here, if it's more for them a preference to be here than in Kulim, then we are pretty open with that. Well actually just recently we hired a new person who is living at the other side of the island more closer to the bridge. So you know, I really don't try to force the person to come here in the Penang office, because it might be easier for the person to drive to Kulim. And if we have a really good candidate in Kulim, we are really not restricting anything. But you know the expectation is that your job-function requires you to facetime with the customer than you have to do that regardless of where you at. Not just a full time face-to-face, but you need some facetime. So that's what I am saying that is one of the advantages of our company having the SS is that we have the ability to engage the customer with that physical presence.'

Most of the ninety workers are people from Penang, but the worker's residence is not an important factor for recruiting labour. *'Some of them might be migrated in from Kuala Lumpur or other places, but predominantly they're locals. Because if you think about the job market in Malaysia I think the concentration are in three places: Kuala Lumpur, the northern region what is here, and the southern region nearby Singapore, the GB-area. So these are the three concentrations of scales. So we don't really have a preference of local or… of course our first intention is that we want to hire Malaysians. But geographical origination, where you are originated doesn't really make a difference. There is also a reason why we prefer to hire Malaysians, but also because of the government incentives, because the fact is that the government offers a lot of training and upscaling type of funding, so when you are a foreigner you can't use this funding. This is another reason why we always look to hire Malaysian citizens first, but when we can't we will definitely decide to hire someone from elsewhere. So like for our SAP-team we have one guy from India, who came from our vendor and he is actually working for First Solar now. So there are some exceptions.'*

All of the hired workers at Company 3 are experienced in the labour market. *Most of the level 3 guys of the SAP-side have at least 10 years' experience with educational background. This guys came from consulting background, because if you look to the dynamics of the labour market people usually start out to be consultants, because they want to see and travel the world because you don't have much of a family-commitment. But if you are further through the cycle then you want to settle down, have kids, have family. So that's where a lot of my level 3 guys are from if you look in terms of background. A lot of the junior folks are not completely fresh from college too. Because we have some instances when we actually hire the level 1 guys as interns first, so they are with the company for six months or a year experience and then as we grew them and also test out the candidate too, and if we like the candidate we still offer him a permanent position. So this are some of the things that we work with the government too, because they have different programs up there. And mid-level guys, a lot of, because we are fairly young here, so a lot of the mid-level guys we just hire here from companies and those are mostly 5 years or more, at least 5 years' experience. (…) The thing about the way we function here, we can't afford to have a lot of handholding. So, I need people to hit the ground and run already, so we have more senior people here.'*

Company 3 has some difficulties with hiring the right employee, but it seems that the company has a luxury. The manager can be picky with choosing an employee, because of several reasons. *'I mean to find the right people certainly, I mean we have lots of candidates but then, like I say, I am pretty picky. So I will go through a quite few before I usually locate one that fits in the profile. I think it all depends on what you're looking for and on what level, but like I say most of the positions I feel are level 3 type of positions. I need to set the foundation and these guys are the foundation that I need to have before I even can hire one junior guy. And if you go more junior it will become more easier because the requirements are less.'*

'We have the luxury to be able to be picky op to now. We also do like references so we know who are the people who are good in the market. Quite a few are actually referrals from existing people, referrals are usually much better. That is my experience. So a lot of them are referrals, especially the senior people are referrals.'

Labour supply is higher than demand for Company 3. The high wage-level is one of the reasons why labour supply is high for this company, another reason is social and corporate responsibility.

'If people stay a while in consulting they can earn a lot more then working for a company. But based on the region our pay is actually one of the highest in the northern region, but of course you can't compare to Kuala Lumpur. We have a salary-premium in the northern region in order to attract the right people.'

'I think salary is one of the factors and the other factor, I think that we push forward in social responsibility and corporate responsibility. I mean how many people can say that they are working for a company that is actually helping the environment. So I think that's one of the things, the key things. And also we preach for flexible workforce, meaning that we want people to have a personal and work-life balance. With flexible workforce I mean flexible workhours. Like when you have evening meetings, you can come in later. It's not in fixed hours, when there is not anything else going on than the fixed hour is 9 till 6. (..) I mean other than the

working environment, I think it's pretty standard for the companies. Let's say health insurance and car allowance. And then of course I think it is the, we really encourage open communication. So building the trust and working together. I trust my people and they trust me, I think this the bond that's pretty important to have.'

'Well I think, if you look from the First Solar perspective, I think we have pretty lucky, because we… looking at the very holistic view, not only say salary, but from overall perspective. I think we have been quite lucky, in a sense of the corporate culture and our beliefs to invest in people and the trust, the flexible workhours, the corporate social responsibility, and the higher, I guess, pay than is offered in the region. I think that altogether helps us to attract good people to work for us.'

Sometimes there is a mismatch between the employee and the company. *'I wouldn't say overqualified I would say mismatched. Because I mean some people want to become a more manager or people-manager than doing the technical work, but typically this kind of stuff we find out in the first interview. So the way I usually do the interview is that I will have a phone-interview and if the person pass the phone-interview we will have a face-to-face meeting, a personal type of interview. And when it is related a technical test. But the phone interview will filter out people that are overqualified or mismatched, typically I will spend about fifteen minutes to make sure that that person is really interested in the job and make sure that it is what he had expected. Because otherwise it is a waste of time, waste of my time and waste of the candidates time. So usually we cut that out really quickly. So a very few are mismatched, but we filter them as much as we can out.'*

Companies 4 and 5 both have a small number of employees and are not often recruiting for labour. The companies face similar problems. Company 4 recruits an employee when someone leaves the company and for the expected growth of two employees.

'Basically we do most of the searching on the internet, and then of course with interviews. But basically we do it via the internet, on sites like Jobstreet.com. Another way is by asking employees if they know somebody who is searching for a job, like referrals. But mostly we are recruiting in a formal way. We are not waiting for people to come to our office. Because our HR-office in Kuala Lumpur, so actually the office in Kuala Lumpur helps us to resource. So beside Penang, we actually do search in nearby states or maybe in Kuala Lumpur, for example when there are people who are from Penang and want to relocate back to Penang. So, they mostly already wanted to come to Penang. The frequency of hiring a new employee is like one person a year for this office, only when somebody moves to another job.'

'Normally we always have fulltime employees, but let's say that we are short-handed for a period then we do internships here as well. Because the amount of work fluctuates during the year, so it is sometimes more useful for us to have an intern than to hire a new employee. Because when we have a new employee and the amount of work drops, we have an employee that is not needed anymore. The interns are university students and, we actually bring them in for three months and we do the internship here as well. But it is not that often that we have an intern, because it depends on our work as well and also if interns asks us if they can join the company for an internship. But it happens in the office in Kuala Lumpur more often, because that office is bigger.'

There is a mixture of experienced workers and starters working for the firm: *It is a mixture, in the past we actually were going for more experienced workers, because it is more easy for them to work here and to work with the requests of clients. But maybe it is a problem for us to find experienced staff. So, we have to go for the fresh graduates and we train them further to work here. (…) Well because for us, we look for the graduates or experienced people with ICSA-qualifications and the ICSA-qualifications in Penang is slowly not so popular anymore, and they are just stopping classes because of the less popularity. And the students won't get the right qualifications, and it is now the situation that they more have to go to Kuala Lumpur for their study. A lot of them will stay in Kuala Lumpur and that's a problem for businesses as us in Penang. (…) Like when university have open days we give information about our company, but not so much in Penang more in Kuala Lumpur. Because of what I earlier told about the education and that there are not the students that study what we need in Penang.'*

'It is not always easy to find the right employee for us. Sometimes we are able to get what we want, but sometimes we actually need to train them. So there is sometimes like a skills mismatch, we require other skills of people than we can hire. That is a problem for a small company as our office. In our line of industry is recruiting for labour more or less the time since the growth of the SSO industry, but then in terms of clients, we do payroll for a lot of clients and those clients that actually do R&D and more technical can't find or rather some of them also have problems with getting the staff here in Penang. (…) It is because of the tight labour market and also with competing for the staff properly, also offering a bit more and then you know, especially the younger generation they tend to be more flexible in switching jobs so they switch easily to another company if they offer a little bit more. We try to keep to the, you know, market price so we don't really do that. (…) not so in our line of work but yes some of my clients that local factories and local SMEs tend to have problems with finding the right employee, but for the foreign owned companies that is not the problem because we can see the wage disparity and that is actually quite a lot.'

Although Company 4 sometimes finds it hard to find the right employee. It tries to attract workers through differentiating –better working conditions, fringe benefits– from other companies. *'Basically we try to attract them with better working conditions like flexible workhours, and then of course we give them things like a platform for them to actually share some of the feedback that we get from the top management, who actually commentate that well. And we actually do that, and we have our own offers to exchange with other colleagues of other companies and we do offer our staff opportunities to go overseas if they want to, for training or maybe they decide to migrate or locate elsewhere then we do have that type of offers. Further, employees have the opportunity to do insurances via the company, but we have no sport accommodations because we are just a small office here in Penang.'*

Company 5 also recruits labour in several ways: *'We once have hired an unsolicited applicant, she just send a letter and eventually we hired here. But normally we use online job-advertisements on sites as jobstreet.com and monster.com and we ask employees if they now someone, like an old colleague or a friend. But we have used online advertisements the most, because we don't have a lot of employees so the social network of the total employees is not that big. So we put the advertisement online, then waiting for answers and then to a round of interviews and then to tests on the candidates and then see what is the best candidate. (…) It depends on the job-scope on whether we look for fresh-graduates or experienced workers. But what we previously had, we are looking for people that have at least five years of experience. Simply because the services that we offer are of quite high-level. We haven't done internships with students, but we have considered. The jobs that we have had, well we always need more the expert-levels for jobs that we have to offer. So more because of the kind of jobs we offer, are bit too high-scaled for somebody that is starting their career. (…) We only recruit in Penang, not in other states of Malaysia. Normally we have ongoing work agreements, or indefinite agreements. So we have long-term agreements.'*

'Well I think basically, after some degree you have to do the things or half of the things to do it in our way. So, I would say the basic skill-level is quite okay, but if you want really sort of expert on some matter than it might be harder. Or it might be that the course, maybe is not so competitive anymore. The salaries if you are looking for expert, well let's say they are asking for expert-salaries. So if you want to produce a service, for sort of low cost or sort of appropriate cost, then may be the expert people or if you talking about the managers or this level of people: I think the salaries are almost the same as in Europe. But I think basically what we have done, is looking at the potential in people and do interviews with them and see what they are interested in. So mostly when people are interested in developing their skills, we then go to train them in a specific area and learn them the specific things.'

The supply of labour has always been high enough for the company. So there has not been reasons to differentiate the company, regarding to labour recruitment, from other companies. Although, the firm has got some benefits for its employees. *'Well we have always people that, well people that wanted the jobs. So we didn't really have to try and differentiate ourselves. So there are always enough people that want a job here. Of course you can say that it would be beneficial to brand our company as a good company to work or like that,*

but it's not something that is on the top of our list. (...)They can use the gym and the facilities here if they want. Parking in the carpark here, when they need to park their car hereby. Of course the insurances. Something for the health, I think we have some health insurances. That kind of benefits.'

Company 6 recruits labour with a couple of methods: unsolicited applicants, online job-advertisements, advertisements in newspapers and by using the employees network. Employees of the company are experienced workers –who worked in the SSO or manufacturing sector in Penang– and fresh graduates. The fresh graduates mainly studied at local universities and colleges –like Universiti Utara Malaysia (UUM) and Universiti Sains Malaysia (USM). Most of the contracts are for short term (less than 1 year). Another recruitment strategy is directly approaching groups of workers (labour poaching) and internships for students. At the moment of interviewing there were ten vacancies. Some of the reasons that Company 6 is not facing any difficulties with labour recruitment are low requirements, searching at the right places, and the location of establishment.

'There are now real challenges at this moment. Because we are only recruiting for fresh-graduates with a diploma. So we are looking for non-experienced workers and they don't need a degree. This is because the work here is quite transactional. The job will get bored after a few years. After a period when employees get bored of the job, they will leave for another job and we will search for new non-experienced workers.'

'Our location is one of our plus-points. We are located in the town-centre and that is mainly interesting for young fresh-graduates. The 'old-timers' on the labour market that work in Bayan Lepas are more locked in into that area and are less willing to work at this location. These people are new on the labour market and for them is every area new and they need to get used to that. This location is interesting because of the amount of places to eat around here, and places to shop. A lot of the people also live in the town-area. Another point is that this office is quite new and still interesting for them.'

'I would say that there is a higher supply than demand of labour for us. Because you need to know where to pick the people and how to attract them, that's why our location is so important. For financial-functions is more supply than demand in Penang, this is different than compared to e.g. engineering. For fresh-graduates we are an exciting office to work for and also because of the lower requirements than a lot of other shared services offices.'

Conclusion

Out of the interviews can be concluded that the companies differ in the level of attractiveness. Three of the companies do not face any problems regarding to labour recruitment/attraction. Companies 1 and 6 are both companies with low/mid-level activities with an attractive brand name and Company 3 is offering mainly high-level services and seems to be the 'top of the league' for workers. Companies 2, 4 and 5 are less attractive for workers. The firms still have enough labour supply to fill their vacancies, but the hired workers are not always the most favoured ones. Some citations clearly show that the workers –of these companies (2, 4 and 5)– have the power to set the terms of employment and require more than the companies have to offer. The interviewee of Company 4 mentioned that *'for the foreign owned companies that is not the problem because we can see the wage disparity and that is actually quite a lot'*, meaning that the wage difference between domestic and foreign companies is high. The respondent of Company 5 said: *'The salaries if you are looking for expert, well let's say they are asking for expert-salaries. So if you want to produce a service, for sort of low cost or sort of appropriate cost, then may be the expert people or if you talking about the managers or his level of people: I think the salaries are almost the same as in Europe.'* While the HR director of Company 2 mentioned that *'The people with the right qualifications and skills are having too high demands concerning wages or other requirements. So we have challenges on the offer package. The wage demands are simply too high, because SSO is for low-cost services and to keep it low cost these people are too expensive to hire.'* Labour supply differs for these two groups of firms –for companies 1,3 and 6 is labour supply higher than demand, and for companies 2, 4 and 5 is supply lower than demand.

6.5 Skills

The companies that offer low-level services (companies 1, 2, 4 and 6) probably have lower skill requirements than the companies with high-level services.

Company 1

For most of the functions, the preferences of Company 1 for hiring new staff are workers with a diploma/degree in a relevant subject with minimal, or without, experience. The resourcing executive mentioned that: *'the younger generation is more used to new technologies (computers, online, etc.) and is more suitable for the SSO industry and also this company. The newer generation also seems to be more flexible in working in the evening. They are more flexible in working other hours than the traditional 9 till 5 culture.'*

Table 6.5 presents skill requirements of three online job-advertisements of Company 1. Most of the required skills are, cognitive or interactive, soft skills. The hard requirements are the level of education, good command of English, and experience. There are almost none on-the-job-skills required and for the functions *refund executive* and *workforce admin executive* are fresh graduates encouraged to apply. Applicants for the function *AP team lead* do need at least five years of experience, but just as for a refund executive a bachelor's degree is not required.

Table 6.5: *Skill requirements of three job-functions at Company 1 as shown in job-advertisements.*

Company 1		
Workforce admin executive	**AP team lead**	**Refund executive**
Candidate must possess at least a BD in business studies / administration / management/ HR management or equivalent	Candidate must possess at least a diploma, a/h/g diploma, BD, post-graduate diploma, prof. degree in business studies / administration / management / finance / accounting / banking or equivalent	Candidate must possess at least a diploma, a/h/g diploma, BD, post-graduate diploma, prof. degree in business studies / administration / management / finance / accounting / banking or equivalent
Pleasant personality, well organized, self-motivated, strong initiative, responsible and committed and able to work in teamwork	Must have at least 5 years of exp. as a team lead in AP accounting	Good command in English both verbal and written
Good analytical skills with the ability to prioritize, execute tasks well and meticulous	Experience in AP Accounting is must	Able to communicate well with all levels of stakeholders
Able to work independently with minimum supervision and under tight schedule	Good command in English both verbal and written	Dynamic, result-oriented, 'can-do'-attitude
Possess strong customer mind-set (internal & external), good interpersonal and communication skills	Able to communicate well with all levels of stakeholders	Fresh graduates are encouraged to apply
Computer literate with good working knowledge of computer skills and ability to use MO	Dynamic, result-oriented, 'can-do'-attitude	
Demonstrated ability to perform multiple tasks simultaneously	Strong leadership skills	
Good written and spoken in English		
Fresh graduates are encouraged to apply		

Source: Jobstreet.com (2015)

Company 2

The employees of the two departments –payroll and employee data administration– of company 2 have got different tasks:

- ***Category 1:*** *payroll: data processing & compliance→ processing the data for a lot of different countries, and taking into account the different labour laws in that countries.*
- ***Category 2:*** *data administration: reporting & data entry→ all the different data such as wages from all employees in different countries (of firm-establishment).*

The HR-director of the company mentioned that the core skills for hiring new staff are: *'the core skills of performing the job in shared services, what means that they are able to perform the tasks that are required on the desired level. For the shared services are payroll and data entry the two most important skills. Further, an employee needs the right attitude to work at the company and the ability to develop their skills. It is possible to estimate someone's possibilities and behaviour during two interviews.'* Thus, according to the respondent are job-specific skills the first point of focus when selecting the right employee.

The skill requirements for a *payroll analyst* and a *HR representative* are presented in table 6.6. For both of the functions a bachelor's degree is required and the company requires more soft than hard skills. Payroll processing is seen as a low-value activity (figure 2.2), but Company 2 requires an experienced (5 to 8 years) worker for performing the job.

Table 6.6: *Skill requirements of two job-functions of Company 2 as shown in job-advertisements.*

Company 2	
Payroll analyst	**HR representative**
BD in HR and/or finance	BD in any discipline with typically 1 year of experience
Minimum of 3 years of payroll operations knowledge, with 5 to 8 years practical experience in HR/payroll: regional HR/payroll experience in a MNC is preferred	Effective communication skills including proficiency in English and the ability to interact with all job levels
A team player with pleasant personality, good attitude, and the ability to work independently	Demonstrate ability to set priorities in a dynamic environment in order to achieve outstanding results
Strong organizational skills and an attention to detail	A great team player who is interested in helping the HR organization build 'best-in-class' practices
Excellent written and spoken communication skills	Experienced in project management will be an added advantage
Ability to maintain confidentially and exercise extreme discretion	Energetic: pro-active and results oriented and effective in causing an outcome through facilitation via face-to-face and virtual interactions
Strong sense of commitment and urgency to meet tight deadlines	
Good spreadsheet skills especially in Excel (advance level), Word, PowerPoint	
Project management experience	

Source: Jobstreet.com (2015)

Company 3

The manager of Company 3 told a lot about the skills that he requires of new employees and how he decides that a worker is the right person for the job.

'The most part of finance, will require a bachelor's degree with relevance in the area. So there are the ACC-type of exams, those accounting related qualifications. With IT for the most part we try to hire somebody with a technical background, so let's say computer science and IT-related majors. But also it depends on the amount of experience. So for the IT-side if you look for anything outside the SAP, is very technically driven. Because it's not much business process related when you deal with servers or networks or laptops and phones. So those would be very technical in nature, when you hire the qualifications will be very straight forward. So that person will need to strictly have the technical experience or technical degree related. But as in SAP, you actually need kind of both. With both meaning you come from IT-kind of specialization that could be information systems or from computer science but depending on the role that you would play in SAP then you would need different, maybe a different degree. Maybe you have a bachelor in a very technical, like computer science, then when you have your master's could be master of business administration (MBA). So it depends. So a lot of my guys here have MBA and then they have computer science bachelor's degree.'

'Per function I stipulate the skill requirements, so I say for functional analyst I would spell out you have more information systems-type of degree or related work experience. So but for more senior guys, let's say the functional lead, we would spell out things like a master's degree; bachelor is required but master is more preferred.'

Next to the educational background and the years of experience, the manager also requires soft skills of the employees. '*Strictly more looking at the SAP-side, your core-skill must be the ability to engage with the customer right. These are your interaction skills. (...) So soft skills in like your ability to engage the customer to make sure you fully understand what they really want. And not just understand what the customer wants, because sometimes or a lot of the times a customer don't know what they wants and at least you need to understand what the fundamentals are. You have to understand and also help guide them. Because the fact is that they don't understand from the system-side what the system is capable to do, so you got to have the balance of the expectations too. (...) You have to think about the ability to design a system not just within your own functional silo but you have to go across the board. Because you have to think right, like the whatever transactions you are doing at one hand: the end-result will always come up from the accounting side. So it's a financial transaction, so whatever you do upstream here will always come up somewhere on the book. So that's why the front is really important, that's why the skillset in terms of the skills that you're really looking for but the skills of people that have done consulting and have been out on the field, who knows the business process. Let's say people who are in finance, a lot of them think from an accounting background so they know the basic and the fundamentals.*'

Because of the attraction of Company 3, the hard skills and qualifications of employees are guaranteed. The soft skills of the candidates eventually decide who gets the job. '*The foundation needs to be there and on top of that the soft skills like stakeholder-management, because we have stakeholders here but we also have stakeholders in the US. That's why the level of maturity of the people is very important, these level 3 people especially because it's not just being able to do the job. It is also being able to manage the stakeholders to. And other stakeholders in different time-zones. So you see the skillset is unique. The skills are not company-specific and transferable, but are not a very common trade. Because these guys are like the high-end of the IT-scale.*

'*It's not just a skillset it's also the behavioural side as well. Especially when you do a job like this, SAP-job, they have to interact a lot with the business right. So the soft skills are very important. Technical skills is almost like a given, you have to have that and then the behaviour and personality are extremely important and then the language of course...*

'*Well a soft skill is more difficult to measure than a hard skill, so this is where the behave side comes in right. So we actually have, what we call the interview guide so we have very specific type of personal related questions. And typically from the interaction you will be able to engage, simple things like making eye-contact, your body-language, the ability to articulate, the ability to response on certain questions, be able to think on your feet, responding to difficult questions.*'

Company 4
Employees of Company 4 need certain skills and qualifications to start working for the company. Firm-specific training is provided before they start working. *Yes, of course we have on the job training. And beside that we also send them abroad to do other trainings and that is usually for about one to three days depending on the topics, because you need to be, how to say, really course specific for certain subjects. So we actually have training on that and then we do also our own training in the office to share them our ideas in the company, because we got like a company law and then talk about situations that could happen and how they have to react in certain situations. So we do have training like that.*'

An applicant for a job needs at least a professional degree. Further, both on-the-job-skills and soft skills are important. The experience required depends on the specific job-function. '*The required skills of course depend on the function, but the requirements are still quite comparable for different functions. For example payroll and accounting are a lot on data-entry, so for that you don't need a lot of sales exposure or anything like that. You need the skills to perform the job in the right way, so a professional degree in a relevant discipline is required for every job. We don't expect that people exactly know how to perform the job without training, of course we expect more of experienced workers than of fresh graduates. So, basically on-the-job-training is for a few months and then they will be able to do basic routine work. But of course in advising clients and all that, that can take a lot of time and also exposure to react on different situations because a client can come back with*

different kind of questions and it is how they reply to make sure to react on the right manner to a company. Thus, interaction skills or communication skills are also very important for good communication with the customers, but this is something that most of the employees learn after some years. So experience in how to handle with customers is next to the basic interaction skills important, especially experience to react correctly to all different kinds of situations. That's one of the reasons that we want more experienced workers than we can find now.'

Skill requirements of a job-function of Company 4 are presented in table 6.7. This advertisement is for the function of assistant manager, which is quite a high function with high skill requirements. For this function at least five years of experience is required, while the company also recruits –whether or not forced by the lack of experienced labour supply– fresh graduates for lower functions. However, furthermore mainly soft skills such as 'possesses a strong sense of responsibility' and 'positive disposition' are required.

Table 6.7: *Skill requirements of two job-functions of Company 4 and Company 5 as shown in job-advertisements.*

Company 4	Company 5
Assistant manager	**Accounts cum admin executive**
Degree in Business/Corporate Administration or any related discipline and/or professional qualification of the institute of Chartered Secretaries and Administration (ICSA – Full/partial qualification)	Meticulous, systematic and possess excellent communication and interaction skills at all times with strong sense of responsibility and able to communicate effectively with all levels
5 years of working experience in company secretarial practice. The jobholder must be a people leader and should possess excellent leadership and interpersonal skills and the ability to interact at all level	Pleasant personality and have a positive attitude with good initiative, trustworthy, self-motivated team-player with the ability to maintain big confidentiality and excellent planning and organization skills to prioritize work and follow-up with deadlines
Must be familiar with Companies Act, willing to acquire knowledge on acts and regulations of other jurisdictions and other offshore regulations	Excellent interpersonal, communication and written skills (read and write) in Bahasa Malaysia and English
Strong integrity and ability to maintain confidentially	Web & presentation graphics editing skills a plus
Possesses a strong sense of responsibility, positive disposition, strong initiative and able to work under strict datelines	Dynamic with the ability to pick things up quickly and is business savvy
Good writing communication skills	At least 2 years of working experience in the related field is required
	PC literate and proficient in MS Office (Word, Excel, PowerPoint)

Source: Jobstreet.com (2015)

Company 5
An employee of Company 5 needs hard technical skills to perform the job. These technical skills are necessary to perform the daily tasks, which in one sentence are: monitoring, maintaining and troubleshooting the status of customer's servers. The daily work actually consists of the following:

'Basically, they are looking into the system according to instructions and for example we have assignment that we need to check if some server is functioning correctly and then we remote with the server. And they check that there are no errors or things wrong with the server and that sort of programs have no alerts. Basically, we actually have a system for this, a management system, so they don't really have to look into the server but look for any errors or mistakes into this management system for the things they need. And when they need to look closer they will have a look in the server. That is basically in simple terms and that is basically the kind of maintenance. We make sure that servers functioning according to the instructions that we have and what we have agreed with the customer and what things we have to check and how often. And then when there are some problems, then again according to instructions we have different sort of actions. For example, we might reboot the system or we might do some other configuration changes when we see that something that's not working. And then we troubleshoot to see what's the reason and fix it. (...) But also at least nowadays a lot of reporting, gathering data from the systems and then reporting that data to the customers so that the customers can get a kind of summary of the status of their systems.'

According to the manager of Company 5 the following skills are the targeted core skills of hiring new staff: *'English skills, the skills in English language. They need to be able to talk, have to have discussion skills. Troubleshooting skills, depending on the job maybe. And of course the technical skills that are needed for the job. Punctuality, that's one. And honesty I would say.'*

Employees at the company usually have a degree or certification in ICT and have worked for several companies. Like mentioned above, the employees at least need five years' experience. So the hard qualifications are a degree/certification in ICT and five years of experience. However, most of the employees had lower skills and qualifications than the company requires of them.

'They usually have a degree or certification in ICT or maybe in other areas. But, so basically all of the employees have some kind of a degree or certification in ICT. Also many of them have, for example Microsoft specific certifications or some other Cisco, or other certain certifications. And they normally have been working for several companies, after they have graduated. (...) The scale is quite broad for the kind of companies they worked before. They have certifications in ICT, but they might have worked in a different field. I had some people for an interview that had a degree in ICT but went to work for an accounting company and did some accounting without a degree in accounting.'

The manager of Company 5 is experiencing skill shortages: some people have the right qualifications, but there is a lack of experience. *'I would say lower than we require of them. Maybe people have certain qualifications but haven't done the work in practice. So it happens many times that people have very nice degrees and certificates, but then they have never really used that knowledge. And if you never use that knowledge, it is basically sleeping knowledge and it is not useful. They should know the theory, but practice is always practice so they could have work experience that is related to specific things. Some people have it and some people claim they have it, but they might not actually have it. So reading cv's is another art form.'*

'There were some cases that it looked very nice on paper, but then we had done, let's say an interview: when we interviewed the candidates we normally do a very basically technical test. Some very simple technical things that we asked on broad scale, so we are not asking specific things regarding to networks or regarding to other complicated things. Because it might be that the person has not worked with everything we work with, so we give a broad scale of the areas that the candidates should know. And actually when you have two persons with the same background and how they answer this practical exam, this practical test, can vary very much. I would say that it can be like black and white. I am not sure if they are not very truthful in terms of their application or what is the reason behind that or maybe it is the thing that they haven't used the knowledge in practice. So that people that have used the knowledge knows the answers right away, but the people that only read about it once and then forgot about it and haven't used it will do the test very wrong...'

'Firm-specific training is provided before employees start working. Basically training about Security, because all the people with ICT-degrees or certifications haven't got the right knowledge about Security and this knowledge is quite low. So we have to teach them how to handle customers data and this kind of things. It depends on the job how long this training will take, but the basic thing is like one or two weeks. Well the first week we give them simple tasks, so we get to know them and during the period we give them more complex tasks.'

The skill requirements for the function 'accounts cum admin executive' are shown in table 6.7. For this function only two years of working experience is required. Further, the requirements correspond with the story of the manager. The only striking point is that there is no requirement about education in the job-advertisement.

Company 6
In table 6.8 the skill requirements for two job-functions are presented. The hard qualifications are at least a diploma without experience. Most of the other required skills and knowledge are soft. The targeted core skills at the moment of interviewing were: *'ability to speak and write Mandarin and Japanese, to support other business groups around Asia.'*

The challenge in finding employees with the right skills and qualifications is: *'identifying the correct people of generation Y who will be able to perform routine tasks for a long period of time. Some people of generation Y are more ambitious and will get bored soon by doing the job, so we need to identify the right people out of the applicants.'*

Table 6.8: Skill requirements of two job-functions of Company 6 as shown in job-advertisements.

Company 6	
General ledger	**Account receivable executive**
Fresh graduate with Diploma or Degree in finance/accounting or related	At least Diploma in finance/accounting or equivalent
Proficient knowledge in MS Office, especially Excel and SAP	Proficient knowledge in MS Office, especially Excel and SAP
Well served in English language	Analytical and problem solving skills with attention to detail
Analytical and problem solving skills with attention to detail	Ability to build productive working relationships with others cross-functionally
Ability to build productive working relationships with others cross-functionally	Ability to communicate effectively both orally and in writing
Ability to communicate effectively both orally and in writing	A strong will to deliver excellent quality/service and continuously improve efficiency
A strong will to deliver excellent quality/service and continuously improve efficiency	Ability to organize tasks effectively to meet deadlines
Ability to organize tasks effectively to meet deadlines	Strong work ethic
Strong work ethic	Required languages: English
Could work under stress	
Open to night shift	

Source: Jobstreet.com

Conclusion

The required skills of the cases correspond with the skill requirements in job-advertisements of other SSO companies (paragraph 6.1). Required qualifications differ between BPO- and ITO-functions. Also, some differences in the requirements between the 'attractive' (1, 3 and 6) and the 'less attractive' (2, 4 and 5) companies are noticed. The attractive companies are able to choose a worker with the right set of soft skills out of a large supply of workers who possess the required qualifications. Like the manager of Company 3 mentioned: *'The foundation needs to be there and on top of that the soft skills'*; the soft skills eventually are decisive in the choice for a new employee. Companies 2, 4 and 5 focus more on job-specific skills: *'the core skills of performing the job in shared services, what means that they are able to perform the tasks that are required on the desired level'* (2) and *'You need the skills to perform the job in the right way, so a professional degree in a relevant discipline is required for every job'* (4). These companies try to hire workers that are able to develop their (soft) skills to the desired level throughout the years.

6.6 Labour turnover and retention
The turnover rate and the strategies to retain employees differ between the companies.

Company 2

Company 2 experiences an annual turnover rate of five percent. There is a higher turnover rate for the payroll-department: *'we have a higher turnover at payroll because of the complexity of the job. The employees need to do the payroll for a lot of different countries and they need to learn a lot about labour laws of all these different countries. So, some employees work for a short period and then we or the employee himself notices that he can't handle the job. It will be necessary for these employees to change job.'*.

Strategies to retain employees are among others the fringe benefits, location, and possibilities for career advancement.

'We have several strategies to retain employees. The fringe benefits, like we talked about earlier, are important for the employees to work for our company and to retain them. Another strategy is remuneration, we can offer employees in which we are very satisfied and that plan to leave some extra money to stay. But this is something

that did not happen often. Our location is also an important aspect for our employees, and the working conditions, like a good atmosphere to work in.'

'There are two opportunities for advancement: job expansion and position progression. This means that an employee can get more tasks and more responsibility, or someone gets promoted to a higher function. And of course with a higher wage , appropriate to the new function. There are also several possibilities for employees to pursue in-house training programs on a voluntary basis. A lot of opportunities for employees: they can get all kind of training programs and the company tries to motivate them to also follow training programs that are useful for other work, so they can develop themselves and eventually help the company to develop to a higher level. There are four different 'phases of courses' during their career at our company:

1. *Labour law*
2. *Compensation & benefits*
3. *Data processing*
4. *Project management*

These four categories of courses are important for all the employees and are covered during all their careers. Project management is in the package since last year (2014), because this is getting more important for the SS-department.'

Company 3
Thanks to the mentioned factors of labour attraction and advancement/promotional opportunities the turnover-rate of Company 3 is very low. The turnover rate that occurs in the company is mostly preferred turnover.

'the turnover for IT, I would say is very, very low. And the turnover that I have is much more like preferred turnover, when I took over the team some of the people didn't fit in the team. So I don't mind them leaving. And the non-preferred I would say null and actually when I took over the team I had like three which were more like preferred. I took over the team and they were already there. Other than that, you know, the team had not changed and we only added people.'

Every (set of) job(s) has a pay-range, so there is a maximum wage for a job-function and when this is reached the only possibility for a higher wage is internal mobility. *'The fact is that for every job, every set of jobs you have a pay-range but when you hit the end of your pay-range within the job that you do unless you significantly change your job-scope then only you can shift to a different pay range right. So it also depends on whether the next step is available too or not, right? And it also depends on the individual.'*

'I say that we have a set-figure but we also provide people that want to move up to the next level. So you can actually move to the next pay right. So you can break the barrier, but it also means that you have to take up additional responsibilities. What we have just done recently, is that we have created three junior-manager type of positions. Enable the people to move up and now there be fifteen person people manager and fifteen person head-on. But the heads-on work is more senior-type of work, is more architecting related type of work.'

Other strategies of retention are among others the location of establishment, flexibility and trust. *'Well we are sitting in the location. I think one of the key things is having this location. And the flexible working-time, and of course the trust again. You need to have that bond with the employees, so you can help them to balance their work- and their personal life. Because that's important. When you go home you don't want to be called by your work. I think the model that we have too is follow the sun. so when we are asleep, the US is awake. Because the fact is that nobody likes to do afterhours-support. Support work is very low-end work, so that's one of the reasons that we have a third-party offshore team to do that. We want to remove that low-end type of work and then people will feel that they actually do something important than just resetting passwords.'*

Company 4
The turnover rate of Company 4 is not so high, but sometimes people leave to get a job on a higher level. So, one of the strategies to retain employees is by advancement/promotion to a higher function. *'Yes, because we*

have a few levels, those fresh graduates will start as junior or assistant and to pick up the skills and to be more aware of the solutions we offer and things like that. And then they actually get promoted to the seniors and after that to the majors and so on. Another thing that also happens is that staff make promotion to another office. Because the Penang office is only small, so there are not endless possibilities for the employees to get promotion in this office. Sometimes people are ready to, and want to, promote but there is no other position available. Than it could be possible to move to another office, in Kuala Lumpur or even abroad.'

Company 5
The manager of Company 5 thinks that workers in Malaysia, or Asia, are more mobile regarding to job-changes than workers in Europe. She thinks that this affects labour turnover at the company. Managers will stay longer at the company than workers with more routine work. There also have been cases that an employee is working for the company but leaves after a short period because of a mismatch between the company's required and the worker's acquired skills.

'Well I think, people in general here. Maybe in Malaysia or whole Asia, I am not sure. But they are very much interested in developing themselves and actually going forward in their careers and especially in getting higher salaries. So not like yearly but more in a regular interval. So it also means that these people are much more changing their workplaces as for example in Finland or in Europe, I think in general. So people are quite a kind of eh.. quick to leave their workplace and going to another place. So in a way it's not maybe hard to find people who are interested but then again it is more hard to keep these people, because they are willing to move. (…) Turnovers? Yes some because of the earlier told fact that some of the people are quite mobile here… (…) Yes I should say that the manager-level stays normally longer. And the people who are working and doing more routine or low-level sort of job they will earlier move forward.'

'Well not so much, but eh I think usually, usually people stick around. But it is also when the skills-set that the company needs not really matches with the skills of someone. And of course we communicate with them about what they expected and then pretty soon realize that it is not maybe what he or she should be doing. And then they resign, and that's a kind of mutual understanding that this is not the kind of job for them. (…)'

The manager has suspicions that some workers left the company because other companies offered a higher wage.

'I think some people might have.. well I think we had one or two cases like that. Yes I think we had two cases. They have worked for us one or two years, and then they sort of just a.. I think they were quite happy with the thing they were doing, there was nothing wrong with the thing. Maybe it was because it was a bit of routine, it became routine because they came in the spot where we wanted them to be and doing that thing. I think many people, they like to do a lot of things. Like I can do that or I can do that, but basically what they should be doing is not comparing with the other things. Well it's a sort of a mind-set, that people think that the grass might be greener at another company or this is better there..'

There are some opportunities for employees to promote to a higher function. *'Ehhhh… well thinking about the future or before or now? Well in general for the five years that we've been here, I would say yes. People can step up to the manager or manage other people. This is one position that happened.'*

Company 6
Company 6 is not yet experiencing labour turnover, because of the recent establishment of the firm. After a few years, this SSC will probably have a high turnover rate because of the routine tasks and the expectation that the job will bore the employees after a while. There are some strategies to retain the employees.

'We try to retain the employees with our working conditions, whereby flexibility is important. We have night shifts, people that work during daytime don't have to work in the night and vice versa, so there are possibilities to change the shift if this is necessary. Another one is already mentioned, that is the location. The location of our building, and the facilities in the building self, are important to attract and to retain employees. Another strategy is project/migration work, because we just opened there are some other projects and possibilities to

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work in another country. This work is less routinely. There are also some opportunities for advancement. Since the company is newly set up, we are focusing more on advancement through job rotation and cross training.'

Conclusion
The companies experience different kinds of labour turnover: mismatches, preferred, and 'mobile workers'. Mismatched workers are workers that on the first sight seemed to match with the job-profile –because they are hired–, but after a while the match is not as good as hoped. There can be a mismatch between the required and acquired skills of workers that appear after a period of working. Labour turnover is preferred when an employer wants a worker to leave and this worker resigns or gets fired. Turnover through a mismatch can also be preferred by the employer (too low level of skills), but also less preferred (higher level of skills than necessary). Turnover of 'mobile workers' is not preferred. The interviewees of companies 2 and 5 referred to these workers, the manager of Company 5 mentioned: *'Well it's a sort of a mind-set, that people think that grass might be greener at another company or this is better there.'* And the HR-director of Company 2 said that: *'generation Y and generation Z are always comparing their life with the lives of other people and they want to live good and comfortable, they often think that the grass is greener at the other side. This makes it difficult for us to hire and contract the right applicants, but we are able to find them.'* (paragraph 6.4). The mobile workers are not easily satisfied with their job and keep searching for a better offer.

6.7 Conclusion
The vacancy analysis led to some interesting insights about labour recruitment and skill requirements of companies. The qualifications for BPO- and ITO/KPO-functions differ, but the overall required skillset of SSO companies is quite similar in the whole industry. The similarity between skill requirements all over the industry causes skills competition: firms that are competing for workers with similar skills. Skills competition in a constrained labour market as Penang can lead to labour poaching, like the manager of Company 4 mentioned that there were some cases whereby labour was poached. The companies still invest in its employees through labour training, even with the risks that labour is poached by other companies. In table 6.9, the characteristics of recruitment, attraction and retention of the six companies are summarized.

Some of the companies (2, 4, and 5) clearly experience skills shortages, like defined by UKCES (2014) *'organizations that cannot recruit sufficient people who are appropriately qualified, skilled or experienced to fill the vacancies they have.'* The qualifications of workers might look good on paper but lack of experience with using the skills in practice is often a problem for the employers. The low level of skilled labour attraction causes problems on the supply of labour for these firms. The degree of the employer's power to set the terms of employment is low. This is the opposite for the other companies (1, 3 and 6). Due to a high level of skilled labour attraction, these companies are able to attract skilled labour –even for low-level positions. So, these companies do not experience skill shortages but rather skills abundance.

The companies do not experience shortages in labour supply, only in skills. And the workers want to work for companies with a low level of attraction if a company agrees with the worker's requirements. Due to this, there can be assumed that the skill shortages only occur at a given wage level as a rise in wages –or other terms of employment– that is similar (or higher) than the worker's requirements can convince the worker to pick up the job (and the market will be cleared). Like mentioned in chapter 4, much of the literature argued that skill shortages are occupation and industry specific, and it makes less sense to refer to skill shortages across the economy. However, skill shortages for the SSO companies in the Penang labour market seem to be not industry or occupation specific but segment/compartment specific. The companies that experience skill shortages can decide to agree with the terms of employment set by the workers with the right level of skills or hire less skilled workers and train them to the desired level. The SSO companies (2, 4 and 5) choose to hire less skilled workers.

The companies can be placed in the compartments based on skilled labour attraction/retention (figure 3.7 and figure 6.1). The data of the companies substantiates the assumption that the Penang labour market is compartmentalized. Company 3 is positioned in the top left corner (buyer market): the foreign MNC is able to attract and retain employees on the high level of required skills. While Company 4 is placed in the bottom of the figure (seller market). Employees of the less attractive companies are 'mobile' and keep searching for a

better job. The high relatedness between the required skills of jobs in the SSO industry enables the mobility of workers to other SSO companies. All the companies, except companies 1 and 3, are experiencing the fact that employees keep trying to find a 'better' (or more attractive) job. A worker is rapidly convinced to pick up a job at another company or like the interviewees said: *'the workers always think that the grass is greener on the other side.'*. The described urge of workers to change job corresponds with the high number of applications per vacancy (figure 3.6).

Figure 6.1: *Cases placed into compartments of the Penang labour market based on labour attraction/retention.*
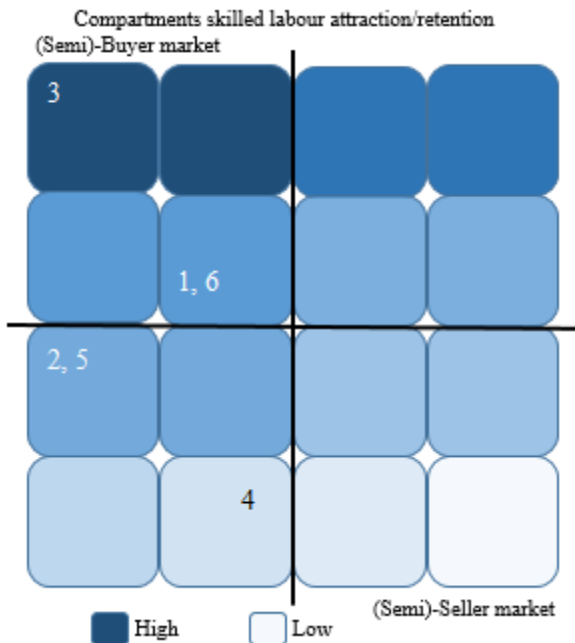
Expectations
This chapter gave insights about the first three expectations and these can be accepted/rejected.

The low/mid-level MNCs in this chapter (companies 1, 2 and 6) have different levels of skilled labour attraction/retention. Companies 1 and 6 have no problems with recruitment and recruit overqualified workers. While Company 2 is facing problems with labour recruitment and with setting the terms of employment. The first expectation can be accepted on the basis of companies 1 and 6, but Company 2 shows that not every MNC has a high level of skilled labour attraction.

1. The attractiveness of low/mid-level SSO MNCs in the Penang labour market causes the fact that these companies recruit over-skilled/overqualified workers.

The second expectation can be accepted. Companies 4 and 5 face problems with labour recruitment. The supply of labour is sufficient, but the workers have the power to set the terms of employment and require more of the companies than they can offer.

2. Skills competition in the constrained labour market of Penang causes problems with labour recruitment for SSO SMEs.

The retention of employees is a problem for some of the SSO companies. Especially the 'mobile workers' keep searching for better opportunities in the labour market. However, the problems are not observable in the turnover-rates (these were not available). So the expectation cannot –totally– be accepted.

3. The low/mid-level SSO companies in Penang have problems with retention of employees and this is observable in the turnover-rates.

Table 6.9 : *Characteristics of recruitment, attraction and retention of employees of the six cases*

Category	Variable	1	2	3	4	5	6
Recruitment strategy	Passive (1) / Active (2)	2	2	2	2	1 / 2	1 / 2
	Formal (1) / Informal (2)	1 / 2	1 / 2	1 / 2	1 / 2	1 / 2	1 / 2
Strategy for differentiating in the labour market	Starting wages	X	X	X			
	Fringe benefits		X	X			
	Career prospects	X	X				
	Working conditions		X	X	X		X
	Terms of contract						
Recruitment field	Penang	X	X	X	X	X	X
	Region's around Penang	X	X	X	X		X
	Malaysia						
	Outside Malaysia						
Frequency of hiring employees	Number per period	Varies	Quarterly	4-8 yearly	1 a year	1 a year	Varies
Labour turnover	Percentage	-	(5%)	(0%)	-	-	-
	Short or long term job		-	Long	-	-	Short
Trouble with finding a good employee	Yes (X) / no		X		X	X	
	Skills	Abundant	Shortage	Abundant	Shortage	Shortage	Abundant
Workers/fresh graduates	Active on the existing labour market	X	X	X	X	X	
	Fresh graduates	X	X		X		X
Training programs	Before start working			X	X	X	X
	Voluntary training programs		X	X	X	X	
Retain of employees	Remuneration		X				
	Fringe benefits	X	X			X	
	Location/office building	X	X	X			X
	Working conditions	X	X	X		X	X
	Skills development			X			
	Promotion						
Promotional opportunities	Yes (X) / no	X	X	X	X	X	X

7. Employees of the Penang SSO sector

Chapter 6 gave insights of SSO companies in Penang and among others their challenges concerning labour recruitment, attraction/retention and skill requirements. However, the question is how the 'stories' of the interviewees correspond with data about employees in the SSO industry of Penang. Data of labour supply is presented by different subject (age and education). Hereafter, labour mobility of the workers to the SSO sector is analysed.

7.1 Characteristics of SSO employees
An important characteristic to see what generation the SSO industry in Penang attracts is the age of workers in the sector. According to Beerepoot and Hendriks (2013) the offshore/outsourcing industry is only providing employment to a narrow labour market segment of young, high educated workers. In table 7.1 the age and period of birth of workers in the Penang SSO industry is presented. Strikingly, the largest part of workers is under the thirty years old (almost 36 percent) and only around twelve percent is forty years or older. The ages can be applied to the categorization of different generations: none of the employees is a baby boomer, 62 are from generation X and 182 respondents are generation Y kids.

Table 7.1: Period of birth and age of the respondents.

Period of birth	Age	Number
1961-1965	50-54	3 (1.0%)
1966-1970	45-49	9 (3.0%)
1971-1975	40-44	25 (8.4%)
1976-1980	35-39	46 (15.5%)
1981-1985	30-34	56 (18.9%)
1986-1990	25-29	79 (26.7%)
1991-1995	20-24	27 (9.1%)
Unknown		51 (17.5%)
Total		296 (100%)

Source: Database (2015)

The average age of employees working for the company-cases is presented in table 7.2 Also, all of these companies have young employees and the differences between the average age of the workers in the companies correspond with the stories of the interviewees. Companies 1 and 6 are primarily recruiting un- or minimal experienced workers, and the employees of both companies are young. Companies 2 and 3 recruit more experienced workers and the employees are older.

Table 7.2: Average age of the respondents of the cases (1, 2, 3 and 6)

Company	Average age	Respondents
1	27 years and 7 months	41 (13.7% of total)
2	33 years and 11 months	21 (70.0% of total)
3	36 years and 1 month	12 (12.0% of total)
6	26 years	6 (12.0% of total)

Source: Database (2015)

Education
The educational profile of an individual worker is formed by the highest attained level of education and the field of education. An educational profile of SSO employees in Penang shows the background of the workers.

Figure 7.1 shows the highest attained level of education of SSO employees. The percentages are based on 257 respondents –the highest level of education is unknown for 39 respondents. What first strikes is the high percentage of workers with a bachelor's degree or higher of 90 percent. The high percentage indicates that the

SSO industry is able to attract high educated workers. Also, the pattern completely diverges with the percentage of the total Penang labour force with a tertiary education (28.5 percent).

Figure 7.1: Highest level of education attained by the respondents.
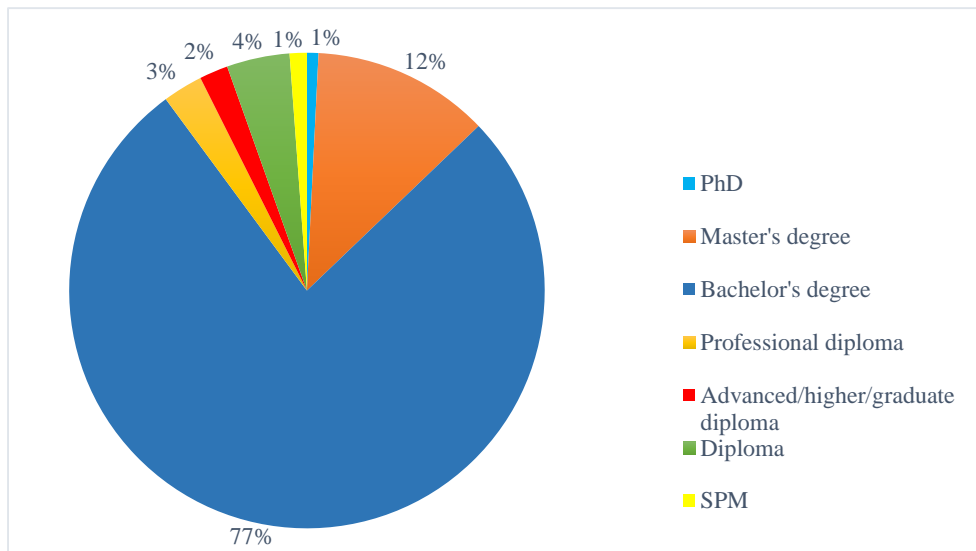
Source: Database (2015)

The percentage of high educated employees is the highest for Company 3 with 91.7 percent. Eleven of the employees have at least a bachelor's degree, whereof one a Ph. D. and five a master's degree. The high level of skilled labour attraction is revealed in the employees' level of education. Also companies 1 and 6 have a high percentage of employees with a bachelor's degree, even though they offer low/mid-level services. Company 2 has relatively less educated workers, the HR director already mentioned that high educated workers have too high requirements about the terms of employment.

Table 7.3: Highest level of education attained by employees of the cases (companies 1, 2, 3 and 6).

Company	Bachelor's degree or higher
1	33 (80.5%)
2	15 (71.4%)
3	11 (91.7%)
6	6 (83.3%)

Figure 7.2 shows the field of the highest attained level of education of the respondents (known of 263 respondents). The exact field and levels of education are presented in Appendix 3. Most workers followed a study in the category IT (24 percent), whereby 56 percent of them graduated in Computer Science. The second most chosen field of education of the SSO employees is Business with 23 percent, followed by Accountancy (18 percent). The high percentage of respondents with education in Business/Accountancy corresponds with the relative importance of BPO in the Penang SSO industry. Also, a lot of the respondents have leading functions such as *team lead* or *manager*, and eight percent of the respondents attained their highest level of education in this field (Management).

Source: Database (2015)

Figure 7.3 shows the countries where the respondents attained their highest level of education (known of 214 employees). A little less than half of the workers studied abroad. Most popular destination among these employees is the UK, followed by Australia, India, and the United States. 'Other' consists of the countries Pakistan, Japan, New-Zealand, the Philippines, and Poland. Less than half of the respondents that attained their highest level of education in Malaysia did this in Penang (41 percent). So in total only 22 percent graduated in Penang. The rest of the respondents decided to return to Penang after they graduated, after some years of experience, or they decided to move to Penang and work in the SSO sector without having lived in Penang before.

Figure 7.3: Country wherein the highest level of education is attained.
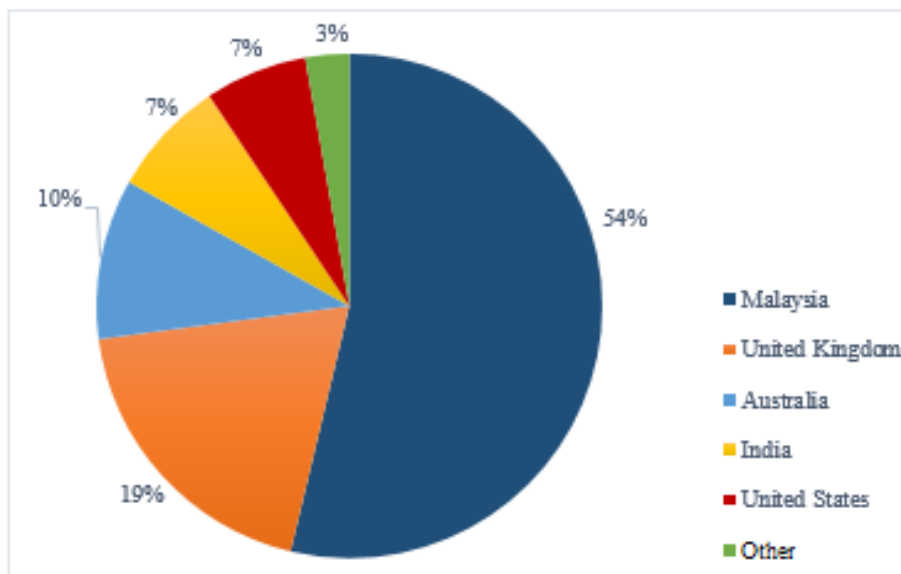
Source: Database (2015)

7.2 Labour mobility

This paragraph is about the labour flows into the SSO companies in Penang. Individual job changes show what kind of background the SSO employees have regarding to occupation and industry. The SSO industry is divers, so there is also a diversity in job-functions. However, most of the jobs are created by BPO-companies, so particularly finance/accountancy, HR, etc. backgrounds regarding to job-history are expected. At first, labour mobility of the respondents is analysed generally. Hereafter, labour mobility is linked with skill relatedness.

Of all of the 296 respondents are the last three –or less– job-functions, employers, working period and their current job known. Altogether, these workers changed 546 times job –within the boundary of maximal three last jobs. Hundred-and-thirty changes were internal (changes of function within the same company). For 46 employees the current job is the first job, it is the second job for 65 workers, third for 74, and the fourth or subsequent job for 111 employees (table 7.4). Despite the average young employees, the highest percentage of respondents at least had three jobs before their current job. The average experience of the workers is, at least, five years and one month.

Table 7.4: *Statistics about job changes of respondents.*

Total job changes	546
Internal job changes	130
First job	46 (15.5%)
Second job	65 (22.0%)
Third job	74 (25.0%)
Fourth or subsequent job	111 (37.5%)
Average years of experience	5.1

Source: Database (2015)

More than half of all the job changes were in the last 5/6 years: 234 changes in the period 2010-2015. The beginning year of this period of 'five' years is 2010, because 2015 was still ongoing during this research. Within this period, 156 of the respondents had other jobs than their current and 38 were entrants in the labour market. Fifty of the total 234 job changes are internal. A lot of the movements were between SSO companies in Penang (94) and four to/from a SSO company outside Penang –without counting the current jobs of the workers. However, 38 of these changes were internal. The other 56 changes were movements of workers between different SSO firms. These 56 changes are divided over 44 employees, meaning that 44 workers had a job in a different SSC as compared to their current job. This might indicate the fact that some of the companies face difficulties with retention of their employees due to the inflow of new SSO companies, or that other SSO companies were poaching workers.

Labour mobility and skill relatedness

The labour flows of respondents are shown in a couple of figures (figures 7.4-7.10). The lines indicate the labour flows of the respondents from sector to sector. Figure 7.4 starts with the switches from the third previous job to the job before previous. In figures 7.5 and 7.6 the next job changes –job before previous to previous job, and previous to current job– are added. The thicker the line, how more workers changed job between the sectors (legend next to figure 7.6). The SSO sector is broken down in five *sub-sectors* (BPO, BPO/ITO, BPO/KPO, ITO, ITO/KPO) based on the company-activities. Most of the respondents currently have a job in a company that offers BPO/ITO (158), BPO (55) or ITO (45) services (BPO/KPO (23), ITO/KPO (15)).

There is clearly a lot of mobility between similar sectors and between BPO/ITO and manufacturing companies (figures 7.4 and 7.5). Many of the companies which offer BPO/ITO services are manufacturing companies (Intel, Dell, AMD, Jabil, etc.). Looking to the 'final step' of job-changes to SSO (figure 7.6 and 7.7) shows the same, but also that workers in ITO mainly worked for an IT or another ITO-company. Manufacturing companies often have an internal department for e.g. accountancy, finance or HR, but the jobs at these internal departments appear to be less attractive since the arrival of the shared services-departments of these companies. The demand of the SSCs is a lot higher as compared to the demand of the internal departments. Though, there are indications

that not only the labour demand of the SSCs is higher but also the paycheques of the employees (Jobstreet.com, 2015). The small internal departments of manufacturing companies, that offer the same kind of services as the SSCs, might have more problems according to attraction and retention of labour due to the establishment of the SSO industry in Penang.

Figure 7.4 & 7.5: *'Third previous job → job before previous' (7.4) & 'Third previous job → job before previous' and 'previous job ← job before previous' (7.5)*
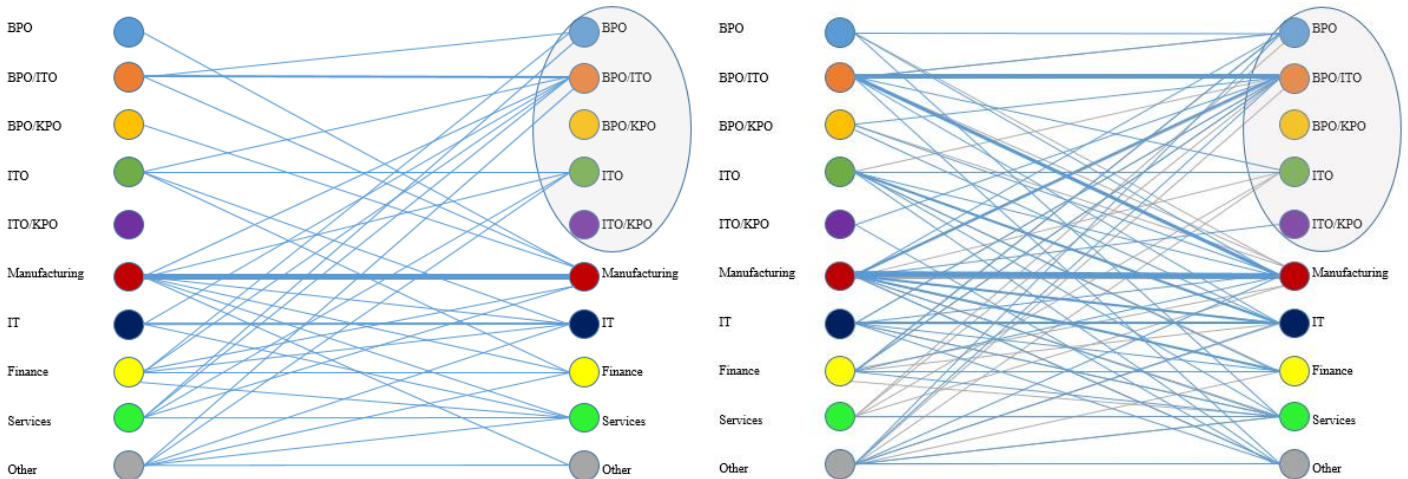
Source: Own draft (2016)

Figure 7.6: *'Third previous job → job before previous', 'previous job ← job before previous' and 'previous job → current job'.*
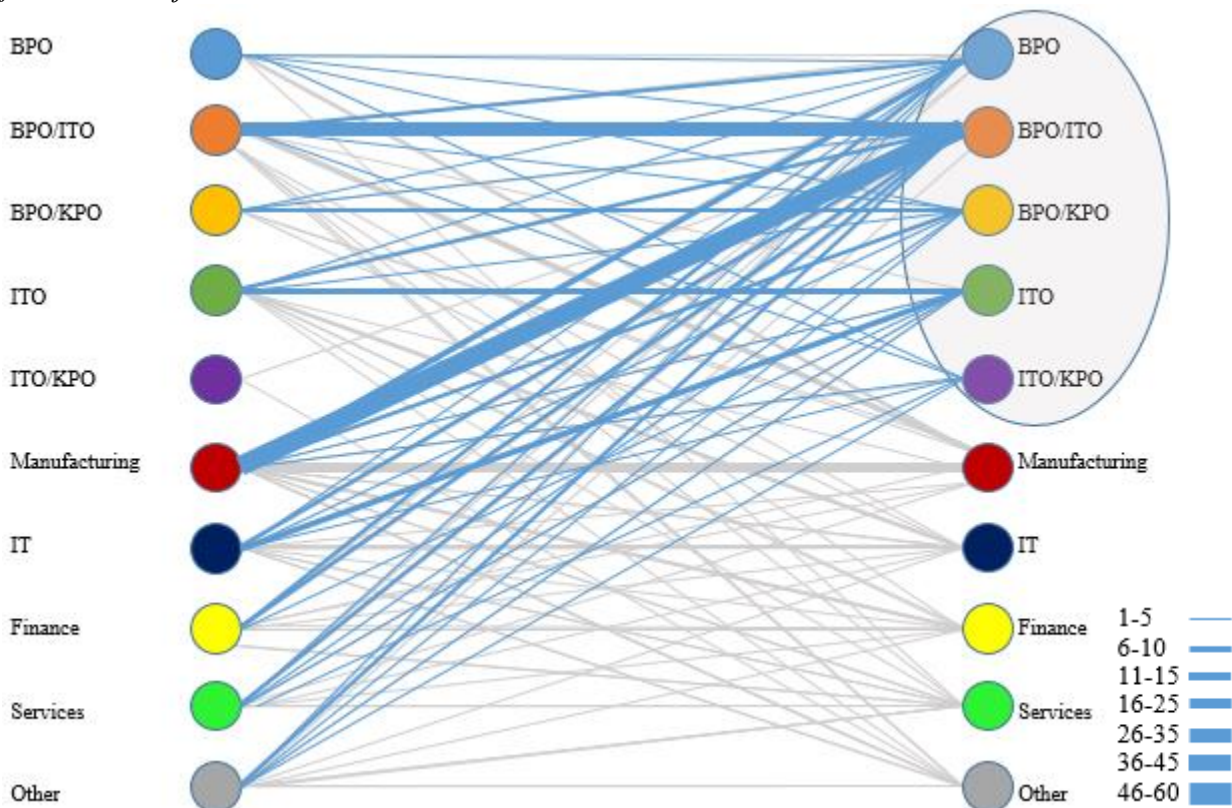
Source: Own draft (2016)

Not many of the employees worked for a company that offers financial services –other than the SSO companies– this is better observable in figure 7.7. In figure 7.7, the sectors are displayed as circles, the size of the circles is determined by the number of respondents with a previous job in that sector or a current job in one of the SSO sectors. The SSO industry not only is divided in the sub-sectors but also in the categories shared services and third-party outsourcing. SSO is shown twice in the figure, the middle indicates the 'current job'. As labour mobility is a way to indicate skill relatedness between sectors, the manufacturing sector is the most skill related with the SSO industry –and mainly with BPO/ITO. The skill relatedness with other sectors between third-party outsourcing and shared services differs –third-party outsourcing is more related with the IT-sector.

Figure 7.7: *Previous job* → *current job.*
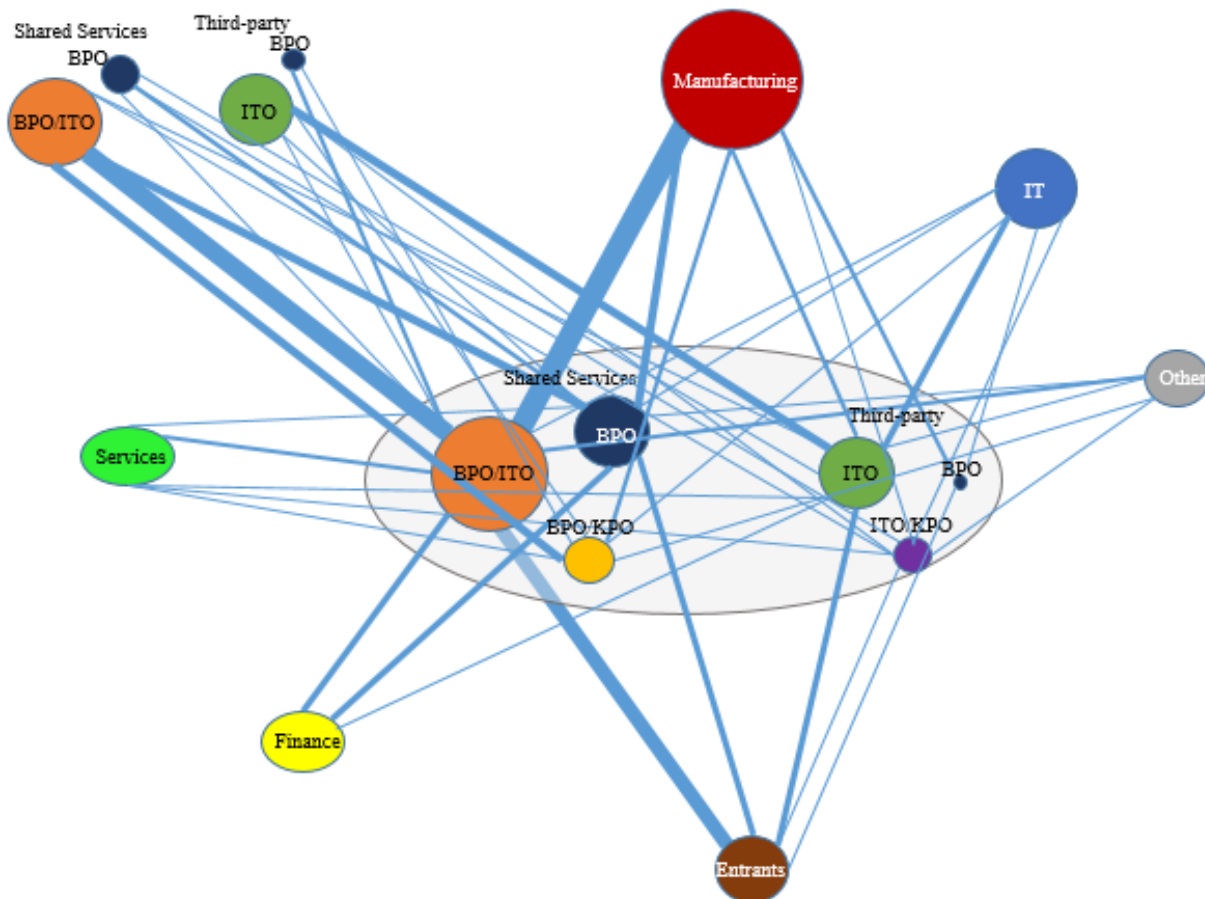
Source: Own draft (2016)

Another notable thing is the mobility between SSO companies. AMD Global Services is an example of a large MNC offering low-/mid-level BPO services that has trouble with retention of employees. Fourteen of the respondents changed from AMD GBS to their current job at other SSCs. AirAsia, Wilmar, and Citigroup are, just like AMD GBS, offering BPO services with a large headcount. The skill relatedness between the services of these companies seems to be high, so mobility is 'easy' for the workers.

Every industry has a variety of job-functions –like argued in the theoretical chapter–, so inter-firm job switching is possible between two industries which are radically different as judged by their industrial classifications. In figure 7.8-7.10, the labour flows are not only differentiated by industry but also by job-function/job-scope in the industries. Manufacturing and BPO differ a lot from each other (as judged by industrial classifications) but workers still change job between similar functions in the two industries (figure 7.8). E.g. job-functions in accountancy, HR, customer services, finance and IT occur in all industries. Not the total manufacturing industry is related to BPO: the similar job-functions in the two industries are skill related.

Figure 7.8: *Labour mobility of respondents that currently have a job in the BPO-sector.*
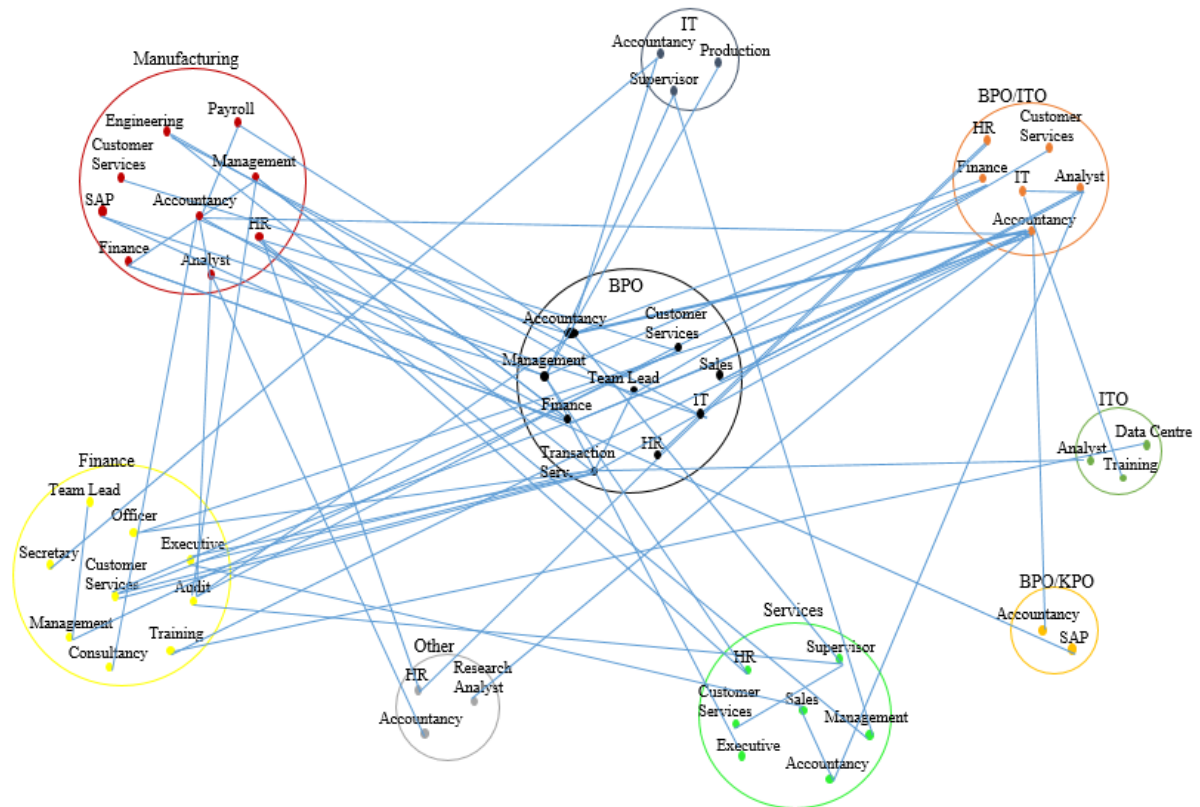
Labour flows of workers that currently work for a company offering BPO/ITO-services or only ITO-services show the same as figure 7.8 (figures 7.9 and 7.10). Especially skill relatedness (measured with labour mobility in the earlier figures) between BPO/ITO and manufacturing was large. Again, mobility is mainly between similar functions in the two industries. Workers in the ITO industry mostly worked for an IT-company before their current job. These two industries already seemed skill related as judged by industrial classifications.

Conclusion

Labour mobility between the sectors shows which industries, or job-functions, are skill related. The sectors in SSO are the most skill related with different functions in sectors/industries: BPO and finance / BPO/ITO; BPO/ITO and manufacturing; and ITO and IT. Most of the respondents (in all the sectors) have 'BPO kind' of functions (finance, accountancy, customer services, HR) and also mobility mainly occurs between these functions. The labour flow from manufacturing to BPO/ITO is mostly from manufacturing companies with an own SS-department in Penang, such as: Intel, Dell, Agilent, Jabil, and Seagate. These SSCs are competing for workers with similar skills (skills competition) as the manufacturing companies for e.g. their internal HR or accountancy department. Labour mobility between the SS-departments and e.g. finance-departments of manufacturing companies is not only possible because of the skill relatedness between the job-functions but also because of the relatedness of the companies' 'original' sector (manufacturing). A lot of the job-changes are 'internal' (e.g. Osram Opto Semiconductors→Osram Global Shared Services) and the social network of employees (and employers) probably plays a role in a large part of the job changes.

Figure 7.9: *Labour mobility of respondents that currently have a job in the BPO/ITO-sector.*
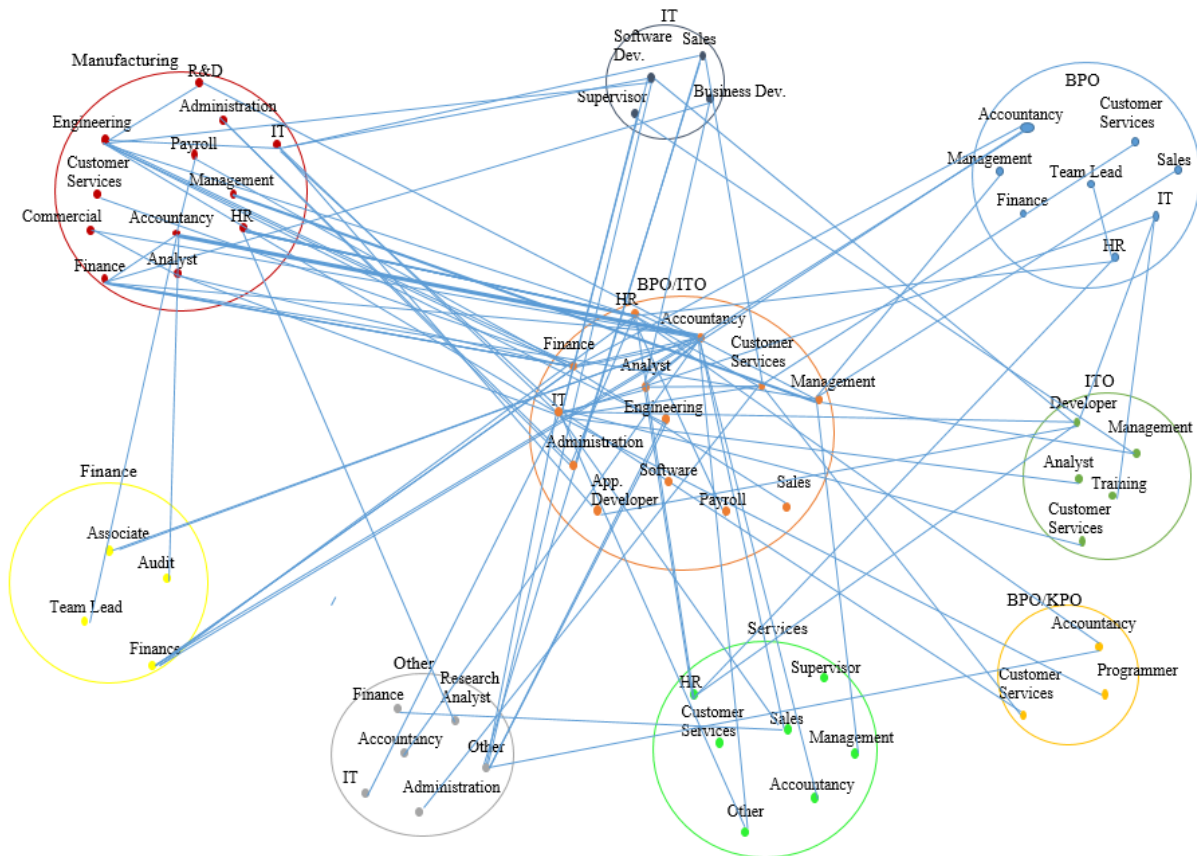
Table 7.10: *Labour mobility of respondents that currently have a job in the ITO-sector.*
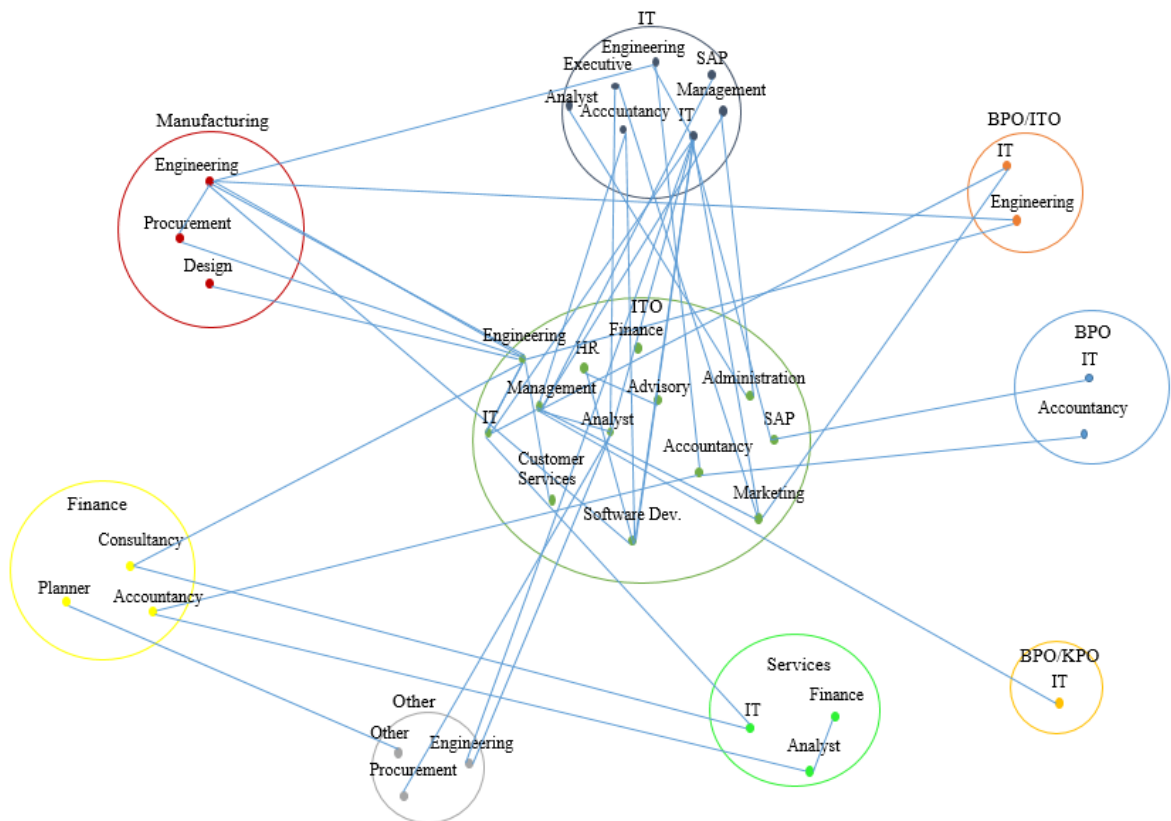
Sources: Own draft (2016)

7.3 Reasons for working in the Penang SSO industry

The respondents who filled out the questionnaire rated several reasons on importance for working in the SSO industry in Penang. In table 7.5, these reasons are ranked by importance. All the scores are above neutral (=3), and can be seen as 'important' for the employees. However, considered as the most important reason to work in the SSO sector is skills advancement, followed by 'relevant to my skills' and 'decent working hours'. If a job is relevant to a worker's skills then the job is probably skill related with acquired skills. Lack of suitable jobs in other sectors is ranked as most unimportant, what means that the respondents are not working in the SSO sector because they cannot find other jobs, but that the SSO jobs are more attractive for them than jobs in other sectors.

Table 7.5: Reasons for working in the SSO sector ranked by importance. Highest score is 5 (very important), 3 is neutral, and lowest score is 1 (unimportant).

Reason	Importance
Wage offered (higher as in other sectors)	3,76
Relevant to my education	3,59
Relevant to my skills	3,94
Experience (as compared to previous jobs)	3,71
Skills advancement	4,08
Location of living (Penang/near Penang)	3,86
Fringe benefits in the sector	3,80
Decent working hours	3,90
Lack of suitable jobs in other sectors	3,16
Social status of the job	3,45

Source: Database (2015)

Respondents also selected one reason as the most important for them to join the SSO sector. Development of skills and knowledge, and to gain new and/or more experience were mainly named as most important. A higher wage as compared to other sectors is not by many experienced as most important.

Table 7.6 presents the reasons of employees to start working for companies 1 and 2, and for leaving their previous job. The most given reasons for working at Company 1 are the wage/benefits and the brand name/employer. This corresponds with the statements of the resourcing executive of the company. The employees left their previous job mostly because of a better offer/opportunity at Company 1. This may indicate that Company 1 poaches labour of other companies. The reasons for workers to start working for Company 2 differ, but the company/employer is mentioned the most. Most of the workers left their previous job for a better opportunity or a new experience.

Table 7.6: Reasons given by employees for working at companies 1 and 2, and for leaving their previous jobs.

Reason for working at Company 1	Leaving previous job
Salary & benefits	Better offer
Benefits	Looking for good opportunities
The wage offered and the company's culture and environment of work	Opportunity to join a different industry
The salary and location and new environment	Good opportunities
The brand name	Better opportunity joining Company 1
Company brand name	New experience, career advancement
-	To explore work of shared services
Wage offered	To pursue for ACCA exam
Career advancement	-
Able to learn	-
Good reputation of the employer	To study full-time
Job scope and career advancement	Better opportunity ahead
To provide a good service with my knowledge	End of my internship
Employers credibility	Opportunity
A fan of the company	-
Is a new environment for me to learn things	Good offer

Random	-
Brand & environment	-
-	Better opportunity
Skills & opportunity	-
Employers credibility	-
Their company reputable and benefit for employees	-
Good leader and has many of experience in leading organization	-
Fresh graduate	-
Reason for working at Company 2	**Leaving previous job**
Interest & company direction	Family reason
Fringe benefits provided	Better offer
To get permanent position	To get permanent position
-	Job nature
Company stability & futuristic	Married & move to Penang
The current employer's status as one of the best employers and the benefits offered	Change of environment and work
the benefits of the company	Better opportunity
Relevant to my previous work and find interesting in it	Looking for better opportunity
-	Better opportunities
Work environment	Removal of the payroll department
n/a	New experience
I join as it is a good company	-
Good benefit	-

The reasons given by employees of Company 1 correspond with the most important reasons given by employees of other companies to apply for the job at their current employer. Instead of skills advancement –most important to join the SSO sector– is the company/employer's credibility and reputation. Also, the wages and offered benefits are important to apply for the job. Five of the respondents were attracted that much by SSO in Penang that they changed residence for a job in the industry.

Job-satisfaction

Important to a worker to stay in the same job/company or change to another job/company is the degree of job-satisfaction. Table 7.7 presents how satisfied workers are with certain aspects of the job and the employer. The respondents are the most satisfied with 'a challenging work environment'. Fringe benefits were a slightly important reason to start working in the SSO sector, but the workers are less satisfied with the fringe benefits than could be assumed.

Table 7.7: *How satisfied are the respondents with the following aspects. Highest score is 5 (very satisfied), 3 is neutral, and lowest score is 1 (very dissatisfied).*

Item	Satisfaction
Wage earned	3,27
Bonus offered	3,08
Social status of work in SSO sector	3,41
Career progression in SSO so far	3,29
Career progression in this company so far	3,22
Future career opportunities	3,47
Challenging work environment	3,75
Learning of new skills	3,61
Fringe benefits offered	3,22
Daily work	3,37
Job security	3,59

Source: Database (2015)

A little more than half of the respondents were not actively searching for (other) work opportunities prior to getting the opportunity to work in the SSO sector/current job in Penang. Only two workers were searching outside of Penang and Malaysia, but they still decided to stay in Penang for their current job. Almost 30 percent of the respondents does not plan to stay in their current job (this percentage is 37 percent for Company 1). The workers named several reasons why they did not plan to stay in their current job: *career advancement; gain new experience for different company with new working environment; location; low salary; still want to find a job that I love to do; this is my first job and I am still young; there are a lot of things to explore than being in one company*. Like some of the interviewees already mentioned, the employees feel the desire to gain new experiences and explore other companies.

All of the respondents that not plan to stay in their current job, are also looking for opportunities outside of Penang. A higher paycheque is the main reason for looking outside of Penang, the locations where they expect to earn more money are the country's capital Kuala Lumpur, Singapore, and Australia. Twelve of these workers are single, whereof eight living with their parents, and only three are married. It is not surprising that mainly single people are more able and willing to move (abroad) than married people with children.

Wages
A higher wage can be an important factor to change job. In 2013, the median monthly wage in Penang was 1,500 RM. Only one of the workers earned less, or exactly, the median wage of 2013 (table 7.8). Penang is ranked third in the list of the richest states based on GDP per capita (below Putrajaya and Kuala Lumpur), but has a lower median wage compared to Johor and Negeri Sembilan (Khazanah Research Institute, 2015). The minimum wage in Malaysia is RM 900 per month, so the median is only 600 RM higher.

Table 7.8: *Classified wage-level of the respondents.*

Wage-level (per month)	Number
0-1,500 RM	1
1,501-3,000 RM	27
3,001-4,500 RM	15
4,501-6,000 RM	6
More than 13,500 RM	1
Total	50

Source: Database (2015)

The wages of the SSO employees are compared with data –of Jobstreet.com– about wages for similar job-functions. According to these data, the wages for job-functions as HR executive, account executive, finance executive and team lead are comparable between the Penang SSO industry and average wages in Malaysia.

7.4 Skills
The skill requirements of companies and stories of interviewees indicate that soft skills are very important in hiring staff. In table 7.9 the most important skills that made workers apply for a SSO job and their current job are presented. All of the respondents are working in the BPO sector, so it is logic that job-specific skills as payroll and accounting are more selected than programming and troubleshooting skills. Most important skills according to the employees are 'the ability to work in a changing environment' and 'the ability to learn new skills'. These skillsets can be seen as 'adaptability'. Not really remarkable differences between the selections of importance of a skillset for a SSO job and the current job of workers are mentionable. Only for linguistic skills, ability to work in a changing environment, and ability to focus on customer's demands are the differences, a little, notable.

Table 7.9: The most important skills according to respondents that made them apply for a SSO (BPO) job and their current job. Multiple selection was possible.

	Skillset	SSO	%	Current job	%
1	Linguistic skills	8	15.7	3	5.9
2	Interpersonal skills	27	52.9	26	51.0
3	Ability to work in a changing environment	26	51.0	34	66.7
4	Computer skills	22	43.1	23	45.1
5	Problem-solving skills	28	54.9	31	60.8
6	Ability to learn new skills	38	74.5	36	70.6
7	Communication skills	33	64.7	28	54.9
8	Analytical skills	22	43.1	25	49.0
9	Ability to focus on customer's demands	14	27.5	19	37.3
10	Troubleshooting skills	9	17.6	12	23.5
11	Programming skills	2	3.9	3	5.9
12	Payroll skills	6	11.8	9	17.6
13	Project-management	7	13.7	7	13.7
14	Data-entry skills	19	37.3	23	45.1
15	Accounting skills	16	31.4	17	33.3

Source: Database (2015)

The question what the workers considered as their core-skill for both the SSO-sector and their current job led to diverse answers. The specified skills for the SSO sector and their current job varied: respondents more often selected generic skills and personal competences as their core-skill for the SSO-sector, while job-specific skills are more often selected as the core-skill for performing their current job. According to the workers, soft skills and attitudes are more important to succeed in the SSO sector in general, but to perform the actual job are hard, job-specific skills more important.

7.5 Conclusion
This chapter presented data on the perspective of labour supply. A 'typical' SSO employee in Penang attained a bachelor's degree, is young (between 20 and 40) and is not quite experienced in the labour market. However, the average experience of the respondents is only five years and one month but for 62.5 percent of the respondents is the current job the third (25 percent) or fourth job (37.5 percent). Meaning that on average these workers had the same job for about one and a half year. Labour market statistics already shown the excessive urge of workers to change job in the constrained labour market of Penang, also 37 percent of the respondents is not planning to stay in their current job.

The most important skills selected by the workers to succeed in the SSO sector are transferable skills, which hand in hand goes with the urge to change job, and the labour flows between SSO companies and other skill related sectors/functions. Like mentioned in the theoretical chapter; labour mobility is not random, it shows close connection between relatedness and transferability of skills. The labour mobility patterns of employees in the SSO sector revealed which branches/job-functions are skill related and which companies are competing for similar skills. The competition for similar skills in the constrained labour market in Penang augments the probability of skill shortages. The SSO sector has a wide variety of job-functions that are skill related with functions in the whole labour market, so skills competition is not increased for only a particular sector. However, the manufacturing sector is the most skill related with companies offering BPO/ITO services, ITO companies with the IT sector, and BPO with finance, manufacturing and BPO/ITO.

Expectations
This chapter gave insights about the fourth and fifth expectation and these can be accepted/rejected.

The fourth expectation can neither be accepted or rejected. The workers selected a 'challenging work environment' and 'learning of new skills' as the most important reasons for working in the SSO sector. These 'attractions' are more important, but the importance of the wage-level depends on the availability of these other attractions. So the importance of the wage-level depends on the level of skilled labour attraction of a company: how lower the level of skilled labour attraction, how more important the wage-level is to start working for a SSO company.

4. Attractions other than the wage-level are more important for workers to start working for a SSO company in Penang.

The fifth expectation can be accepted. There is more mobility from particular industries to the SSO sector, but this is mainly possible through the similarity of functions in all of the different sectors. Sectors that on the first sight differ from each other –as judged by industrial classifications– still are skill related because of the similar functions in both industries. So skill relatedness between the SSO sector and other parts of the labour market is better identifiable with labour mobility between job-functions than between sectors.

5. The SSO sector in Penang is not skill related with a particular industry (measured with labour mobility), but with functions all over the local labour market.

8. Conclusion

In this thesis the development of Penang into the current state and how the state government came to the decision to focus on the diversification of (established) operations of MNCs–from manufacturing to among others SS– and the attraction of new SSO companies is elaborated. The development of Penang to a high-income state – and the development of Malaysia to a high-income country– is slowed down due to the middle-income trap. The SSO sector is considered as one of the steps for creating high-value level jobs in Penang. However, the question is whether the decision to focus on the SSO industry is the right one because of the (side-) processes that might be created in the labour market by the growing labour demand of the SSO companies. This has led to the following research question:

What local labour market processes and labour flows are created by the establishment of the SSO industry in Penang?

The question is divided into two labour market perspectives: labour demand and labour supply. The corresponding sub-questions are presented below.

Labour demand
What is the scale of the shared services and outsourcing operations in Penang and what kind of activities/services are carried out?

What skills are required in the shared services and outsourcing operations in Penang and how is this revealed in recruitment and employment characteristics?

What is the recruitment pattern of the shared services and outsourcing companies in Penang?

What are the attractions for workers to start/stay working in the shared services and outsourcing industry in Penang and how do these attractions differ between various SSO companies?

Labour supply
What kind of educational profile is common for workers in the shared services and outsourcing industry in Penang and how is this related to required qualifications of shared services and outsourcing companies?

What does employment history reveal about mobility and skill relatedness of other parts of the Penang economy in relation to the structure/functioning of the local labour market?

The sub-questions are as well as possible been answered throughout this thesis, so it should be possible to answer the main question of this research.

In the introduction is the question asked if SSO is a 'blessing' in terms of capacity to retain talented human capital (diminish brain drain that has become more evident nation-wide) and infuse the local labour market with new supply, or whether it could turn out to be a 'curse' as labour competition is heightened through skill relatedness of jobs in SSO and other parts of the economy, resulting in diversification-induced drainage processes. The question is whether the development of the SSO industry will help to stop the drain of skilled human resources out of Penang or diverts the attention away from the need to create jobs that increase options for skilled graduates. The SSO industry creates jobs for high skilled workers (like Company 3), but other companies (like companies 1 and 6) attract high skilled workers for low level jobs and divert the attention away from the need to create jobs for high educated graduates. Furthermore, labour/skills competition is heightened through skill relatedness of jobs in SSO and other parts of the economy, resulting in labour market segments that experience skill shortages.

Thus, the establishment of new variety in Penang has created a couple of local labour market processes and labour flows. The vacancy analysis and interviews showed that the skill requirements of different SSO

companies are quite similar. There are differences in the qualifications for the SSO 'industries' –BPO, ITO, KPO– but the overall required skillset shows many similarities. Similarity of the skills required means that competition for the same workers is augmented by the establishment of SSO companies, but also that the skills are transferable and the possibilities for job mobility of workers has increased. The analysis of labour mobility showed which industries are competing for similar skills in the local labour market, because in general; the more related activities in a range of industries are, how larger the opportunity for mobility –and how larger real mobility is. The analysis indicated that (most of) the functions in the SSO industry are related with functions that occur in the whole local labour market (heightened skills competition). However, most of the workers moved from the manufacturing sector to SSO.

The increased competition for similar skills –resulting in labour mobility– has led to skill shortages in certain segments/compartments of the constrained labour market. On the one hand companies experience skill shortages, but on the other hand companies experience skill abundance. Skill shortages in the Penang labour market are not particularly occupation or industry specific but rather *segment* specific. Anecdotes of the interviewees indicate that the supply of labour varies for different companies. The level of skilled labour attraction/retention and the power to set the terms of employment is different for companies that compete for similar skills (buyer versus seller markets).

The workers in the Penang labour market are –because of the tightness– almost certain of having a job and keep searching for better opportunities. A worker with a sufficient set of skills for a wide range of functions in the SSO sector is in a position wherein the worker is able to require a lot of employers: the companies are searching for the skills that the worker possesses and there are not a lot of substitutes. Workers will keep looking for better opportunities until they are in the 'top-compartment' of the local labour market. The labour market functions more or less like a *carousel*: every round workers try to get on a better seat.

Concluding, new variety in a constrained, segmented labour market causes several labour market processes. The processes are dependent on the skill relatedness of the new activities and the existing economy: high skill relatedness will heighten skills competition and mobility may result in drainage of other industries/segments (and skill shortages). Further research about new variety in a constrained, segmented local labour market can help to map the (possible) created labour market processes and would be a valuable complement to this research.

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Appendix 1: Interview-schedule

Universiteit Utrecht

Faculty of Geosciences, Department of Human Geography and Planning
Section Economic Geography, Utrecht, The Netherlands

Research Project
Labour Mobility in the Shared Services & Outsourcing (SSO) Sector in Penang

Company Survey Schedule

Company (name): ……

Address: …….

SSO/BPO category: ……….

Since when in Penang (incorporation): ………………………………………………………………………………………

MSC status: ☐ Yes ☐ No

1. Operational characteristics

1. Kind of operation:

☐Own intra-company operation: *how is SSO organised as to different locations of operations (in Malaysia)?*

....

....

☐Outsourced by clients: *more operations in Penang/Malaysia?*

....

....

2a. Nature of activities (departments) performed in company SSO operations in Penang:

....

....

b. Qualification of Penang SSO operations: ☐ low-end   ☐ mid-end   ☐ high-end

3a. **If own operation**: What were the most important reasons to locate SSO operations in Penang?

....

....

....

b. The total size of the company (employees): [   ]

c. Nature of company operations: what is your company doing in Penang?
☐ Manufacturing   ☐ R&D
☐ Design   ☐ SSO
☐ Other, specify…………………………………………………………………………………………………..

4. **If client-outsourced**: What were the most important factors in attracting/engaging SS(O) operations to/in Penang?

....

....

....

2. Employment

5. Number of employees in SSO operations   [   ]

6. Breakdown of employees in SSO operations (functions/tasks, number of employees, common educational background and common experience).

Job-function	No. of empl.	Educational background	Job-history (experience)

7. Development of SS(O) operations in Penang in terms of number of employees (since establishment or last 5 years).

Job-function	Year of establishment	Development (growth/decline)

3. Labour recruitment

8. How is the company recruiting for labour?

☐ Unsolicited applications ☐ Online advertisement (employment websites)
☐ Advertisements (newspaper) ☐ Employees network: colleagues, family/friends
☐ Boards/banners ☐ Career fair at educational institutions (open days etc.)
☐ Employment agencies ☐ Other, …………………………………………………………

9. Recruitment
a. Workers that are active on the existing labour market?
☐ No
☐ Yes, from which sectors:………

b. Fresh graduates/school-leavers?
☐ No
☐ Yes, from which educational institutions:……………………………………………………………………………………..

c. Recruitment areas
☐ Penang   ☐ Other states in Malaysia   ☐ Abroad

10a. Do you employ on contract basis?   ☐ Yes → b   ☐ No → 11

b. Are most of the contracts for short- or long-term?
☐ Short-term (less than 1 year)   ☐ Long-term (more than 1 year)

11a. What core skills/skills-criteria are being targeted for hiring new staff?

………

………

12a. Is it difficult to find employees with the right skills and qualifications? ☐ Yes ☐ No

b. What are the barriers/challenges in finding employees with the right skills and qualifications?

………..

………

13. Is your company trying to differentiate itself, with regards to labour recruitment, from other companies in the same sector?
☐ Yes → b   ☐ No → 14

b. If yes, how is it differentiating?   ☐ Starting wages   ☐ Working conditions
                                              ☐ Fringe benefits   ☐ Terms of contracts
                                              ☐ Career prospects
☐ Other (specify) ………..

14. Are there any other recruitment strategies besides the ones addressed in earlier questions?
☐ No   ☐ Yes   ☐ Direct approach of groups of workers
☐ Internships of students
☐ Other, (specify) ………………………………………………………………

15. Are there any vacancies at this moment?
☐ No
☐ Yes, how many and for what functions:…………………………………………………………………………………………

………

4. Labour turnover and retention

16a. Do you experience labour turnover in your SSO operations?
☐ Yes → b   ☐ No → 17

b. if yes, percentage rate   ….. % (annual, or other measure of the company)

c. Is there turnover differentiation according to categories of workers (functions)?   ☐ Yes ☐ No

If yes, please elaborate ……….

………

17. What is the frequency of hiring new employees?   ☐ Weekly   ☐ Monthly   ☐ Quarterly
                                                            ☐ Other, specify……………………………………….

18a. Are there any strategies to retain the employees?   ☐ Yes → b   ☐ No → 19

b. If yes, what are these strategies?

☐ Remuneration ☐ Working conditions
☐ Fringe benefits ☐ Skills development (firm-specific)
☐ Location/office building ☐ Promotion
☐ Other, ………………………………………………………………………………………

19a. Do the employees have opportunities for advancement/promotion? ☐ Yes → b ☐ No → 20

b. If yes, what are these opportunities? …………………………………………………………………………………………

……

5. Skills

20. What are the daily tasks of the employees? (divided into departments)

Category/department 1 ………………………………   ………………………………………………………………………………

Category/department 2 ………………………………   ………………………………………………………………………………

Category/department 3 ………………………………   ………………………………………………………………………………

Category/department 4 ………………………………   ………………………………………………………………………………

21a. Are the qualifications and level of skills of the employees on average lower or higher than the company requires of them? (deficiency/redundancy)   ☐ Deficient   ☐ Redundant

b. Can you please explain the answer: ……………………………………………………………………………………………

22a. Is firm-specific training provided before employees start working in this company?
☐Yes ☐ No

b. If yes, nature of the training? ……………………………………………………………………………………………………

23a. Are there possibilities for employees to pursue in-house training programs on a voluntary basis?
☐ Yes ☐ No

b. If yes, nature of the programs? ………………………………………………………………………………………………

6. Statements

24. What is your opinion about the following statements? (1= strongly disagree, 3= neutral, 5= strongly agree)

		Disagree			Agree	
a.	SS(O) offers (new) opportunities for groups of labour to stay in Penang	1	2	3	4	5
b.	Labour competition makes it difficult to recruit well-qualified labour	1	2	3	4	5
c.	The local government agencies are very helpful in resolving labour supply/ recruitment issues	1	2	3	4	5
d.	SS(O) development contributes to supply-gaps elsewhere in the Penang labour market	1	2	3	4	5
e.	Penang will also in the future be a good place for high-end SS(O)	1	2	3	4	5

25. Direction of SSO activities? Objectives/mission in the next 5 years:

……

……

……

Please feel free to contact Mr Jeroen de Vos at 016-269 9743 or email to j.devos4@students.uu.nl if you have any query. Please email/fax (04-226 7042) it back to us.

- THANK YOU -

Appendix 2: Survey-questionnaire

Universiteit Utrecht

Faculty of Geosciences, Department of Human Geography and Planning
Section Economic Geography, Utrecht, The Netherlands

Research Project
Labour Mobility in the Shared Services & Outsourcing (SSO) Sector in Penang

Employee Survey Schedule

We are carrying out a study to determine the labour market effects of the growing SSO/BPO sector in Penang. This survey schedule is for employees in the sector. Below you will find questions on your current job, your employment history, your labour skills, your satisfaction with the current job, as well as some personal characteristics. The schedule is **anonymous**. In the final analysis, information of individuals will not be traceable. The results are used for academic purposes only. For selected individuals we may be interested in a more in-depth interview. If you do not mind to participate in this, please fill out your name and e-mail address on the last page.

Thank you for your participation and cooperation

Company (name): ………

SSO/BPO category: ☐ BPO   ☐ ITO   ☐ KPO

1. Current job

1. My function is (title): ……….

2. I started this job in (year) [   ]

3. My daily tasks are: ……
……

4. This job is: ☐ Part-time ☐ Full-time

5. I got to know about this job through:
☐ Job advertisement in a newspaper
☐ Online job advertisement
☐ (Former) Colleagues
☐ Friends/family
☐ Other (specify):……………………………………………………………………

6. Terms of employment:
☐ Short-term contract (less than 1 year)
☐ Long-term contract (more than 1 year)
☐ Permanent
☐ Other (specify):……………………………………………………………………

7.a. Do you engage in other work-related activities next to this job? ☐ Yes ☐ No

b. If yes, what kind?
☐ Educational program (study)
☐ Skill training (not employer-provided, courses)
☐ Another job (specify) ………………………………………………………..
☐ Other (specify): ……………………………………………………………………

8. Please rate the importance of the following reasons for working in the SSO sector?
(1 = unimportant, 3 = neutral, 5= very important)

Reason:	Unimportant		Neutral		Very important
Wage offered (higher as in other sectors)	1	2	3	4	5
Relevant to my education	1	2	3	4	5
Relevant to my skills	1	2	3	4	5
Experience (as compared to previous job)	1	2	3	4	5
Skills advancement	1	2	3	4	5
Location of living (Penang/near Penang)	1	2	3	4	5
Fringe benefits in the sector	1	2	3	4	5
Decent working hours	1	2	3	4	5
Lack of suitable jobs in other sectors	1	2	3	4	5
Social status of the job	1	2	3	4	5
Other (specify) ……………………………………………………..	1	2	3	4	5

9. What was the most important reason for you to join the SSO sector?

……

10. What was the most important reason to choose to apply for the job at your current employer?

……

2. Job history

11. We would like to ask you some information on the previous jobs you have held.

a. Is this your first job?   ☐ Yes, go to *section 3*
                                                              ☐ No, go to *question 11b*

b. If no, how many jobs have you held during the past 5 years: [   ]   How many of these in the SSO sector: [   ]

c. Please fill out the information in the table below for the last 3 (or less if applicable) jobs you have held.
(Note: This section is optional if you could attach your cv together with the survey form.)

Function (designation)	Employer (company)	Begin (year)	End (year)	Location (area)	Reason(s) for leaving the job
1. Previous job					
2. Job before previous job					
3. Job before that					

3. Skills

12. What is the highest level of education you have attained?
☐ SPM   ☐ Diploma   ☐ Advanced/higher/graduate diploma
☐ Post-graduate diploma   ☐ Professional degree   ☐ Bachelor's degree
☐ Master's degree   ☐ PhD
☐ Other (specify) ………………………………………

13. In what area is your highest level of education attained?
☐ Management   ☐ Social Sciences   ☐ Technical (not IT)
☐ Engineering   ☐ Information Technology ☐ Business
☐ Other (specify) ………………………………………

14.a. Which skills acquired (in education or in previous job(s)) made you apply for a job in the SSO sector?
☐ Linguistic skills   ☐ Interpersonal skills   ☐ Ability to work in a changing environment
☐ Computer skills   ☐ Problem solving skills   ☐ Ability to learn new skills
☐ Communication skills   ☐ Analytical skills   ☐ Ability to focus on customer's demands
☐ Troubleshooting skills   ☐ Programming skills   ☐ Payroll skills
☐ Project-management   ☐ Data-entry skills   ☐ Accounting skills
☐ Other (specify)
………………………………………………………………………………………………………

b. and for your current job with this SSO employer?
☐ Linguistic skills   ☐ Interpersonal skills   ☐ Ability to work in a changing environment
☐ Computer skills   ☐ Problem solving skills   ☐ Ability to learn new skills
☐ Communication skills   ☐ Analytical skills   ☐ Ability to focus on customer's demands
☐ Troubleshooting skills   ☐ Programming skills   ☐ Payroll skills
☐ Project-management   ☐ Data-entry skills   ☐ Accounting skills
☐ Other (specify)
………………………………………………………………………………………………………

15. Did you take up any training between your earlier job outside the SSO sector/study and job in the SSO sector/this job to acquire the skills that are needed for this job?
☐ No
☐ Yes , what kind of
course:…………………………………………………………………………………………………….

16. What do you consider as your *core*-skill for performing work:

a. in the SSO
sector?.......……………………………………………………………………………………………………

b. at your current
employer?.......……………………………………………………………………………………………………

17.a. Does your current employer provide in-house training programs?

☐ No

☐ Yes, which?

………..

b. If yes, do you follow any of these?

☐ No

☐ Yes,

which?……

4. Job-satisfaction

18. How satisfied are you with the following items (please circle a digit for each item; 1 = very dissatisfied, 3 = neutral, 5 = very satisfied)

	Very dissatisfied		Neutral		Very satisfied	Not applicable
Wage earned	1	2	3	4	5	☐
Bonus offered	1	2	3	4	5	☐
Social status of work in SSO sector	1	2	3	4	5	☐
Career progression in SSO so far	1	2	3	4	5	☐
Career progression in this company so far	1	2	3	4	5	☐
Future career opportunities	1	2	3	4	5	☐
Challenging work environment	1	2	3	4	5	☐
Learning of new skills	1	2	3	4	5	☐
Fringe benefits offered	1	2	3	4	5	☐
Daily work	1	2	3	4	5	☐
Job security	1	2	3	4	5	☐

19. Were you looking for - other - work opportunities prior to getting the chance to work in the SSO sector/ your current job in Penang?

☐ No, I was not actively searching

☐ Yes, in Penang only.

Reason:……..

☐ Yes, in Penang and elsewhere in Malaysia.

Reason:…………………………………………………………………………………

☐ Yes, elsewhere in Malaysia only.

Reason:………………………………………………………………………………………

☐ Yes, outside Malaysia.

Reason:……………………………………………………………………………………………

20.a. Do you plan to stay at your current job?

☐ Yes

☐ No, main

reason:……

b. If no, do you want to look for (other) opportunities outside Penang?

☐ No

☐ Yes, main reason and location where you want to go:

………………………………………………………………………….................................

5. Personal characteristics

21. Year of birth?

22. Gender?   ☐ Male   ☐ Female

23. Place of residence?   ☐ Penang Island (specify)………………………………………………………….

                                       ☐ Penang Mainland (specify) ……………………………………………………

                                       ☐ Outside Penang (specify) ………………………………………………………

24.a. Did you already live in your current place of residence before taking up work in the Penang SSO sector/ current job?

☐ Yes

☐ No, where did you live

(city)?…………………………………………………………………………………………………..

b. If no, did you change residence because of the location of first job in the Penang SSO sector/current job?

☐ Yes   ☐ No

25. What is your ethnicity?   ☐ Malay   ☐ Chinese

                                 ☐ Indian   ☐ Other (specify) …………………………………………

26. What is your family status?

☐ Single, living with parents   ☐ Single, own accommodation☐ Divorced

☐ Married, + spouse   ☐ Married, + spouse and child(ren)   ☐ Other (specify)

…………………………..

27. In what bracket does your (net) wage (in RM per month) fall?

☐ 0 - 1,500 RM per month   ☐ 7,501 - 9,000 RM per month

☐ 1,501 - 3,000 RM per month   ☐ 9,001 - 10,500 RM per month

☐ 3,001 - 4,500 RM per month   ☐ 10,501 - 12,000 RM per month

☐ 4,501 - 6,000 RM per month   ☐ 12,001 - 13,500 RM per month

☐ 6,001 - 7,500 RM per month   ☐ More than 13,500 RM per month

- Thank you again for your cooperation -

Can I contact you for an interview to get more background information about your reasons to work in the SSO sector?

☐ Yes, *please fill out your name, e-mail address and telephone number* ☐ No

Name:

……
…

E-mail address:

…….

Phone number:

……

Please feel free to contact Mr Jeroen de Vos at 016-269 9743 or email to j.devos4@students.uu.nl if you have any query. Please email/fax (04-226 7042) it back to us.

Appendix 3: Field and level of education of the respondents

Business	PhD	MD	BD	Prof. Dipl.	Adv. Dipl.	Dipl.	Unknown	
Accountancy			22	6		3	2	
Accountancy & Finance		1	13					
Business			6			1		
Business Administration		11	7				1	
Business IT			2					
Business Management			8			1		
Commerce			3					
Finance			13					
International business		1	5					
Marketing			3					
		13	82	6		5	3	109

IT	PhD	MD	BD	Prof. Dipl.	Adv. Dipl.	Dipl.	Unknown	
Biotechnology			4					
Computer Science		5	27		4			
IT	1	2	14		1	2	2	
	1	7	45		5	2	2	62

Engineering	PhD	MD	BD	Prof. Dipl.	Adv. Dipl.	Dipl.	Unknown	
E&E Engineering			12					
Environmental Engineering		2						
Information Sytems Engineering			2					
Mechanical Engineering		3	1					
Computer System Engineering			5					
Software Engineering			2			1		
		5	22			1		28

Management	PhD	MD	BD	Prof. Dipl.	Adv. Dipl.	Dipl.	Unknown	
Hotel Management			1			1		
HR Management			5	1				
Management		3	8					
Management Information Systems			3					
		3	17	1		1		22

Social Sciences	PhD	MD	BD	Prof. Dipl.	Adv. Dipl.	Dipl.	Unknown	
Arbitration Law							1	
Communication			1					
Economics		1	6					
Geography			2					
Psychology			2					
Social Sciences			5			1		
		1	16			1	1	19

Remaining	PhD	MD	BD	Prof. Dipl.	Adv. Dipl.	Dipl.	Unknown	
Applied mathematics			2					

Biotechnology			4					
International Affairs			1					
Materials science	1		1					
Media & Culture			2					
Public administration							1	
Public relations			1					
Secretarial			1					
SPM						3		
TESOL						1		
Technical (non-IT)			1					
Transportation/logistics		1	1					
Unknown		1	2				32	
	1	2	16			4	33	56
	2	31	198	7	5	14	39	296