Exploring Training Issues of Multinational Companies in Asia

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Abstract

Effective employee training is important to organisations as it improves quality of human resources, which in turn help achieve better organisational outcomes. The literature on education, training and other aspects of human resource development (HRD) among multinational companies (MNCs) in Asia is quite limited. This paper intends to explore training expenditure, training programs offered and training concerns indicated by companies, using a survey of 529 MNCs operating in six Asian countries (namely Indonesia, Malaysia, Philippines, Singapore, Thailand and Taiwan). The findings show that the majority of MNCs surveyed recognised the benefits of employee training and invested heavily on training different types of employees in local subsidiaries. Organisational variables such as size, industry, parent source and proportion of international activity also affected training practices of MNCs. The paper identified some quality and relevance issue related to formal and externally-conducted training programs.

Key words: Education, Training, HRD, MNCs, Asia

Introduction

It is widely supported that human capital contributes to high productivity, quality performance and national economic growth; and that the most important investments in human capital are education and training (Schultz, 1961; Lucas, 1988; Kennedy, 1993; Booth & Snower, 1996; Sweeney, 1998; Prince, 2002; Blunch & Castro, 2005). Effective employee training provides an organisation with a unique and differentiating position to improve its standard and quality of service to customers, resulting in continuous innovation and increased productivity and profitability (Matthew, 2002; Taylor & Davies, 2004). With this significance, the training issue of multinational companies (MNCs) in Asia poses an area of high interest and is the focus of this paper.

The emerging economies in Asia have formed major platforms for many MNCs to increase their global business operations in the region. Yet the literature on education, training and other aspects of human resource development (HRD) in the region is still under-developed (Low, 1998). According to Osman-Gani and Tan (2005), little is understood about the international HRD programs and practices employed by multinational companies to train and develop their employees for this dynamic region. This paper provides insight for managers and renders theoretical contributions to the literature through exploring training expenditure, programs offered and concerns indicated by 529 multinational companies

operating in six Asian countries comprising Indonesia, Malaysia, Philippines, Singapore, Thailand and Taiwan.

The paper firstly reviews the literature on various aspects of training. This is followed by the research questions developed for the study. The research methodology is then explained, which leads to a discussion of the findings from the empirical survey data. The paper concludes that the majority of multinational companies surveyed have recognised the benefits of employee training and devoted substantial amount of investment on training different types of employees in their local subsidiaries. Organisational variables such as size, industry, parent sources and proportion of international activity affect training practices of MNCs. Training is an important issue that needs to be addressed at the organisational level. The current study identified some quality and relevance issue related to formal and externally conducted training programs. However, there is a need to further clarify specific contents of each training program offered by MNCs to properly evaluate the effectiveness of these programs.

Literature Review

From an economic perspective, education and training are seen as critical factors in promoting long term employment and economic growth (Schultz, 1961; Lucas, 1988; Sweeney, 1998). Kennedy (1993) argues that knowledge developed through training and education gives rise to a country's competitive advantage. At firm level, as workplaces become highly integrated with pervasive organisational practices, the need for training is seen as imperative (Blunch & Castro, 2005). Training is viewed as an essential element in introducing new technologies, maintaining the absorptive capacity for innovation and facilitating the new knowledge creation and organisational learning (Matthews, 2002; Prince, 2002; Minbaeva et al. 2003; Blunch & Castro, 2005). Upon the acquisition of skills, employees can increase their productivity and become more adaptable to change (Booth and Snower, 1996).

Training can be formal and informal. *Formal training* is structured, whilst *informal training* does not have a specified content or predetermined plan (ABS, 1998). Because of difficulty in measuring informal training, the focus of this paper is on formal training. The types of formal training can range from a longer term study under scholarship, trainingship and apprenticeship to a short time of attending workshops, seminars or audio visual presentations. They are formal as they involves a combination of instructions and monitored practical work (ABS, 1998). Formal training can be conducted internally or externally, depending on who provide training contents. Often *internal training* is company-based training where the training content is developed internally by staff or training specialists to meet firm and individual employees needs (Dawe, 2003). Internal training can be conducted on the job or off the job. *On-the-job training* refers to training undertaken in the workplace as part of the productive work of the learner while carrying out normal work tasks. *Off-the-job training* is normally conducted off the premises but may be on the premises (eg. in a special training room) (Dawe, 2003). Both external and internal training, and on-the-job and off-the-job training are examined in this paper.

A number of factors, such as education level of employee, industry, legislation, size, technology and trade can determine company's training practices. For example, Blunch and Castro (2005) argue that there is a higher probability of training for people with greater learning abilities and higher level of education. Snower (1996) found that low ranking

workers (eg. clerical and production line workers) with low level of education tend to get caught in a cycle of low training or the 'low-skill, bad-job' trap (p. 109). The observation of a higher likelihood of work-related training being received by people with a higher education level is further supported by a significant number of studies conducted in America and Europe (eg. Booth, 1991; Green, 1993; Lynch & Black, 1995; Van Smoorenburg & Van der Velden, 2000; Tan & Lopez-Acevedo, 2003). However, in Asia, the correlation between education and training is not all acquiescent. For instance, Tan and Batra (1996) found that there is a negative relationship of education and training in Indonesia, whereas other studies claim that there is a high impact of education level on training likelihood in Thailand (Zeufack, 1998) and in Malaysia (Tan, 2001).

The literature also depicted that training likelihood tended to be different among *industries.* Research by Booth (1991) and Ng (2005) support that there are differences of training practices between industries in developed and developing countries. Frazis et al. (1995) found a higher likelihood of training in their study of service industries. Devins et al. (2004) asserted from a study of training in small and medium-sized firms that further training was more commonly provided by service companies than by manufacturing firms. Similarly, the finding was supported by Blunch and Castro (2005) who reported that in the OECD countries, workers in the service sector, such as finance, insurance and business or community, social or personal services have a higher probability of being trained compared to those in the manufacturing industry.

The adoption of new *technology* is an important driver for company training (Smith & Hayton, 1999; Minbaeva et al., 2003; Osman-Gani & Jacobs, 2005). Training is viewed as an essential element in maintaining the absorptive capacity of innovative firms (Prince, 2002). In a study of 42 firms across various industries, Smith et al. (1995) found that the major driver of training for all industries was workplace innovation. *Firm size* is another factor that impacts on the likelihood and types of training. Empirical work by Booth (1993), Green (1993), Lynch and Black (1995), Zeufack (1998), Van Smoorenburg and Van der Velden (2000), Tan (2001) and Tan and Lopez-Acevedo (2003) support that larger firms provide more work-related training than smaller firms. The studies done by Oi (1983), Matlay (1997) and Szamosi et al. (2004) suggest that smaller firms are less likely to capture the returns of training because of their cost-consciousness, low risk-taking and uncertain planning horizons. Felstead and Green (1996) on the other hand support that larger firms offer more training, not entirely because they could easily capture the returns of training, but because they need to face more regulations and bureaucracy and hence offer training to meet various safety requirements.

Lastly, international *trade* may have impact on training practices of multinational companies. Blomstrom and Kokko (2001), Hu (2004), Shen (2005) and Jaw et al. (2006) have theorised MNCs as creating knowledge spillovers through a variety of means. One of this is through the training of their global employees. Furthermore, it was reported that foreign ownership of firms (foreign equity) is positively associated with more training in Mexico (Tan & Lopez- Acevedo, 2003), Taiwan and Malaysia (Tan & Batra, 1996). The amount of training and development programs was found to be positively related to direct foreign investment by MNCs in China (Shen & Darby, 2004). Lynch and Black (1995) found that employers who make large investments in physical capital relative to the number of workers will be more likely to train those workers in order to assure a higher return to that investment. Therefore, it is likely that MNCs, if investing heavily in physical capital in host countries, would also invest simultaneously in human capital so as to enhance their global

workforce capability. Considerable amounts of research on expatriate managerial training (eg. Lanier, 1979; Tung, 1981; 1982; 1984; Mendenhall et al., 1987; Kopp, 1994; Baumgarten, 1995; Dowling et al., 1999; Osman-Gani, 2000; Neupert et al., 2005) provide further support and explanation of the link between increasing international trade and demands for training by multinational companies. This is largely because international trade pushes firms to meet higher standards in order to satisfy demanding foreign markets and by presenting them with strong local competition from foreign producers. Hence the extent to which a firm exports its products may be a good indicator of its training practices.

A summary of above literature review unfolds that training is beneficial to companies, and can be formal and informal and conducted internally and externally. Differences in training practices could be largely due to organisational size, technology application, industry and educational level of employees and the extent of international trade firms involved in.

With rapid development of new markets in the Asia-Pacific region, a great deal of attention has focused on the management and HRD programs of large successful companies with cross-border operations in the region (Osman-Gani & Tan, 2005). The existing literature tends to focus on expatriate training and development of MNCs in the parent countries (eg. Tung, 1982; Kopp, 1994; Baumgarten, 1995; Osman-Gani, 2000; Osman-Gani & Tan, 2005; Neupert et al., 2005). There are relatively limited studies examining the extent of training for employees in the host countries (Dowling et al., 1999). The research interest in this paper is to identify what types of training have been offered by MNCs operating in Asia. How much did the companies actually spend on training? Who has taken what sort of training program? Would the organizational variables discussed previously also affect the level of training undertaken by MNCs? What are the major training concerns expressed by host country managers? To answer these research questions, a survey of 529 multinational companies was used for analysis. Next the research methods adopted for this study are discussed.

Research Methods

The survey questionnaires were distributed and collected with assistance by the identified local researchers from each of six Asian countries (Indonesia, Malaysia, Philippines, Singapore, Thailand and Taiwan) during March-May 2001. The initial intention was to survey 100 MNCs in each of these six APEC member economies. A total of 529 multinational companies responded subsequently. The survey questionnaire was completed by MNCs' local branch management personnel, including chief executive officers, financial controllers and human resource managers who were believed to be more competent in providing a better assessment of the extent of training the company has provided. The responses are profiled in Table 1.

Table 1: Survey profile – MNCs operating in Asia

Country	Manufacture MNCs	Service MNCs	Total

Indonesia	26	35	61
Malaysia	34	66	100
Philippines	50	31	81
Singapore	44	67	111
Taiwan	45	55	100
Thailand	49	27	76
Total	248	281	529

For consistency, the total training expenditure with local currency was converted into US dollars at the 2001 currency exchange rate. To better evaluate how much each firm spent on employee training, the data was computed by the total training expenditure against the total number of employees to arrive at an average training expenditure per employee. The average training expenditure was then divided into four categories: spending less than US$100 per employee; spending between US$100-500; between US$500-1000; and over US$1000 per employee per annum.

The total number of employees (N) was collected. However, to better evaluate how size affects the level of training, this continual variable was computed into a categorical variable, similar to the exercise of categorising the average training expenditure. Four different types of MNCs were classified: small companies (N<50); small-medium (50<N<100), medium (100<N<500) and large (N>500). As most of the MNCs in Asia employed more staff, the number was relatively large, small companies contain less than 50 employees, whilst large companies tend to have over 500 employees.

Formal training was examined, and training programs were measured by the total number of trainingship, scholarship and apprenticeship offered to different types of employee categories, namely, managers, professional and technical staff, clerical, sales and service and production employees. This categorisation of employees was based on the international standard classification of occupation (ILO, 2000). The number of training programs offered are continual variables. However, whether the training was conducted externally or internally and off- or on-the-job was nominated by the respondents, hence dichotomous variables were thereafter used.

The extent of export was measured by the proportion of exporting goods and services against the total goods and services produced/provided by MNCs. The proportion ranged from 0-100%. Industry contains both manufacturing (nominated as 1) and service (nominated as 0). Similarly, the parent companies outside Asia were nominated as 1, and those inside Asia as 0.

To avoid inaccuracy of misrepresentation, extreme outliers were removed before performing Pearson correlation (sig. 2-tailed) to examine the training determinants among MNCs investigated. Non-parametric statistical analysis tools were used to examine the categorical data (Siegel & Castellan, 1988; Pallant 2001), with the chi-square test for independence to determine whether two categorical variables are related (Gravetter & Wallnau, 2000).

Results

The findings showed that most of the MNCs operating in Asia have spent a considerable amount of dollars on training, with a total training expenditure ranging from

US$772 to US$26,267,554 (mean = US$419,855 per firm). The average training ranges from US$1 to US$71,665 (mean = $1080) per employee. Those firms (17 out of 374 MNCs responded to this particular question about training expenditure) that spent minimum amounts of money on training were further examined, and it was found that they were mostly smaller companies with less than 50 employees.

Comparing the average training expenditure per employee among the MNCs in service and manufacturing industries, it was found that there was a significant difference of training expenditure between different industries (chi-square value at 37.076, $p<0.01$). In our analysis, it is shown that more service MNCs likely spent more on training than manufacturing MNCs. In total, 43% of service MNCs responded indicated that they spent over US$500 on each employee training, compared to only 23% of those manufacturing MNCs responded. However, the correlation is not statistically significant as no relationship was shown between industry and total/average training expenditure (NOTE: the correlation matrix table is too big to be shown here, due to the pages limit for this conference, so is omitted). In contrast, the firm size is significantly correlated with the total training expenditure, though the magnitude is not strong (coefficient = .144, $p<0.01$). These results partially support the outcomes from prior studies, which suggest that the service MNCs tend to spend more on training than manufacturing firms, and that the larger sized MNCs also spent more dollars on training.

In terms of training programs, professional and technical employees received more trainingship and scholarship programs than other categories of employees (Table 2). The average number of trainingship programs provided to managers (2.12) is smaller than those provided to sales, service, clerical (2.48) and production staff (4.66). It is argued however that there would be proportionally more programs provided to managers than other categories of employees, because the number of managers in a firm is much smaller than the total number of employees in other categories. Hence, the result supports that managers, professional and technical staff in MNCs in Asia would receive more training programs than those clerical and production employees. Nevertheless, it is noted that substantial amounts of trainingship and apprenticeship programs were offered to employees in the production line, suggesting a considerable large scale of skilled labour shortage in Asia (Stahl & Zheng, 2002; Zheng, 2005). Hence, even basic skills training for lower level employees are still commonly required of MNCs operating in Asia.

Managers and professional staff tend to also take up more external training than internal training (Tables 3 and 4). When internal training mode was used, there were more on-the-job training for clerical, sales and service employees in the service sector, though production employees in the manufacturing sector were also likely to receive more on-the-job training than off-the-job training.

The correlation Table (not shown) provides further evidence that non-Asian owned MNCs tend to provide more training in terms of number of managers trained and the total number of training programs offered, but the magnitude of such correlation is not strong. Furthermore, the higher proportion of export does not necessarily indicate that firms have to spend more on training or provide more training programs. Export activities tend to be carried out by MNCs headquartered in Asia than in other areas; and manufacturing MNCs have a higher proportion of export. So the results seem contradictory to the existing literature, which suggest that the more exports by the firms, the more training; and the more equity owned by foreign firms, the more likely they will provide training (Lynch and Black,

1995; Shen, 2005). This might be due to the inclusion of more service companies in the sample size (281:248), and most of service MNCs operating in the local subsidiaries tend to deliver services to local customers, instead of exporting their services.

Table 2: Training Programs offered by MNCs in Asia –Employee Categories

Employee categories	**No. of MNCs responded**	**Average No. of programs offered (mean)**
Managers		
Trainingship	276	2.12
Scholarship	279	1.81
Professional and technical		
Trainingship	299	7.48
Scholarship	302	2.61
Sales, services and clerical		
Trainingship	280	2.48
Scholarship	279	2.00
Production		
Apprenticeship	235	4.66
Trainingship	236	2.05

Table 3: External training mode used by MNCs – industry comparison

Employee categories	**No. of Manufacturing MNCs responded (238) (percentage)**	**No. of Service MNCs responded (261) (percentage)**	**Total cases included in analysis (499)**
Managers	168 (70.6%)	169 (64.8%)	337 (67.5%)
Professional & technical	159 (66.8%)	163 (62.5%)	322 (64.5%)
Clerical, sales & service	97 (40.8%)	115 (44.1%)	212 (42.5%)
Production	60 (25.2%)	21 (8%)	81 (16.2%)
Missing cases:	10	20	30
Total	**248**	**281**	**529**

Chi-square values are all low for each employee category, it seems that both manufacturing and service companies use external training mode extensively for managerial and professional training.

Table 4: Internal training mode used by MNCs for low-ranking employees

Employee categories	**On-the-job training**		**Off-the-job training**	
	Manufacturing	Service	Manufacturing	Service

Clerical, sales & service	167 (69.6%)	205 (80.1%)	138 (57.5%)	138 (53.9%)
Production	177 (73.8%)	71 (27.7%)	127 (52.9%)	46 (18%)
Missing cases:	8	25	8	25
Total	**248**	**281**	**248**	**281**

Chi-square values are not significant, indicating internal training being adopted for training lower ranking employees both by manufacturing and service MNCs.

In regard to training issues, the question was asked to rank the five areas of training concerns, such as 1) amount available, 2) quality of programs offered, 3) relevance of the programs, 4) flexibility of delivery and 5) comprehensiveness. The respondents largely nominated one or the other, instead of ranking. In aggregate, the concern for quality and relevance of programs was particularly strong, so we cross-tabbed the five concerns with employee categories of 'managers' and 'professional and technical staff' who took up most of the external training mode. Table 5 shows that in evaluating the external training mode, both categories of employees (mostly over three quarters of the respondents) expressed the need to improve quality of training programs and relevance of the programs to meet the firms' developmental needs.

Table 5: Key training concerns by employees using external training mode

Areas of concern for training	**Managers**		**Professional & Technical**	
	Manufacturing	**Service**	**Manufacturing**	**Service**
Amount available	91 (54.2%)	107 (63.3%)	88 (55.3%)	102 (62.6%)
Quality of programs	122 (**72.6%**)	104 (61.5%)	117 (**73.6%**)	116 (71.2%)
Relevance of programs	131 (**78.0%**)	129 (**76.3%**)	123 (**77.4%**)	123 (**75.5%**)
Flexibility of delivery	87 (51.8%)	73 (43.2%)	87 (54.7%)	73 (44.8%)
Comprehensiveness	52 (30.9%)	35 (20.7%)	51 (32.1%)	33 (20.2%)
Total	**168**	**169**	**159**	**163**

Chi-square values are not significant, indicating similar concern applied to both categories of employees in both manufacturing and service industry.

Discussions, Limitations & Future Research Direction

From our data analyses, it is evident that firms have realised the benefits of training and have invested a considerable amount of dollars on local employee training. However, the major concerns for companies are the relevance and quality of training programs. In particular, we examined the formal and externally-offered training programs. It was found that most of the trainingship, scholarship and apprenticeship programs were offered to managerial and professional and technical staff. This is consistent with the results generated from prior studies conducted in America and Europe that claimed more training taken by employees with more education and in higher position (Lynch & Black, 1995; Van Smoorenbur & Van der Velden, 2000). Nevertheless, it seems that managers and professional staff in Asia might be less satisfied with the way they were trained. The training programs funded by multinational companies might not necessarily help local employees' skill and career advancement as most of the managers and professional staff found them irrelevant and lack of quality.

The findings show that training is demanded more by the service companies than by the manufacturing companies operating in Asia. This indicates a greater shift from developing manufacturing industry to developing the service sector in Asia whereby more skilled labour are required, leading to a higher demand in training and upskilling the sector's labour force. Therefore, it might be currently irrelevant for service MNCs to seek a cost-reduction (ie. cheap labour in Asia) strategy when entering a host country; but to adopt a differentiation strategy with the emphasis on quality staffing, service and offering of various programs (including training programs).

It is identified in this paper that not only non-Asian owned MNCs have emphasised on training, many Asian-owned MNCs have also invested considerable amount on human capital development, especially those Singaporean and Taiwanese owned local companies. This is a reflection of the convergence thesis argued by Jackson and Schuler (1995) and recently by Von Glinow et al. (2002) and Schuler and Jackson (2005) that some HRM best practices can be globalised and shared. A body of literature (eg. Budhwar, 2004; Nankervis et al., 2006) has been built up to examine the convergence of western HRM practices to the Asian context. Many Asian companies have found the benefits and effectiveness of adopting HRM in enhancing their organisational performance (Chang and Chen, 2002; Wan et al., 2002; Zheng et al., 2006). Host countries in Asia have also started to realise the benefit of using skilled labour (not cheap labour) as a lure of attracting foreign direct investment, and therefore place a greater emphasis on work-based training (Zheng and Hu, 2006).

The limitation of this research is the lack of scope for further inquiry on what types of training programs would be regarded as more relevant and useful by local employees. Therefore future research should be conducted to specifically address different types of employee training required by local subsidiaries of MNCs. There is also a scope for future research into the types of training programs relevant respectively for the manufacturing and service sectors so that the effectiveness of training in different sectors could be better evaluated. Furthermore, it would also be worthwhile, in the future studies, to compare different types of training and training methods adopted by Asian companies and those MNCs headquartered elsewhere so as to more accurately measure the effectiveness of training in these organisations.

Conclusion

This paper is perhaps one of few studies that examine the extent of training expenditure, training programs and training concerns of multinational companies operating in six Asian countries. The study investigated interrelationships between organisational attributes (eg. size, industry, international activity) and training. The benefits of training were recognized by the majority of companies surveyed that devoted substantial amount of investment on training various types of employees. The ranges of training programs were identified, though specific training programs that are relevant and useful to MNCs should be further examined. It is concluded that training is an important issue that should be addressed at the organisational level, as a part of overall human resource management strategy in MNCs. Further research is required to evaluate different types of training practices adopted by Asian and non-Asian multinational companies.

Training is encountering increasing interest in research, academia and among practitioners. This is due to the broadening spectrum of training issues required by the present-day competitive business environments. Multinational firms are also confronting formidable and dynamic challenges as they operate in host countries with a diversity of employees. There is a need to support and verify the training agendas of firms, especially in MNCs. Multinational corporations are collections of people, systems, processes and management styles. They are often said to create opportunities for human capital development which can be instrumental to productivity and economic growth in many countries. By focusing on the skill requirements and training practices, this study provides some insight of new competencies and training delivery required and relevant for operating in today's highly dynamic knowledge economy.

References

ABS (Australian Bureau of Statistics) (1998). *Employer Training Practices, Australia 1997*, catalogue no.6356.0, AGPS, Canberra.

Baumgarten, K. E. E. (1995). Training and development of international staff. In A. W. K. Harzing and J. van Ruysseveldt, eds. *International Human Resource Management*, London: Sage Publication, 205-228.

Blomstrom, M. & Kokko, A. (2001). FDI and human capital: A research agenda. *OECD Technical Meeting*, 13-14 December, Paris.

Blunch, N. and Castro, P. (2005). Multinational enterprises and training revisited: do international standards matter? *Social Protection Discussion Paper Series, No. 0504. Social Protection Unit, Human Development Hub, the World Bank.*

Booth, A. (1991). Job-related formal training: who receives it and what is it worth? *Oxford bulletin of Economics and Statistics*, 53(3), 281-294.

Booth, A. (1993). Private sector training and graduate earnings. *The Review of Economics and Statistics*, 75(1), 164-170.

Booth, A. and Snower, D. (1996). *Acquiring Skills, Market Failures, Their Symptoms and Policy Responses.* Cambridge: Cambridge University Press.

Budhwar, P (2004). *Managing human resources in Asia-Pacific*, London: Routledge.

Chang, P. L. and Chen, W. L. (2002). The effect of human resource management practices on firm performance: empirical evidence from high-tech firms in Taiwan. *International Journal of Management*, 19(4), 622-631.

Dawe, S. (2003). *Determinants of Successful Training Practices in Large Australian Firms*. National Centre for Vocational Education Research, NCVR Limited.

Dowling, P. J., Welch, D. E. and Schuler, R. S. (1999). *International Human Resources Management: Managing People in a Multinational Context*, 3rd ed, Cincinnati: South-Western College Publishing.

Felstead, A. and Green, F. (1996). Training and the business cycle, in A. Booth and D. Snower (eds.), *Acquiring Skills*, Cambridge: Cambridge University Press, 255-284.

Frazis, H., Herz, D. and Horrigan, M. (1995). Employer-provided training: results from a new survey. *Monthly Labour Review*, 118 (5), 3-17.

Gravetter, F.J. and Wallnau, L. B. (2000). *Statistics for the Behavioral Sciences* 5th ed, Belmont: Wadsworth Publishing.

Green, F. (1993). The determinants of training of male and female employees in Britain. *Oxford Bulletin of Economics and Statistics*, 55(1), 103-122.

Hu, A.G. (2004). Multinational corporations, patenting, and knowledge flow: the case of Singapore. *Economic Development and Cultural Change*, 52, 781–800.

ILO (International Labour Organisation) (2000). *Yearbook of Labour Statistics*. Geneva.

Jaw, B. S., Wang, C. Y. P. and Chen, Y, H. (2006). Knowledge flows and performance of multinational subsidiaries: the perspective of human capital. *International Journal of Human Resource Management*, 17(2), 225-244.

Kennedy D. (1993). A business response. In Keane, C. (Ed.) *The Jobs Crisis*, Dublin: Mercier Press.

Kopp, R. (1994). International human resource policies and practices in Japanese, European and United States multinationals. *Human Resource Management* 33(4): 581-599.

Lanier, A. (1979). Selecting and preparing personnel for overseas transfer. *Personnel Journal*, 58(3), 60-63.

Low, L. (1998). Human resource development tin the Asia-Pacific. *Asian-Pacific Economic Literature*, 12(1), 27-40.

Lucas, R. (1988). On the mechanics of economic development. *Journal of Monetary Economics*, 32, 3-42.

Lynch, L.M. and Black, S.E. (1995). Beyond the incidence of training; evidence from a national employer survey. *NBER Working Paper* no. 5231, New York: National Bureau of Economic Research.

Matlay, H. (1997). The paradox of training in the small business sector of the British economy. *Journal of Vocational Education and Training*, 49(4), 573-588.

Matthews, J. (2002). Innovation in Australian small and medium enterprises: contributions from strategic human resource management. *Asia Pacific Journal of Human Resources*, 40(2), 193-204.

Mendenhall, M. E., Dunbar, E. and Oddou, G. (1987). Expatriate selection, training and career-pathing: a review and critique. *Human Resource Management*, 26(3), 331-345.

Minbaeva, D., Pedersen, T., Bjorkman, I., Fey, C. F. and Park, H. J. (2003). MNC knowledge transfer, subsidiary absorptive capacity and HRM. *Journal of International Business Studies*, 34, 586-599.

Nankervis, AR, Chatterjee, S & Coffey, J. (2006), eds, *Perspectives of human resource management in the Asia Pacific*, Sydney: Pearson Prentice Hall.

Ng, Y. C. (2005). Training determinants and productivity impact of training in China: a case of Shanghai. *Economics of Education Review*, 24(3), 275-295.

Neupert, K. E., Baughn, C. C. and Dao, T. T. L. (2005). International management skills for success in Asia. *Journal of European Industrial Training*, 29(2), 165-180.

Oi, W. (1983). Heterogeneous firms and the organization of production. *Economic Inquiry*, 21(2), 147-171.

Osman-Gani, A. M. (2000). Developing expatriates for the Asia-Pacific region: a comparative analysis of multinational enterprise managers from five countries across three continents. *Human Resource Development Quarterly*, 11(3), 213-236.

Osman-Gani, A. M. and Jacobs, R. L. (2005). Technological change and human resource development practices in Asia: a study of Singapore-based companies. *International Journal of Training and Development*, 9(4), 271-280.

Osman-Gani, A. M. and Tan, W. L. (2005). Expatriate development for Asia-Pacific: a study of training contents and methods. *International Journal of Human Resource Development and Management*, 5(1), 41-56.

Pallant, J. (2001). *SPSS Survival Guide: A Step by Step Guide to Data Analysis using SPSS*. Crows Nest: Allen & Unwin.

Prince, Y. (2002). An introduction to entrepreneurship and its role in dynamism and innovation, in Snijders, J. and Van der Laag, A. (Eds), *Entrepreneurship in The Netherlands: innovative Entrepreneurship- New Policy Challenges*, Ministry of Economic Affairs, The Netherlands/EIM, Business and Policy Research, Zoetermeer, 9-26.

Schuler, R. S. and Jackson, S. E. (2005). A quarter-century review of human resource management in the US: the growth in importance of the international perspective. *Management Revue*, 16(1), 11-35.

Schultz, T. (1961). Investment in human capital. *American Economic Review*, March, 1-17.

Shen, J. (2005). International training and management development: theory and reality. *Journal of Management Development*, 24(7), 656-666.

Shen, J. and Darby, R. (2004). Training and development in Chinese MNEs. *8th Western Academy Conference Proceedings* 8-12 June.

Siegel, S. and Castellan, J.N. (1988). *Non Parametric Statistics for the Behavioural Sciences*. New York: McGraw-Hill.

Smith, A. and Hayton, G. (1999). What drives enterprise training? Evidence from Australia. *International Journal of Human Resource Management*, 10(2), 251–272.

Smith, A., Roberts, P., Noble, C., Hayton, G. and Thorne, E. (1995). *Enterprise Training: The Factors that Affect Demand*, report commissioned by the Australian National Training Authority and the Office of Training and Further Education (Victoria), Office of Training and Further Education, Melbourne.

Snower, D. (1996). The low-skill, bad-job trap. In Booth, A. and Snower, D (eds). *Acquiring Skills*, Cambridge: Cambridge University Press, 109-124.

Stahl, C. and Zheng, C. (2002). *Skill Shortages, Training Needs and Human Resource Development Strategies of Multinational Companies in APEC Member Economies*. 64pp. Singapore: APEC Secretariat.

Sweeney, P. (1998). *The Celtic Tiger: Ireland's Economic Miracle Explained*, Dublin: Oak Tree Press.

Szamosi, L. T., Duxbury, L. and Higgins, C. (2004). Toward an understanding of people management issues in SMEs: a South-Eastern European perspective. *Education and Training*, 46(8/9), 444-465.

Tan, H. (2001). Do training levies work? Malaysia's HRDF and its effects on training ad firm-level productivity, *World Bank Working Paper*, Washington DC, World Bank

Tan, H. and Batra, G. (1995). Enterprise training in developing countries: overview of incidence, determinants and productivity outcomes. Private sector development department, *Occasional Papers*. Washing DC, World Bank.

Tan, H. and Lopez-Acevedo, G. (2003). Mexico: in-firm training for the knowledge economy. *World Bank Policy Research Working Paper* No. 2957, Washington DC, World Bank.

Taylor, R. and Davies, D. (2004). Aspects of training and remuneration in the accommodation industry: a comparison between Australian and Singaporean providers. *Journal of European Industrial Training*, 28(6), 466-473.

Tung, R. L. (1981). Selection and training of personnel for overseas assignments. *Columbia Journal of World Business*, 16(1), 68-78.

Tung, R. L. (1982). Selection and training procedures of US, European and Japanese multinationals. *California Management Review*, 25(1), 57-71.

Tung, R. L. (1984). Strategic management of human resources in multinational enterprises. *Human Resource Management*, 23(2), 129-143.

Van Smoorenburg, M.S.M. and Van der Velden, R.K. W. (2000). The training of school leavers: complementarity or substitution? *Economics of Education Review*, 19(2), 207-217.

Von Glinow, M. A., Drost, E. A. and Teagarden, M. B. (2002). Converging on IHRM best practices: lessons learn from a globally distributed consortium on theory and practice. *Asia Pacific Journal of Human Resources*, 40(1), 146-166.

Wan, D., Ong, C.H. and Kok, V. (2002). Strategic human resource management and organisational performance in Singapore. *Compensation and Benefits Review*, 34(4), 33-42.

Zeufack, A. (1998). *Explaining Employer-Provided Training Incidence and Intensity in Thai Manufacturing Firms*, Mimeo: Washington DC, World Bank.

Zheng, C. (2005). The extent of skill shortages and training needs of MNCs in APEC. The 19th ANZAM Conference Proceedings on *Engaging the Multiple Contexts of Management*, 7-10 December, Canberra, Australia.

Zheng, C. and Hu, M. C. (2006). National technology advancement and firm recruitment of ICT employees in Taiwan: multinational company's dilemma. The 19th ANZAM Conference Proceedings on "*Pragmatism, Philosophy and Priority*", 6-9 December, Yeppoon, Australia.

Zheng, C., Morrison, M. and O'Neill, G. (2006). An empirical study of high performance work practices of Chinese SMEs. *International Journal of Human Resource Management*, 17(10), 1772-1803.