



Educational investment strategies for capacity building of Thailand's tourism professions

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Abstract

The purposes of this paper were to (1) analyze the manpower requirements of Thailand's tourism industry and (2) propose the educational investment strategies for capacity building of Thailand's tourism professions. According to the concept of the Manpower Requirement Approach (MRA), this paper found that the trend of professional employment, which applies the Box-Jenkins approach to forecast the trend of professional employment, will be upward. The highest average annual growth rate is higher education. However, the largest proportion of professional employees in Thailand's tourism industry has lower secondary or lower, followed by upper secondary educational attainment, and the smallest proportion has vocational education. The overall competencies in accordance with ASEAN standards (i.e., core competencies, generic competencies, and function competencies), which applies the needs assessment of manpower quality, are not sufficient to meet the need of establishments. Specifically, English language proficiencies are lowest. The findings are valuable for sending out signals to operating sectors which are responsible for educational investment, which optimizes the capabilities of Thailand's tourism professions, and are as follows A: Pre-service education and training: (1) encourage private sector engagement, (2) increase financing of vocational education, and (3) target public investment to improve quality. B. In-service training: (1) evolve common donor strategy, (2) encourage recipient government to lead aid coordination, and (3) benchmarking for resource sufficiency.

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Introduction

During the past four decades in Thailand, the service sector has become the most significant economic activity. As a sub-category of the service sector, tourism has been widely considered a significant industry. It has long been a major source of revenue and employment for the country. In 2018, the direct contribution of tourism to GDP was USD109.5

billion (21.6 percent of GDP) and tourism directly generated 5,990,600 jobs (15.9 percent of total employment) (World Travel and Tourism Council, 2019). Over the last decade, Thailand's tourism has experienced continued growth and deepening diversification to become one of the fastest growing economic sectors in the world. (ASEAN, 2019)

Recognizing the importance of the Thailand's tourism industry, the National Tourism Policy Committee has approved the Thailand National Tourism Development Plan, which has a vision of Thailand's towards 2036 becoming a World's leading quality destination, through balanced development while leveraging Thainess to contribute significantly to the country's socio-economic development and wealth distribution

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inclusively and sustainably (Ministry of Tourism and Sports, 2017). In order to achieve the vision, strategies have been set for implementation. One of the most important strategies is development of tourism human capital's potential. According to the Ministry of Tourism and Sports (2017), it was decided the necessary activities that should be carried out immediately are (1) enhance capabilities of those employed in the tourism industry to gain competitiveness and adhere to international standards, and (2) develop human resources in tourism industry that is tailored to market needs.

In order to achieve the activities, educational strategies for developing the service capacity of tourism professions have been devised in order that Thailand's tourism industry can become more competitive, recognizing that the skills produced by the education and training packages must correspond in timing, number, and quality to the requirements of Thailand's tourism industry. The educational investment from a part of public expenditure and other sectors was essential so that any mismatch between the output of the educational or training system and the need of the labour market is minimized and manpower with varying skills is made available to Thailand's tourism industry. (Raza, 1985; Wedell, 2009). The purposes of this paper were to (1) analyze the manpower requirements of Thailand's tourism industry and (2) propose the educational investment strategies for capacity building of Thailand's tourism professions. The results of this research will provide valuable information to the operating sectors to enable the necessary educational investment strategies for optimizing the capabilities of Thailand's tourism professions to be achieved.

Literature Review

According to Lester (2015), the term "manpower planning" generally refers to a methodical design of policies and programs to develop human resources in the context of economic development, with a consequent impact on the educational and skill requirements of the workforce. One of the major purposes of manpower planning is to provide guidelines for policy makers in setting their enrollment targets so that manpower development will be in line with the labor market requirements (Cashbaugh, Hall, Kwinn, & Womer, 2007; Hopkins, 2002).

One of the earliest approaches to manpower and educational planning is the Manpower Requirements Approach (MRA) (Mabele, 2018). It postulates that some form forecast has to be made as a basis for policy decisions, often linked to investment in education and training (Psacharopoulos, 1996; Psacharopoulos & Woodhall, 1985). At the macro level, MRA involves: (1) the analysis, review, and forecast of the trend, by education or occupations, of the manpower requirements, and (2) the assessment of the skills manpower requirements by the economy during a specific time period and analysis of the extent the production of skills during this period will match the estimated demand (Balangue, 1978; Cashbaugh, Hall, Kwinn, & Womer, 2007; Richards & Amjad, 1994).

Methodology

Forecasting the Trend of Professional Employment in Thailand's Tourism Professions

In the macroeconomics analysis, statistical forecasting models can be broadly classified into two categories, namely the univariate and the causal models. (Bowerman & O'Connell, 1993). The common univariate modelling skills suggested by Box and Jenkins (1976) are for applying the Auto-Regressive-Integrated-Moving Average (ARIMA) model to time-series analysis (Hassan & Othman, 2018; O'Donovan, 1983; Maddala, 2001). The Box-Jenkins Approach considers the underlying trend, cyclic, and seasonal elements, and it takes into account the particular repetitive or continuing patterns exhibited by past data (Box, Jenkins, & Reinsel, 2008).

Sources of data for empirical analysis, all monthly employment-related time-series data, were collected from the Monthly Labor Force Survey, which was produced by the National Statistical Office of Thailand (2020). The time series data of professional employment in Thailand's tourism industry includes the hotel and restaurant industry and covers the period from 2001 to 2019, giving a total of 228 data points.

Analyzing the Qualitative Manpower Needs in Thailand's Tourism Industry

According to Richards and Amjad (1994), analyzing the qualitative manpower requirements is to make an assessment of the skilled human resources need of the economy during a specific time period and to what extent the production of skills during this period matches the estimate demand imbalance and serve as a guideline for the policy maker and making of appropriate investment in education, training, and manpower development. This paper divided the procedural analysis of qualitative manpower needs in Thailand's tourism industry as follows: (1) analyze the competences of Thailand's tourism professions, and (2) make a need assessment of manpower quality in Thailand's tourism industry, determining or addressing the gaps between current conditions and desired conditions.

1. *Analyze the competences of Thailand's tourism professions*; the results of documented evidence and related research analysis found that the competencies of Thailand's tourism professions, compared to ASEAN standards, were divided into 2 groups (ASEAN Australia Development Cooperation Program, 2014; Institute for Tourism Personal Training, 2014) as follows: (1) hotel services (i.e., front office and housekeeping), and (2) restaurant services (i.e., food production and food & beverage service). In order to ensure the competencies, researchers interviewed 9 experts and insiders within the field of hotel and restaurant industry for confirmation and appropriate inspection. The competencies of manpower in Thailand's tourism professions are in accordance with ASEAN as follows: (1) hotel services (i.e., core and generic competencies, hotel front office, housekeeping, security services, customer services, sales and marketing,

general administration, financial administration, human resource development, and English language proficiency), and (2) restaurant services (i.e., core and generic competencies, commercial cookery, commercial catering, food and beverage services, customer service, sale and marketing, general administration, financial administration, human resource development, and English language proficiency).

2. *Needs assessment of manpower quality in Thailand's tourism industry*; to achieve the aim of this part, a survey was conducted to assess the need of manpower quality in Thailand's tourism industry. This was done by analyzing the gap between the levels of current conditions and desired conditions (Witkin & Altschuld, 1995). The study population consisted of medium and large hotel establishments in the whole of the Kingdom, with a total of 1,851 establishments (National Statistical Office of Thailand, 2018). Based on statistical computation, Yamane (1967) provides a simplified formula to calculate sample sizes. This formula was used to calculate the sample sizes. A 95% confidence level and $p = .5$ are assumed for equation. The total sample size for precision of 0.5 is 329 establishments.

On the basis of the needs assessment, a structured questionnaire was developed and used in the survey (Kaufman, Rojas & Mayer, 1993). All the items in the questionnaire were formulated from competencies of manpower in Thailand's tourism industry, as compared to the ASEAN standards, which were confirmed by experts and insiders within the field. Based on the validation and the pretest, the questionnaire was revised. The reliability of the questionnaire was tested by Cronbach-alpha coefficients (Cronbach, 1961). The calculated alpha coefficient's variable is 0.9446. Since the values were larger than 0.7, the questionnaire could be regarded as reliable (Cortina, 1993).

Results

The Trend of Professional Employment in Thailand's Tourism Industry

For the past 19 years, the total professional employment in hotel and restaurant industry grew dramatically and increased at an average rate 2.26 percent per annum. Figure 1 indicates that the largest proportion of professional employment was an educational attainment level of lower secondary or lower. In 2001, 79.41 percent was employed while in 2019 this dropped to 60.71 percent. Although the number of professional employees with a lower secondary or lower educational attainment level has declined steadily, it remains higher than the number of those employed with other educational attainment levels. The trend of professional employment from 2001 to 2019 has been rising for all educational attainment levels. In 2019, the highest average annual growth rate was for employees with higher education, 8.55 percent, whereas it was 5.96 percent with upper secondary, 4.03 percent with vocational education, and 0.77 percent with lower secondary or lower qualifications.

ARIMA model was designed for stationary time series. To build ARIMA model, first, periodic variation and systematic changes in these properties must be identified and removed. One method of checking for stationary time series is the Autocorrelation Function (ACF). Typically, the ACFs for nonstationary data are significantly different from zero for the first several time lags (Enders, 2010). The pattern of the ACF of the time series data for the professional employment in hotel and restaurant industry by educational attainment levels confirmed that the time series were nonstationary in the mean since the ACF declined very slowly. The series were transformed into one that is stationary by the “differencing” method. It involved the process of taking first differences of the series and creating a new time series of successive differences.

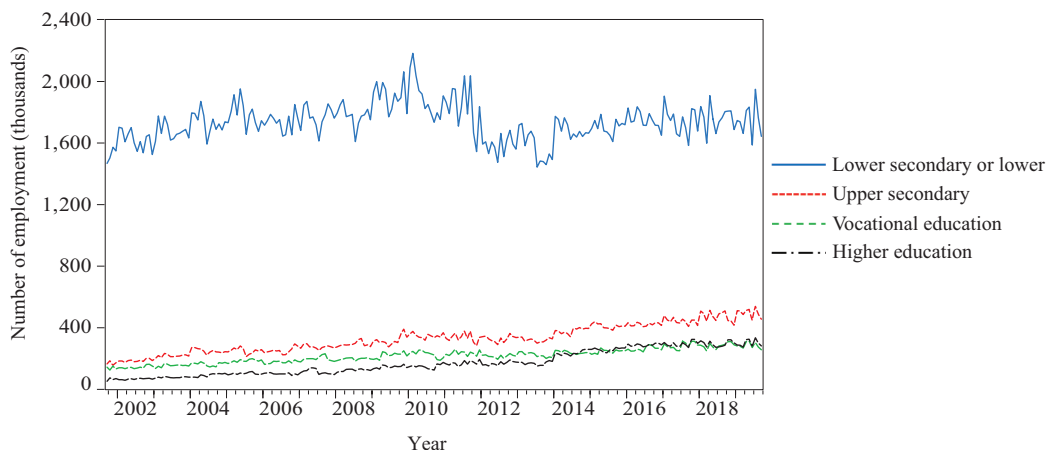


Figure 1 The time series of professional employment in Thailand's tourism industry

The Augmented Dickey-Fuller (ADF) unit root test for the first differenced series was used to test the null hypothesis. The ACF plot also resembled “white noise”, meaning all of the ACF were near zero, confirming that the first differenced series was ready for model fitting (Dickey & Fuller, 1979). During model fitting, the behavior of the ACF and the Partial ACF (PACF) served as the key to model identification. The ACF deemed to indicate an MA model and the PACF was consistent with an AR model (Enders, 2010). The results of fit models without constant are presented in Table 1.

The results of AR and MA model fit indicate that for the trend of professional employment in Thailand’s tourism industry for 2020 to 2024, the employment of all of the educational attainment levels will be upward. The highest average annual growth rate is higher education (7.68%), followed by upper secondary (5.50%), vocational education (3.71%), and lower secondary or lower (0.75%). However, the largest proportion of employed persons will have lower secondary or lower education attainment (62.92%), followed by upper secondary (17.25%).

The forecasts generated by the models which were evaluated on two measures of accuracy, namely, Mean Absolute Percentage Error (MAPE) and Theil’s U inequality coefficient (Bowerman, O’Connell & Koehler, 2004; Hanke & Reitsch, 1995). The magnitude of the prediction MAPE could be assessed by the general acceptable indicator of 10 percent. On the other hand, the scaling of Theil’s U coefficient falls between zero and unity (Theil, 1978). Among the four case studies, the most accurate is the vocational education model (MAPE = 1.31% and Theil’s U = 0.015), followed by the lower secondary or lower model (MAPE = 2.72% and Theil’s U = 0.033), the higher education model (MAPE = 4.76% and Theil’s U = 0.050), and the upper secondary model (MAPE = 5.46% and Theil’s U = 0.070).

The qualitative manpower requirements in Thailand’s tourism industry

The results of the needs assessment of manpower quality in hotel services in accordance with the ASEAN standards indicate that the highest level of current competence is

customer service, sales and marketing (mean = 4.08, $SD = 0.70$). The second is financial administration (mean = 4.06, $SD = 0.78$) and the third is housekeeping (mean = 4.02, $SD = 0.75$). While the discrepancy between the standards wanted by the establishments and the current conditions of the competencies is significant, all of the current conditions are lower than the desired conditions. Specifically, English language proficiency is the lowest (Gap = 1.32). The second lowest is human resource development (Gap = 0.86) and the third lowest is general administration (Gap = 0.80).

The highest level of current competence of manpower quality in restaurant services in accordance with the ASEAN standards is financial administration (mean = 3.99, $SD = 0.73$). The second is customer service, sales and marketing (mean = 3.80, $SD = 0.75$) and the third is commercial cookery (mean = 3.78, $SD = 0.75$). While the discrepancy between the standards wanted by the establishments and the current conditions of the competencies is significant, all of the current conditions are lower than the desired conditions. Specifically, English language proficiencies are the lowest (Gap = 1.14). The second lowest is human resource development (Gap = 0.94) and the third lowest are core and generic competencies (Gap = 0.84).

Discussion

According to the concept of Manpower Requirement Approach, this research found that the future employment structure of Thailand’s tourism industry will remain labor-intensive and dependent on the low education attainment workforce. Therefore, Thai tourism entrepreneurs have been caught in a so-called “low-skills equilibrium”, in which their industry has become trapped in a cycle of low value added. In analyzing the qualitative manpower needs in Thailand’s tourism industry in accordance with ASEAN standards, the overall competencies are not sufficient to meet the need of establishments. The difference between the current condition and desired condition is statistically significant. Specifically, English language proficiencies. The finding are valuable for sending out signals to operating sectors, which optimizes the capabilities of Thailand’s tourism professions as follows:

Table 1 Results of the AR and MA model fit divided by educational attainment levels

Educational attainment levels	Parameter estimate	Coefficient	SE	t-ratio	Approx. Prob.
Lower Secondary or Lower	AR(1)	-0.9019	0.1019	-8.8433	0.0000
	AR(2)	-0.5840	0.0633	-9.2155	0.0000
	MA(1)	0.3752	0.1197	3.1323	0.0002
Upper Secondary	AR(1)	-0.7536	0.1315	-5.7300	0.0000
	AR(2)	-0.4690	0.0689	-6.8064	0.0000
	MA(1)	0.3141	0.1376	2.2812	0.0235
Vocational education	AR(1)	0.3376	0.0903	3.7358	0.0002
	MA(1)	-0.8144	0.06121	-13.1023	0.0000
Higher education	AR(1)	-0.8802	0.1206	-7.2976	0.0000
	AR(2)	-0.4856	0.0566	-8.5725	0.0000
	MA(1)	0.4893	0.1417	3.4517	0.0007

(1) improving the quality of education to meet international standards and to fulfill the demand of labor in Thailand's tourism industry, (2) increasing the level and quality of vocational education attainment, (3) improving the competency of existing employees in the short and the long-term, and (4) using the National System of Vocational Qualifications as a tool to reduce any inconsistency between demand and supply of manpower in Thailand's tourism industry.

In order to achieve this, the strategies of educational investment for capacity building of Thailand's tourism profession were developed from the TOWN Matrix analysis and the draft was evaluated by the 8 experts and insiders in the field and divided into (1) pre-service education and training, and (2) in-service training, as follows:

1. Pre-service education and training

1) Encourage private sector engagement

Strategy: Encouraging private sector participation in investment in education, in order to lighten the load of the public sector and to fulfill the demand for labor in Thailand's tourism industry directly.

2) Increase financing of vocational education

Strategy: Raising the cost of a per unit subsidy of vocational education in both public and private institutions rather than higher secondary in order to reflect the actual need of the industry.

3) Target public investment to improve quality

Strategy: Supporting the budgets based on the performance of learning and assessment, focusing directly on improving quality of education to meet international standards and to fulfill the demand for labor in Thailand's tourism industry.

2. In-service training

1) Evolve common donor strategy

Strategy: Creating various measures to motivate entrepreneurs to donate money or the property to support the Skill Development Fund (SDF) to be used as working capital to improve the skills of the labor force in Thailand's tourism industry.

2) Encourage recipient government to lead aid coordination

Strategy: Supporting the budgets from the government to public and private institutions to corporations to develop Thailand's tourism professions. Especially, upskill the low-skilled workforce and promote the skill levels of professionals for the benefit of the Thai tourism industry.

3) Benchmarking for resource sufficiency

Strategy: Promoting the competency standards for Thailand's tourism professions as a national agenda and supporting the supply of sufficient educational resources from the government.

Conflict of Interest

There is no conflict of interest.

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