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## Article

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Operations Research Perspectives

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Elsevier

*Suggested Citation:* Lee, Chia-Chi; Tung, Huan-Hsuan (2017) : An analysis of the determinants of providing business services in Mainland China, Operations Research Perspectives, ISSN 2214-7160, Elsevier, Amsterdam, Vol. 4, pp. 96-105, <https://doi.org/10.1016/j.orp.2017.06.001>

This Version is available at:

<https://hdl.handle.net/10419/178284>

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# An analysis of the determinants of providing business services in Mainland China<sup>☆</sup>



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## ARTICLE INFO

### Article history:

Received 29 December 2016

Revised 1 June 2017

Accepted 1 June 2017

Available online 2 June 2017

### Keywords:

Mainland China

Business services

Accounting firms

## ABSTRACT

This paper analyzes the factors affecting decision-making on the provision of business services by Taiwanese accounting firms in Mainland China, in order to provide suggestions and managerial implications to accounting firms on decision-making concerning business operations. Logistic regression analysis is conducted, and the empirical model of decision-making on the provision of business services in Mainland China is developed. The dependent variable is whether or not to provide business services in Mainland China; the independent variables are divided into five dimensions: firm attributes, labor structure and allocation, type of professional service, employee contribution, and client diversification. According to the results, when an accounting firm establishes a management consulting firm, has a higher percentage of employees with high educational levels, has a higher percentage of young employees, has a higher percentage of management consulting personnel, and has a higher percentage of financial auditing business revenue, the probability of providing business services in Mainland China will be higher. However, when the percentage of tax service personnel is high and the clients are highly diversified, the probability of providing business services in Mainland China will be lower. Therefore, it is suggested that accounting firms should set up management consulting firms, managers should hire more employees with a master's degree, young employees, and management consulting experience; in addition, the firms should actively expand their services in financial auditing and focus on specialized client groups, which will be more helpful to the accounting firms providing related business services and operational development in Mainland China. The findings can provide references to managers of accounting firms for the evaluation of expanding their business to Mainland China, as well as related decision-making.

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## 1. Introduction

Since the economic opening and reform of Mainland China in 1979, its vast domestic demand market has become a battle ground for enterprises all over the world. To expand the overseas market and strengthen international competitiveness, many Taiwan's industries have moved their manufacturing sites to Mainland China, leading to the clustering effect in the supply chain. According to the statistics of the Investment Commission, Min-

<sup>☆</sup> The authors would like to thank the Ministry of Science and Technology of the Republic of China, Taiwan for financially supporting this research under Contract No. MOST 105-2410-H-141-009-

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istry of Economic Affairs (MOEAIC) on January 2013, as of the end of 2012, investment in Mainland China accounted for the highest percentage (61.23%) among all approved outbound investment of Taiwanese businesses. From 2009 to 2011, the investment amount and number of investment cases of Taiwanese businesspeople in Mainland China grew year by year. In 2010, Taiwanese investment in Mainland China amounted to 12,200 million USD (518 cases), and reached 13,100 million USD (575 cases) by 2011. Although the investment amount of Taiwanese investment in Mainland China slightly declined in 2012, the amount reached 10,900 million USD (454 cases), thus, it is clear that Mainland China has become the focus of investments and business markets for Taiwanese companies.

In recent years, many Taiwanese enterprises have established factories in Mainland China; however, they face the challenges of

frequent changes in taxation and regulations, as well as discrepancies in implementation between central and local governments. As the Big Four accounting firms in Mainland China charge a higher fee than those in Taiwan [13], most enterprises hire Taiwanese accountants for professional services and taxation planning assistance, as based on cost effectiveness. Hence, to satisfy clients' demands, some certified public accountants (CPAs) started to provide services in Mainland China, including auditing, taxation, and management consulting. Therefore, CPAs play an indispensable key role in the economic system.

According to the "2011 Survey Report of the Accounting Service Industry", as published by the Financial Supervisory Commission [18] (2012), the main bottleneck faced by the accounting industry is intense competition and a sluggish market. Moreover, the main services provided by most accounting firms are financial auditing and tax auditing. In addition, the main client group is Taiwanese enterprises. To increase client channels, future business strategies inevitably focus on the expansion of services to the Mainland Chinese market. According to the above survey report, 37 accounting firms provided business services in Mainland China in 2010, which was a 28% growth, as compared to 29 in 2009; in 2011, the figure increased to 43. According to the "2015 Survey Report of the Accounting Service Industry", as published by the FSC [19] (2016), a total of 25 accounting firms undertook assignments in Mainland China in 2015, which is approximately 2.4% of the total pool of 1034 firms. Among the 25 firms, 18 are partnerships and only 7 are sole ownerships.

According to the "2015 Survey Report of the Accounting Service Industry", as published by the FSC [19] (2016), client requests were the main reason for conducting audits in Mainland China, which accounted for 83.3% of the total in 2015, up from 81.4% in 2014. The second reason was to develop businesses, which was down to 7.3% in 2015 from 12.3% in 2014. The majority of audit projects in Mainland China were accomplished by staffs sent from Taiwan (86.5% in 2015 vs. 85.7% in 2014). The percentage of audit jobs conducted by locals in Mainland China went down from 11.4% in 2014 to 7.7% in 2015. The percentage of accounting firms that set up consulting firms in Mainland China increased from 1.4% in 2014 to 1.9% in 2015.

The revenues from practices in Mainland China totaled NT\$ 970 million in 2015, or 3.5% of the industry's total revenue of NT\$ 28.15 billion. As much as 96.1% of the revenue in Mainland China was generated by firms with over 300 employees, while 98.3% was created by mega firms with a revenue amount of over NT\$ 100 million. The biggest business in Mainland China was to audit the investees of Taiwanese companies (78.9%), followed by statutory audits (11.4%) and investment evaluations and consultations (6.3%) (Source: 2015 Survey Report of the Accounting Service Industry, FSC [19] 2016). This suggests the provision of business services in Mainland China has become one of the major channels for accounting firms to expand into overseas market.

The above report also suggests that the attributes of the businesses and performance evaluations of the accounting firms can be divided into five categories, including firm attributes, labor structure and allocation, the type of professional service, employee contribution, and client diversification. The first four types are related to operating structure and robustness, as well as the availability of sufficient professional knowledge and talents. These types may determine the quality of services provided by accounting firms, as well as the ability to respond to auditing and non-auditing cases. In addition, among the clients of the accounting firms, 99.52% of the enterprises can be categorized into 19 sectors. When faced with clients of different industries, accounting firms must have corresponding business strategies and differentiated professional services. Hence, accounting firms may need to provide diversified services in order to satisfy clients' needs. Among those clients, some

industries have established factories in Mainland China; thus, accounting firms must provide additional professional services. Based on the above, this paper intends to discuss the key factors affecting the provision of business services by accounting firms in Mainland China. The findings can provide references for the managers of accounting firms regarding the evaluation of expanding their business to Mainland China, as well as related decision-making.

This paper consists of five chapters. Chapter 1 describes the research backgrounds, motives and purposes. Chapter 2 reviews the literature in relation to the business decisions and operating performances of Chinese investments by accounting firms and other industries, and develops the research hypotheses of the five constructs accordingly. Chapter 3 introduces the research design and methodology, and explains the sample selection from the Survey Reports of the Accounting Service Industry, as published by the FSC, as well as the variables and operational definitions of the individual constructs. Finally, a logistic regression model and an empirical model for operating performances in Mainland China are built, in order to identify the key factors that determine their decisions in the undertaking of business services in China. Chapter 4 conducts an empirical analysis and discusses the empirical results. Chapter 5 presents the conclusions and suggestions, as well as suggestions and practical and business implications for accounting firms interested in the exploration of the Chinese market.

## 2. Literature review and hypotheses development

As a knowledge-intensive business, accounting firms accumulate their human resources and client resources over the course of operations [11]. Oster [37] finds that enterprises with longer business age will make more efficient allocation of resources over time. However, although enterprises with longer business age may lack innovation [24,39], their information, assets, equipment, accumulated professional experience, and client basis are richer. Therefore, when facing a sluggish market and intense industrial competition, accounting firms with longer business age will have more resources and incentives to develop overseas markets for sustainable operations, thus, further expanding their business scale and creating operating profits.

Scale factors can cause differences in behavior between enterprises. In other words, firms of different scales adopt different organizational structures and strategies to construct a decision model for their own competitive advantages [17,22]. Chen et al. [9] argue that the different requirements for the qualifications of CPAs in Taiwan have resulted in market segmentation, leading to differences in the business services and clients of accounting firms. Therefore, the factors affecting the operating performances of the accounting firms may vary. This paper categorizes accounting firms by organizational structure into sole proprietorship and partnership types. The accounting firms of the sole proprietorship type have smaller scale than those of the partnership type. By comparison, the accounting firms of the partnership type have sufficient labor and resources to satisfy clients' demands for providing business services in Mainland China.

In recent years, e-commerce has become an important factor for improving the business performances of enterprises. A successful strategy can help enterprises to improve their work efficiency and market shares, and develop new markets to survive in a competitive market [12]. Liao [30] argues that the adoption of e-commerce with different technologies has positive effect on enterprises in the current changing market. At present, some accounting firms have applied e-commerce in business activities, such as business information and e-transactions, as compared to accounting firms without e-commerce activities, and such accounting firms have better equipment and can better provide real-time manage-

ment and consulting services, which is a niche in business internationalization.

With the advent of internationalization and saturation of the auditing market, management consulting services have become an important professional and profitable channel for CPAs. However, in the wake of a series of financial scandals, including the Enron case in 2001 and Worldcom in 2002, in order to revive the confidence of the public and maintain auditing independence, the Sarbanes-Oxley Act (SOA) was passed in 2002 in the U.S., which prohibits CPAs from simultaneously providing auditing and non-auditing services to clients. For this reason, accounting firms have to adopt the strategic alliance model by setting up management consulting firms for mutual support, in order to maintain independence, increase the sources of clients, create profits, and achieve a win-win outcome. Chen and Lee [8] discuss the strategic alliance between management consulting firms and accounting firms according to the resource-based theory regarding the operating performances of accounting firms, and find that non-auditing service revenues and operating performance are positively correlated. As Mainland Chinese authorities have set limitations on the signing of auditing reports, Taiwanese enterprises in Mainland China tend to hire Taiwanese CPAs for temporary auditing and consulting services [13]. Hence, Taiwanese CPAs have considerable advantages in providing management and financial consulting services for Taiwanese enterprises. Moreover, with the mutual support of the strategic alliance, accounting firms can grasp advantages in providing business services in Mainland China.

Under intense market competition and over time, accounting firms underwent several mergers and acquisitions, from the Big Eight in the 1970s to the Big Four at present, including Deloitte, PwC, KPMG, and Ernst & Young. Past studies have suggested that large accounting firms have differentiated products, higher auditing quality [20,38,42], and better reputation [32]. Hence, enterprises have faith and trust in the auditing quality of big accounting firms. According to MOPS statistics, as of May 7, 2013, 1522 out of the 1762 TWSE/GTSM listed companies were audited by Big Four accounting firms. The number of clients audited by the Big Four is more than 80% of all TWSE/GTSM listed companies. Hence, with more clients and richer resources, the Big Four have more advantages in providing business services in Mainland China. Thus, this paper proposes H1-1, H1-2, H1-3, H1-4, and H1-5, as follows:

**H1-1.** The accounting firms with longer business age are more likely to provide business services in Mainland China.

**H1-2.** The accounting firms with the organizational structure of the partnership type are more likely to provide business services in Mainland China, as compared to those of the sole proprietorship type.

**H1-3.** The accounting firms with e-commerce business activities are more likely to provide business services in Mainland China, as compared to those without e-commerce business activities.

**H1-4.** The accounting firms with established management consulting firms are more likely to provide business services in Mainland China, as compared to those without established management consulting firms.

**H1-5.** The accounting firms that belong to the Big Four are more likely to provide business services in Mainland China, as compared to those belong to the non-Big Four.

Human capital is the accumulation of technology and individual knowledge of employees within an organization, and is a critical asset to create and maintain the wealth of the enterprise [43]. Morris and Empson [34] argue that human capital is an important factor of accounting firms to provide professional services. Accord-

ing to the statistics of the “2011 Survey Report of the Accounting Service Industry”, the labor structure of accounting firms can be divided into partner CPAs, professional directors, professional team leaders, professional assistants, and other staffs. However, in practice, professional team leaders and professional assistants are generally responsible for the forefront business works, while partner CPAs and professional directors are responsible for making decisions and conducting other more professional works. Cheng et al. [11] find that the percentage of CPAs and operating performance are positively correlated. A higher percentage of senior professionals means stronger leadership, as well as more rigorous and stable business decision-making capabilities. When providing business services in Mainland China, there must be sufficient leaders leading assistants to take responsibility for the business activities across the Strait. Hence, in addition to the reference to the previous results of discussions on partner CPAs, this paper discusses professional directors regarding the influence of labor allocation on the provision of business services in Mainland China.

Knowledge exists in human capital, and is the most important competitive asset of enterprises [21,41]. Knowledge comes from formal education and social experience [23]. Hence, in the accounting sector with labor as the core, pre-employment education is very important. Mathieu et al. [31] point out that employees with a higher educational level are more efficient in learning and absorbing knowledge and technology. At present, the main purpose of seeking education is to obtain a college degree. According to the “Statistics of Educational Level of Taiwan’s Population over the Age of 15”, as published by the Census and Statistics Department of the Interior Ministry, as of the end of 2012, about 27.79% of the population have college education or above, and 5.52% of the population has a graduate degree. This paper defines employees with master’s degrees as those with a high educational level. Chen et al. [10] find that accounting firms with more employees with high educational degrees have better operating performances. Employees with master’s degrees or above must first complete a college education, and then pass exams, thus, they have more in-depth and broader knowledge of professional courses [28]. Therefore, employees with master’s degrees or above have richer commercial knowledge, better communication skills, and more sufficient capabilities to provide professional services when accounting firms provide business services in Mainland China.

Employee age is one of the important factors affecting business performance [5,44]. In general, young employees are characterized by vitality and innovation, and thus, are more suitable for challenging and diversified work. By comparison, older employees generally prefer stable work due to family factors. Bröcheler et al. [3] estimate the work experiences of employees according to employee age, and find that the work experience of employees has positive influence on operating performance at the establishment stage of the accounting firm. As providing business services in Mainland China requires more efforts and time, by comparison, young employees are more suitable to work in Mainland China and support the professional team.

According to the statistics of the “2011 Survey Report of the Accounting Service Industry”, employees of accounting firms are categorized by service types, as auditing service personnel, taxation service personnel, management consulting service personnel, accounting service personnel, and other staffs. Compared to traditional auditing and accounting business services, management consulting services have a relatively higher degree of professionalism and uniqueness [8]. Due to relevant auditing work, CPAs are more familiar with the work procedures. Moreover, due to long-term cooperative relationships, accounting firms have more opportunities than general consulting firms [4] in providing consulting services to Taiwanese enterprises before they enter the Mainland China and management consulting services.



Clause 2 of Article 7 in the Interim Measures for the Management of Certified Tax Accountants of Taiwan states that, “the taxation authorities shall recognize the tax-related verification and certification reports of the tax accounting firms.” To become a certified tax accountant in Mainland China, in addition to passing the CTA examination, candidates shall practice for two years in a tax accounting firm. Hence, officially recognized tax-related certification and verification reports should be audited by tax accountants in Mainland China; otherwise, it will be legally invalid. As accounting firm’s taxation service personnel have rare opportunities to provide tax-related services in Mainland China, due to the limitations of relevant regulations, they focus their services on local tax businesses in Taiwan. Hence, this paper proposes H2-1, H2-2, H2-3, H2-4, and H2-5, as follows:

**H2-1.** The accounting firms with higher percentages of senior professionals are more likely to provide business services in Mainland China.

**H2-2.** The accounting firms with higher percentages of employees with high educational levels are more likely to provide business services in Mainland China.

**H2-3.** The accounting firms with higher percentages of young employees are more likely to provide business services in Mainland China.

**H2-4.** The accounting firms with higher percentages of management consulting personnel are more likely to provide business services in Mainland China.

**H2-5.** The accounting firms with higher percentages of tax service personnel are less likely to provide business services in Mainland China.

With reference to the FSC “2011 Survey Report of the Accounting Service Industry”, accounting services can be divided into auditing service, taxation service, management consulting service, and other accounting services. However, in practice, according to the provision of Clause 2 of Article 14 of the Certified Accountant Law, the reports presented by CPAs for auditing according to the law and regulations are valid in proof. To become a CPA in Mainland China, candidates must pass the CPA examination, and work for more than two years in a Mainland Chinese accounting firm. Hence, officially audited reports can only be audited by CPAs practicing in Mainland China; otherwise, they will be legally invalid. However, other accounting services, such as business registration, are only provided to Taiwanese enterprises. Chuang and Chang [13] argue that CPAs may serve Taiwanese enterprises in two directions: (1) providing temporary auditing services, namely, the Taiwanese accounting firm sends an auditing team to Mainland China to help check accounts for Taiwanese clients, and prepare combined financial reports for the parent company; (2) providing consulting services, namely, providing various pre-investment consulting service and business management consulting service after the establishment of the mainland subsidiaries. Hence, this paper expects that the probability of the accounting firms providing business services in Mainland China is higher when their main revenues come from financial auditing and management consulting services. Therefore, H3-1 and H3-2 are proposed, as follows:

**H3-1.** The accounting firms with higher percentages of financial auditing business revenues are more likely to provide business services in Mainland China.

**H3-2.** The accounting firms with higher percentages of management consulting services revenues are more likely to provide business services in Mainland China.

The employee contribution reflects the working efficiency and value creation of each employee, which is represented by employee productivity in previous literature [7,29]. Wang and Chang [45] find that employee productivity has significant influence on the company. Employees are important human capital that can enhance performance, particularly for accounting firms, which have the major production factor of human capital. The employees of accounting firms that can create higher value have better professional capabilities, and thus, contribute to professional knowledge, capabilities, and conditions when firms provide business services in Mainland China. This paper suggests that more employee contributions can result in a higher probability of providing business services in Mainland China. Therefore, H4 is proposed, as follows:

**H4.** The accounting firms with higher employee contributions are more likely to provide business services in Mainland China.

According to Baumol et al. [1], business diversification can result in economies of scope due to the use of common input of resources, thereby, improving efficiency. However, the common measurement methods of diversification include the Herfindahl-Hirschman Index (HHI) and the entropy index. Chen et al. [6] use HHI to measure the business concentration of accounting firms, and find that business concentration can result in better financial performance. In previous studies, HHI and the entropy index are mostly used to measure the industrial structure and business diversification [2,36,40]; however, they are rarely used to measure client diversification. For further discussion of the client diversification of accounting firms, in terms of industries, this paper uses the entropy index for measurement. This paper argues that if the clients of accounting firms are scattered in different industries, the demands for professional services and the establishment of overseas subsidiaries in Mainland China will vary, and accounting firms will have more opportunities to provide business services in Mainland China, as they are capable of serving clients of different industrial characteristics.

According to the statistics of MOEAIC regarding investments in Mainland China, among the Taiwanese investments in Mainland China from 1952 to 2012, the order of industries by investment amount is the manufacturing industry, wholesaling and retail industry, financial and insurance industry, real estate industry, and information and communications industry. However, the main client group of accounting firms is service oriented companies. As the abovementioned five industries are gradually moving out of Taiwan into Mainland China, accounting firms must perform related business to satisfy the clients of business operations. Hence, this paper measures the client diversification of the enterprises in the abovementioned five industries, and predicts that the probability of providing business services in Mainland China will be higher if the client diversification of accounting firms is higher. Hence, H5 is proposed, as follows:

**H5.** The accounting firms with higher client diversification degree are more likely to provide business services in Mainland China.

### 3. Research design and method

#### 3.1. Data source and sample selection

The data of this paper are sourced from the database of the “Survey Report of the Accounting Service Industry”, as published by the FSC, and the research period is from 2008 to 2010.

Given the pivotal role played by accounting firms in Taiwan’s economy, this survey intends to gather data for the reference of policymakers and accounting firm management. Since 2004, the FSC has been conducting an online questionnaire survey with ac-

**Table 1**  
Sample selection and distribution.

| Total business revenue               | The accounting firms providing business services in Mainland China |      |      |       | The accounting firms not providing business services in Mainland China |      |      |       |
|--------------------------------------|--------------------------------------------------------------------|------|------|-------|------------------------------------------------------------------------|------|------|-------|
|                                      | 2008                                                               | 2009 | 2010 | Total | 2008                                                                   | 2009 | 2010 | Total |
| Above 40.01 million NTD              | 16                                                                 | 15   | 12   | 43    | 25                                                                     | 28   | 26   | 79    |
| 27.01 million NTD ~40.00 million NTD | 5                                                                  | 6    | 6    | 17    | 18                                                                     | 14   | 11   | 43    |
| 10.01 million NTD ~27.00 million NTD | 6                                                                  | 3    | 5    | 14    | 11                                                                     | 6    | 9    | 26    |
| Below 10.00 million NTD              | 5                                                                  | 5    | 10   | 20    | 10                                                                     | 10   | 20   | 40    |
| The number of final valid samples    | 32                                                                 | 29   | 33   | 94    | 64                                                                     | 58   | 66   | 188   |

Notes: 1. The total business revenue is in unit of NTD. 2. The numbers refer to the number of accounting firms.

counting firms registered in Taiwan, in order to understand their operating status and business directions.

The data from 2829 accounting firms are reviewed. However, as there may be omissions or errors in filling out the questionnaires by the accounting firms, in order to ensure that the sample selection reflects the actual conditions, this paper deletes the data of 153 accounting firms that failed to provide data regarding their current number of employees or the number of partner CPAs. Moreover, the data of 44 accounting firms with unreasonable data of current revenue or self-owned assets, rented assets, or borrowed assets below 10,000 NTD are deleted. Hence, there are valid samples from 2632 accounting firms. The number of accounting firms providing business services in Mainland China is 32, 29, and 33 in 2008, 2009, and 2010, respectively. To avoid a large gap between the percentages of accounting firms providing and not providing businesses in Mainland China, this paper uses stratified random sampling on the total business revenue, and selects 282 accounting firms for empirical analysis. The ratio of accounting firms providing and not providing business services in Mainland China is 1:2, including 94 accounting firms providing business services in Mainland China and 188 accounting firms not providing business services in Mainland China. The sample selection process is as shown in Table 1.

### 3.2. Variable definition

#### 3.2.1. Dependent variable

The dependent variable is whether firms are providing business services in Mainland China (DEC), which is a dual dummy variable. The value of the samples providing business services in Mainland China is set as 1; otherwise, it is set as 0.

#### 3.2.2. Independent variables

According to the classification of the “Survey Report of the Accounting Service Industry”, this paper re-classifies the survey items according to the research hypotheses and possible variable attributes into firm attributes, labor structure and allocation, type of professional service, employee contribution, and client diversification.

**3.2.2.1. Firm attributes.** Differences in firm attributes will affect the decisions of management. Cheng et al. [11] find that the accumulated human resources and client sources of accounting firms are more when the business age is longer. According to Chen et al. [9], the differences in businesses and clients of accounting firms can result in market segmentation, thus, affecting operating performance. Hence, this paper uses the business age of the accounting firm (YEAR), organizational type (ORGA), e-commerce business activities (EC), establishment of management consulting firms (MANAG), and Big Four or non-Big Four accounting firms (BFOUR) as the proxy variables in this dimension.

**3.2.2.2. Labor structure and allocation.** As accounting firms provide professional services [34], labor structure and allocation are the

core components of accounting firms. Bröcheler et al. [3] point out that human capital has significant influence on the performance of accounting firms. Hence, this paper uses the percentage of senior professionals (SENI), the percentage of employees with high educational levels (HD), the percentage of young employees (YGR), the percentage of management consulting personnel (MSER), and the percentage of tax service personnel (TSER) as the proxy variables in this dimension.

**3.2.2.3. Type of professional service.** According to Chuang and Chang [13], CPAs mainly provide temporary auditing services and management consulting services to Taiwanese enterprises in Mainland China. Hence, this paper uses the percentage of financial auditing business revenue (FREV) and the percentage of management consulting services revenue (MREV) as the proxy variables in this dimension.

**3.2.2.4. Employee contribution.** Employee contribution reflects the working efficiency and contribution of each accounting firm employee. Wang and Chang [45] find that employee productivity has significant influence on company performance. Hence, to enhance performance, companies should actively promote various programs to improve employee productivity. As the productivity of employees mean their contribution to the enterprise, this paper uses employee contribution (CONTRI) as the proxy variable in this dimension.

**3.2.2.5. Client diversification.** According to Baumol et al. [1], with diversified development, company efficiency will be increased due to economies of scale. Previous diversification measurement methods include HHI and entropy index. For more accurate measurement of the client diversification of accounting firms, this paper uses the entropy index, which is more objective and accurate, as the measurement indicator of client diversification degree (CDIV).

“Entropy” originally refers to the physical phenomenon of the molecular disorder degree or probability at a certain state of the system. In 1948, Shannon applied entropy to the information theory [25]. In recent years, the concept of entropy has been extensively applied in various fields to analyze the objective weight of a study [16,26]. This paper applies the principle of the entropy index to measure client diversification degree (CDIV). The mathematical equation is shown, as follows:

$$CDIV = \sum_{i=1}^N S_i \log\left(\frac{1}{S_i}\right)$$

where, CDIV is the client diversification degree;  $S_i$  is the percentage of the total revenue of the accounting firm from the clients of various industries in the total revenue from clients of the five major industries; N is the number of the major industries of the clients, including the manufacturing industry, the wholesale and retail industry, the financial and insurance industry, the real estate industry, and the information and communication industry, as denoted by  $i = 1, 2, 3, 4, 5$ . When the CDIV value is large, it means

**Table 2**  
Variable definitions.

| Dimension description          | Variable description                                        | Variable definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------------|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dependent variable             | Whether providing business services in Mainland China (DEC) | 1: Providing business services in Mainland China<br>0: Not providing business services in Mainland China                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Firm attributes                | Business age of the accounting firm (YEAR)                  | Data survey year—founding year (Original unit: Number of years)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                | Organizational type (ORGA)                                  | 1: Partnership type<br>0: Sole proprietorship type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                                | E-commerce business activities (EC)                         | 1: Adopting e-commerce business activities<br>0: Not adopting e-commerce business activities                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                | Establishment of management consulting firms (MANAG)        | 1: Established management consulting firms<br>0: Not established management consulting firms                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                | Whether a Big Four accounting firm (BFOUR)                  | 1: Big Four accounting firm<br>0: Non-Big Four accounting firm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Labor structure and allocation | Percentage of senior professionals (SENI)                   | (The number of partner CPAs + the number of professional directors) ÷ total number of employees (Original unit: Percentage)                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                                | Percentage of employees with high educational levels (HD)   | The number of employees with a master's degree or above ÷ total number of employees (Original unit: Percentage)                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                | Percentage of young employees (YGR)                         | The number of employees aged 34 and below ÷ total number of employees (Original unit: Percentage)                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                                | Percentage of management consulting personnel (MSER)        | The number of employees in management consulting service ÷ total number of employees (Original unit: Percentage)                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                | Percentage of tax service personnel (TSER)                  | The number of employees in tax service ÷ total number of employees (Original unit: Percentage)                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Type of professional service   | Percentage of financial auditing business revenue (FREVE)   | (IPO auditing revenue + financing auditing revenue + other financing auditing revenue) ÷ total business revenue (Original unit: Percentage)                                                                                                                                                                                                                                                                                                                                                                                                     |
|                                | Percentage of management consulting services revenue (MREV) | Management consulting revenue ÷ total business revenue (Original unit: Percentage)                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Employee contribution          | Employee contribution (CONTRI)                              | Total business revenue ÷ total number of employees (Original unit: NTD)                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Client diversification         | Client diversification degree (CDIV)                        | $CDIV = \sum_{i=1}^N S_i \log\left(\frac{1}{S_i}\right)$<br>CDIV: client diversification degree<br>$S_i$ : the percentage of the total revenue of the accounting firm from clients of various industries in the total revenue from clients of the five major industries<br>N: the number of the major industries of the clients<br>i: 1 to 5 respectively denotes the manufacturing industry, the wholesale and retail industry, the financial and insurance industry, the real estate industry, and the information and communication industry |
| Control variable               | Accounting firm scale (SCALE)                               | Self-owned assets + rented assets + borrowed assets (Original unit: NTD)                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

that the clients of the accounting firms are widely distributed, and vice versa.

### 3.2.3. Control variable

According to Watts and Zimmerman [46], company size will affect its profitability. Demsetz and Lehn [15] argue that company size and operating performance are positively correlated. Hence, as firm size varies greatly among accounting firms, in particular the Big Four and non-Big Four accounting firms, to avoid errors and the influence of empirical results, the accounting firm scale (SCALE) is included in the regression model as the control variable. However, in previous literature, company size is measured by different methods, such as the number of employees [27], the natural logarithm of company asset market value [14], and the natural logarithm of company book value [33]. By referring to the measurement method of the above studies, the accounting firm scale (SCALE) of this paper is measured by the total self-owned assets, rented assets, and borrowed assets.

The dependent variable, the independent variables, and control variable are defined in Table 2.

### 3.3. Logistic regression model

This paper constructs a logistic regression model, which is not fundamentally different from linear regression models. However, a logistic regression model does not require the dependent variables to be continuous or in normal distribution. Rather, it deals with binary variables, such as success and failure, occurrence or not, implementation or not, and conducting businesses in Mainland China or not. Logistic regression model is not bound by the presumption of the distribution of explanatory variables, but can easily accommodate the situation where there are both discrete and continu-

ous explanatory variables. In order to determine predictive power over classifications, logistic regression model can also calculate the probabilities of events.

Logistic regression model yields better empirical results on classifications if the explanatory variables include nominal variables. In fact, analysis of the basis of logistic regression is focused on the relationship between dependent variable and independent variables, without any presumptions on the distribution of the explanatory variables. Therefore, this paper deploys a logistic regression model as the measurement for the decision of business service offerings in Mainland China for subsequent empirical analysis.

According to the research hypotheses, this paper constructs the following logistic regression model, which can serve as reference for accounting firms to decide whether or not to provide business services in Mainland China. The regression model is shown, as follows:

$$\begin{aligned}
 DEC_{it} = & \beta_0 + \beta_1 YEAR_{it} + \beta_2 ORGA_{it} + \beta_3 EC_{it} + \beta_4 MANAG_{it} \\
 & + \beta_5 BFOUR_{it} + \beta_6 SENI_{it} + \beta_7 HD_{it} + \beta_8 YGR_{it} + \beta_9 MSER_{it} \\
 & + \beta_{10} TSER_{it} + \beta_{11} FREVE_{it} + \beta_{12} MREV_{it} + \beta_{13} CONTRI_{it} \\
 & + \beta_{14} CDIV_{it} + \beta_{15} SCALE_{it} + e_{it}
 \end{aligned} \quad (1)$$

where,  $DEC_{it}$  denotes whether No.  $i$  accounting firm provides business services in Mainland China in No.  $t$  year;  $YEAR_{it}$  denotes No.  $i$  accounting firm's business age in No.  $t$  year;  $ORGA_{it}$  denotes No.  $i$  accounting firm's organizational type in No.  $t$  year;  $EC_{it}$  denotes whether No.  $i$  accounting firm adopts e-commerce business activities in No.  $t$  year;  $MANAG_{it}$  denotes whether No.  $i$  accounting firm has established management consulting firms in No.  $t$  year;  $BFOUR_{it}$  denotes whether No.  $i$  accounting firm is a Big Four in No.  $t$  year;  $SENI_{it}$  denotes the percentage of senior professionals of No.  $i$  accounting firm in No.  $t$  year;  $HD_{it}$  denotes the percentage of em-

**Table 3**  
Descriptive statistics.

|                             | DEC   | YEAR   | ORGA  | EC    | MANAG | BFOUR | SENI  | HD    | YGR   | MSER  | TSER  | FREV  | MREV  | CONTRI    | CDIV  | SCALE         |
|-----------------------------|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------|-------|---------------|
| Panel A–2008–2010 (N = 282) |       |        |       |       |       |       |       |       |       |       |       |       |       |           |       |               |
| Mean                        | 0.333 | 17.476 | 0.812 | 0.273 | 0.174 | 0.043 | 0.267 | 0.105 | 0.616 | 0.037 | 0.222 | 0.325 | 0.053 | 974,464   | 0.335 | 116,747,111   |
| Median                      | 0.000 | 17.125 | 1.000 | 0.000 | 0.000 | 0.000 | 0.248 | 0.083 | 0.667 | 0.004 | 0.176 | 0.310 | 0.008 | 937,729   | 0.339 | 18,496,000    |
| Minimum                     | 0.000 | 0.250  | 0.000 | 0.000 | 0.000 | 0.000 | 0.083 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 50,000    | 0.000 | 24,000        |
| Maximum                     | 1.000 | 45.667 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.304 | 1.000 | 0.945 | 1.000 | 3,872,625 | 0.613 | 4,202,253,630 |
| Std. Dev.                   | 0.472 | 9.974  | 0.391 | 0.446 | 0.380 | 0.202 | 0.134 | 0.107 | 0.211 | 0.057 | 0.212 | 0.175 | 0.119 | 451,321   | 0.135 | 503,572,040   |
| Panel B–2008 (N = 96)       |       |        |       |       |       |       |       |       |       |       |       |       |       |           |       |               |
| Mean                        | 0.333 | 17.751 | 0.875 | 0.271 | 0.177 | 0.042 | 0.251 | 0.097 | 0.648 | 0.036 | 0.227 | 0.321 | 0.051 | 1,056,584 | 0.336 | 123,945,160   |
| Median                      | 0.000 | 16.875 | 1.000 | 0.000 | 0.000 | 0.000 | 0.246 | 0.083 | 0.686 | 0.000 | 0.174 | 0.301 | 0.009 | 985,212   | 0.322 | 28,412,885    |
| Minimum                     | 0.000 | 2.250  | 0.000 | 0.000 | 0.000 | 0.000 | 0.083 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 308,654   | 0.000 | 450,000       |
| Maximum                     | 1.000 | 45.417 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.909 | 0.304 | 1.000 | 0.945 | 0.779 | 3,872,625 | 0.613 | 3,836,359,169 |
| Std. Dev.                   | 0.474 | 9.129  | 0.332 | 0.447 | 0.384 | 0.201 | 0.115 | 0.116 | 0.182 | 0.056 | 0.226 | 0.175 | 0.112 | 495,957   | 0.121 | 426,772,971   |
| Panel C–2009 (N = 87)       |       |        |       |       |       |       |       |       |       |       |       |       |       |           |       |               |
| Mean                        | 0.333 | 17.255 | 0.828 | 0.299 | 0.161 | 0.046 | 0.272 | 0.115 | 0.615 | 0.041 | 0.226 | 0.338 | 0.043 | 984,989   | 0.352 | 118,601,528   |
| Median                      | 0.000 | 17.167 | 1.000 | 0.000 | 0.000 | 0.000 | 0.242 | 0.088 | 0.672 | 0.020 | 0.185 | 0.326 | 0.008 | 952,066   | 0.350 | 14,084,884    |
| Minimum                     | 0.000 | 0.833  | 0.000 | 0.000 | 0.000 | 0.000 | 0.105 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 73,000    | 0.000 | 360,000       |
| Maximum                     | 1.000 | 40.667 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.500 | 1.000 | 0.267 | 0.771 | 0.733 | 0.506 | 2,210,305 | 0.613 | 4,151,107,313 |
| Std. Dev.                   | 0.474 | 10.109 | 0.380 | 0.460 | 0.370 | 0.211 | 0.136 | 0.100 | 0.215 | 0.062 | 0.191 | 0.164 | 0.086 | 405,508   | 0.125 | 524,997,536   |
| Panel D–2010 (N = 99)       |       |        |       |       |       |       |       |       |       |       |       |       |       |           |       |               |
| Mean                        | 0.333 | 17.405 | 0.737 | 0.253 | 0.182 | 0.040 | 0.279 | 0.106 | 0.586 | 0.034 | 0.214 | 0.316 | 0.063 | 885,584   | 0.317 | 108,137,546   |
| Median                      | 0.000 | 17.500 | 1.000 | 0.000 | 0.000 | 0.000 | 0.254 | 0.081 | 0.653 | 0.000 | 0.157 | 0.300 | 0.007 | 842,432   | 0.345 | 13,094,437    |
| Minimum                     | 0.000 | 0.250  | 0.000 | 0.000 | 0.000 | 0.000 | 0.091 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 50,000    | 0.000 | 24,000        |
| Maximum                     | 1.000 | 45.667 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.500 | 1.000 | 0.218 | 0.800 | 0.855 | 1.000 | 2,212,201 | 0.608 | 4,202,253,630 |
| Std. Dev.                   | 0.474 | 10.707 | 0.442 | 0.437 | 0.388 | 0.198 | 0.149 | 0.104 | 0.231 | 0.054 | 0.218 | 0.184 | 0.147 | 431,997   | 0.154 | 555,476,891   |

Notes: 1. Variable definitions are as shown in Table 2. 2. SENI, HD, YGR, MSER, TSER, FREV, and MREV are measured by %; CONTRI and SCALE are measured by NTD. 3. N is the number of samples.

employees with high educational levels of No. *i* accounting firm in No. *t* year;  $YGR_{it}$  denotes the percentage of young employees of No. *i* accounting firm in No. *t* year;  $MSER_{it}$  denotes the percentage of management consulting personnel of No. *i* accounting firm in No. *t* year;  $TSER_{it}$  denotes the percentage of tax service personnel of No. *i* accounting firm in No. *t* year;  $FREV_{it}$  denotes the percentage of financial auditing business revenue of No. *i* accounting firm in No. *t* year;  $MREV_{it}$  denotes the percentage of management consulting services revenue of No. *i* accounting firm in No. *t* year;  $CONTRI_{it}$  denotes employee contribution of No. *i* accounting firm in No. *t* year;  $CDIV_{it}$  denotes client diversification degree of No. *i* accounting firm in No. *t* year;  $SCALE_{it}$  denotes the scale of No. *i* accounting firm in No. *t* year;  $\beta_0$  is the intercept;  $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8, \beta_9, \beta_{10}, \beta_{11}, \beta_{12}, \beta_{13}, \beta_{14}, \beta_{15}$  are the parameters of the regression model;  $e_{it}$  is the error item.

Regarding the samples of this paper, as the independent variables and control variable may have extreme values, in order to avoid the influence of extreme values on the empirical results, with the exception of the dummy variables, this paper conducts the Min-Max standardization processing of some variables to convert the original samples into linear situations. The standardization equation is shown, as follows:

$$SX_{it} = \frac{X_{it} - \text{Min}(X_t)}{\text{Max}(X_t) - \text{Min}(X_t)}$$

where,  $SX_{it}$  is the value after standardization;  $X_{it}$  is the original value;  $\text{Min}(X_t)$  is *t* year minimum value;  $\text{Max}(X_t)$  is *t* year maximum value.

## 4. Empirical analysis and results

### 4.1. Descriptive statistics

Table 3 illustrates the descriptive statistics of all variables, which are summarized into Panels A, B, C, and D according to the sample periods. Panel A shows the overall results from 2008 to 2010. The results of 2008, 2009, and 2010 are shown in Panels B to D, respectively.

The dependent variable of the model is whether the accounting firm provides business services in Mainland China (DEC), and the mean is 0.333, suggesting that one third of the sample companies provide business services in Mainland China. The 14 independent variables of the model are described, as follows. The mean of business age of the accounting firm (YEAR) is 17.476 years. The mean of organizational type (ORGA) is 0.812, suggesting that at least 80% of accounting firms are of the partnership type. The mean of e-commerce business activities (EC) is 0.273, suggesting that only 27.3% of accounting firms use e-commerce equipment to provide business information and e-commerce transactions. In other words, most accounting firms seldom engage in e-commerce. The mean of the establishment of management consulting firms (MANAG) is 0.174, suggesting that only 17.4% of accounting firms have established management consulting firms. The mean of whether a Big Four accounting firm (BFOUR) is 0.043. As the number of Big Four accounting firms remains the same, the sample percentage has no significant change. The mean of the percentage of senior professionals (SENI) is 0.267, indicating that 26.7% of the employees are CPAs and professional directors. The mean of the percentage of employees with high educational levels (HD) is 0.105, suggesting that 10.5% of the employees have a master's degree or above. Moreover, the average educational levels of accounting firms are college and university or below. The mean of the percentage of young employees (YGR) is 0.616, suggesting that 61.6% employees are aged 34 years old and below. The mean values from Panel B to Panel D (0.648, 0.615, 0.586) suggest that although the percentage is more than half, it tends to decline by year, indicating a high turnover rate of young employees.

The mean values of the percentage of management consulting personnel (MSER) and that of tax service personnel (TSER) are 0.037 and 0.222, respectively, suggesting that about 3.7% of employees engage in management consulting service and 22.2% engage in tax service. By comparison, the percentage of tax service personnel is higher. The mean of the percentage of financial auditing business revenue (FREV) is 0.325, suggesting that about one third of the revenue is from financial auditing services, and is the main source of revenue. The mean and median of the percent-



**Table 4**The independent sample *t*-test of the influence of providing business services in Mainland China on operating performance.

| Group                                             | Number | Mean of total business revenue | Mean difference of total business revenue | t-value | Significance (one-tailed) |
|---------------------------------------------------|--------|--------------------------------|-------------------------------------------|---------|---------------------------|
| Providing business services in Mainland China     | 94     | 536,292,856                    | 495,444,433                               | 3.532   | <0.001***                 |
| Not providing business services in Mainland China | 188    | 40,848,423                     |                                           |         |                           |

Notes: 1. Total business revenue is measured by NTD. 2. \*\*\* denotes 1% statistical significance level.

age of management consulting services revenue (MREV) are 0.053 and 0.008, respectively; however, its maximum value is 1.000, indicating that some accounting firms mainly engage in management consulting services. The mean of the employee contribution (CONTRI) is 974,464 NTD, suggesting that each employee can create a value of 974,464 NTD for the accounting firm. The mean values from Panel B to Panel D (1,056,584, 984,989, 885,584) suggest that the values tend to decline, indicating a declining trend of the productivity of employees, as well as the intense competition among accounting firms. The mean and median of the client diversification degree (CDIV) are 0.335, and 0.339, suggesting that more than half of the accounting firms serve clients from specific industries. The maximum values from Panel A to Panel D (0.613, 0.613, 0.613, 0.608) are all above 0.5, implying that some accounting firms are developing business diversification.

#### 4.2. Differentiated analysis of providing or not providing business services in Mainland China

This paper uses the independent sample *t*-test of the comparative mean method, and the total business revenue as the measurement value of operating performance, to test whether there is any significant difference in providing or not providing business services in Mainland China. According to the results, as shown in Table 4, the operating performance of the accounting firms providing business services in Mainland China are significantly better than those accounting firms not providing business services in Mainland China.

#### 4.3. Logistic regression results analysis

Table 5 shows the regression results of the key factors affecting accounting firms providing business services in Mainland China. Regarding the explanatory power of the model, Cox & Snell  $R^2$  is 23.5%, and Nagelkerke  $R^2$  is 32.6%, indicating that the regression model explanatory power and fitness are good. However, to avoid

multi-collinearity, as caused by the high correlation between variables, the Variance Inflation Factor (VIF) is used in the test, and it is found that the variable VIF values are in the range from 1.159 to 3.099. According to the suggestions of Neter et al. [35], if  $VIF < 10$ , it means that there is no serious multi-collinearity among the independent variables and control variable.

First, in the dimension of firm attributes, the business age of the accounting firm (YEAR) has no significant influence on whether providing business services in Mainland China (DEC), thus, H1-1 is rejected. Organizational type (ORGA) has no significant influence on whether providing business services in Mainland China (DEC), thus, H1-2 is rejected. E-commerce business activities (EC) have no significant influence on whether providing business services in Mainland China (DEC), thus, H1-3 is rejected. The establishment of management consulting firms (MANAG) has significant and positive influence on whether providing business services in Mainland China (DEC). In other words, if accounting firms establish management consulting firms, the probability of providing business services in Mainland China will be higher, thus, H1-4 is accepted. This is because the accounting firms with management consulting firms tend to have more clients and mutual support in business, and provide more professional consulting services regarding the regulations for investment and operating management in Mainland China. Hence, through strategic alliance, accounting firms can grasp opportunities and information in providing services businesses in Mainland China. Whether being a Big Four (BFOUR) has no significant influence on whether providing business services in Mainland China (DEC), thus, H1-5 is rejected.

Second, in the dimension of labor structure and allocation, the percentage of senior professionals (SENI) has no significant influence on whether providing business services in Mainland China (DEC), thus, H2-1 is rejected. The percentage of employees with high educational levels (HD) has significant and positive influence on whether providing business services in Mainland China (DEC). Specifically, if more employees have high educational levels, the

**Table 5**

The regression results of the major factors affecting providing business services in Mainland China.

| Dimension description          | Variable         | Predicted sign | Coefficient | Std. error | Wald     | p value (one-tailed) | VIF   | Hypotheses |
|--------------------------------|------------------|----------------|-------------|------------|----------|----------------------|-------|------------|
| Firm attributes                | Intercept        |                | -2.606      | 0.982      | 7.040    | 0.004***             |       |            |
|                                | YEAR             | +              | -0.955      | 0.766      | 1.556    | 0.106                | 1.405 | rejected   |
|                                | ORGA             | +              | 0.363       | 0.470      | 0.598    | 0.220                | 1.394 | rejected   |
|                                | EC               | +              | 0.264       | 0.338      | 0.607    | 0.218                | 1.174 | rejected   |
|                                | MANAG            | +              | 1.153       | 0.410      | 7.892    | 0.002***             | 1.349 | accepted   |
|                                | BFOUR            | +              | 18.688      | 9434.668   | 3.92E-06 | 0.499                | 3.099 | rejected   |
| Labor structure and allocation | SENI             | +              | -0.139      | 1.369      | 0.010    | 0.460                | 1.568 | rejected   |
|                                | HD               | +              | 2.288       | 1.124      | 4.143    | 0.021**              | 1.707 | accepted   |
|                                | YGR              | +              | 2.369       | 0.909      | 6.789    | 0.005***             | 1.453 | accepted   |
|                                | MSER             | +              | 1.612       | 0.818      | 3.887    | 0.024**              | 1.159 | accepted   |
|                                | TSER             | -              | -1.267      | 0.719      | 3.108    | 0.039**              | 1.194 | accepted   |
| Type of professional service   | FREV             | +              | 1.400       | 0.801      | 3.050    | 0.040**              | 1.455 | accepted   |
|                                | MREV             | +              | 0.130       | 1.093      | 0.014    | 0.453                | 1.214 | rejected   |
| Employee contribution          | CONTRI           | +              | -0.047      | 0.890      | 0.003    | 0.479                | 1.473 | rejected   |
| Client diversification         | CDIV             | +              | -1.571      | 0.774      | 4.122    | 0.021**              | 1.332 | rejected   |
| Control variable               | SCALE            | +              | 7.175       | 7.240      | 0.982    | 0.161                | 2.536 |            |
|                                | Cox&Snell $R^2$  |                |             |            | 0.235    |                      |       |            |
|                                | Nagelkerke $R^2$ |                |             |            | 0.326    |                      |       |            |

Notes: 1. Variable definitions are as shown in Table 2. 2. \*\*\*, \*\*, \* denote 1%, 5% and 10% statistical significance level.

probability of the firms providing business services in Mainland China is higher, thus, H2-2 is accepted. With knowledge accumulation, employees with a master's degree or above can more quickly absorb information, and are more capable of providing professional services and handle emergencies when providing services in Mainland China. Hence, accounting firms should hire employees with a master's degree or above to enhance human capital quality, as well as the ability to provide services in Mainland China. The percentage of young employees (YGR) has significant and positive influence on whether providing business services in Mainland China (DEC). If a firm has more young employees, the probability of providing business services in Mainland China will be higher, thus, H2-3 is accepted. As young employees are more innovative and willing to handle challenges, they will invest more effort and time in providing business services in Mainland China through team cooperation. Hence, when an accounting firm can effectively hire young employees, it can have positive influence on providing business services in Mainland China. The percentage of management consulting personnel (MSER) has significant and positive influence on whether providing business services in Mainland China (DEC). Specifically, if more employees engage in management and consulting service, the probability of providing business services in Mainland China will be higher, thus, H2-4 is accepted. As the tax regime of Mainland China changes frequently, Taiwanese enterprises require legal consulting services before establishing factories or entering the Chinese market. Therefore, accounting firms should hire management consulting professionals to help provide business services in Mainland China. The percentage of tax service personnel (TSER) has significant and negative influence on whether providing business services in Mainland China (DEC). When the percentage of employees in tax service is higher, the probability of providing business services in Mainland China will be lower, thus, H2-5 is accepted. Due to the restrictions on tax auditing reports in Mainland China, the tax service personnel of accounting firms mainly serve local companies. Therefore, for the consideration of different business market demands and the restrictions of regulations, it is suggested that accounting firms should adjust their hiring and allocation of tax service personnel when providing business services in Mainland China.

In the dimension of the type of professional service, the percentage of financial auditing business revenue (FREV) has significant and positive influence on whether providing business services in Mainland China (DEC). If the percentage of revenue from financial auditing service is higher, the probability of providing business services in Mainland China will also be higher, thus, H3-1 is accepted. According to the regulations of the International Accounting Standards (IASs), to improve the reliability, comparability, and relevance of the information provided in financial statements, the parent company should combine their investment in subsidiaries in their financial reports. In other words, if the parent company or the subsidiary has established branches in Taiwan and Mainland China, the financial statements of the two regions should be combined. In this case, financial auditing and the overall assessment of the operating conditions of the accounting firms are necessary to the enterprises. Hence, the accounting firm should actively explore their services in financial auditing to help provide business services in Mainland China. The percentage of management consulting services revenue (MREV) has no significant influence on whether providing business services in Mainland China (DEC), thus, H3-2 is rejected.

In the dimension of employee contribution, the employee contribution (CONTRI) has no significant influence on whether providing business services in Mainland China (DEC), thus, H4 is rejected.

In the dimension of client diversification, the client diversification degree (CDIV) has significant and negative influence on whether providing business services in Mainland China (DEC).

In other words, the probability of providing business services in Mainland China will be higher if the accounting firms serve clients in specific industries, which is contrary to the research expectation, thus, H5 is rejected. The possible reason is that when an accounting firm concentrates on clients of specific industries, it is more familiar with the attributes of the clients, and thus, can provide better business and consulting services. Moreover, according to the MOEAIC statistics on investment in Mainland China by Taiwanese enterprises, the amount of investment in the manufacturing industry accounts for 74.16% of the total in 2010. From 1952 to 2012, the accumulated investment amount in the manufacturing industry accounts for 81.48%. In other words, Taiwanese enterprises investing in Mainland China are mostly from the manufacturing industry. Therefore, when developing new clients, it is suggested that accounting firms should concentrate on specific industries, in order to have positive effect on providing business services in Mainland China.

Regarding the control variable, the accounting firm scale (SCALE) has no significant influence on whether providing business services in Mainland China (DEC).

## 5. Conclusions and suggestions

This paper examines the status of the Taiwanese CPA industry providing business services in Mainland China, and develops an empirical model to explore the key factors affecting the accounting firms providing business services in Mainland China. The research findings can serve as a decision-making reference for accounting firms to evaluate the possibilities of providing business services in Mainland China.

In the dimension of firm attributes, establishing a management consulting firm has determining influence on the accounting firm providing business services in Mainland China. Therefore, it is suggested that accounting firms should set up management consulting firms to increase the sources of clients and mutually support the businesses through strategic alliance. In addition, through the mutual information exchange of accounting firms and management consulting firms, they can provide more professional consulting services in compliance to related regulations and business management practices in Mainland China. However, other variables, such as business age, organizational type, E-commerce, and whether being a Big Four accounting firm, have no significant influence on the accounting firm providing business services in Mainland China, and the possible reason is the internationalization and cooperation with clients. As a result, those variables do not affect the decision-making of providing business services in Mainland China. Hence, regarding firm attributes, it is suggested that accounting firms can establish management consulting firms to bring considerable advantages when providing business services in mainland China.

In the dimension of the labor structure and allocation, the percentage of senior professionals has no influence on accounting firm providing business services in Mainland China. More employees with high educational levels, of a young age, and in management consulting services have positive influence on accounting firms providing business services in Mainland China. Hence, it is suggested that accounting firms should hire more employees with a master's degree or above, young employees, and management consulting experience. Employees with a master's degree and above are more capable of providing professional services and handling various emergencies when providing services in Mainland China. Younger employees are more willing to devote efforts and face challenges when providing services in Mainland China. However, according to the empirical results, if the percentage of tax service personnel is higher, the probability of the accounting firm providing business services in Mainland China is lower. Hence, it is suggested that accounting firms should make adjustments in hiring

and allocating tax service personnel for the consideration of different business demands and the restrictions of regulations. Hence, regarding labor structure and allocation, it is suggested that managers may hire more employees with a master's degree, young employees, and management consulting experience, which will be more helpful to accounting firms providing related business services and operational development.

In the dimension of the type of professional service, as the parent company and subsidiary should combine their financial reports, the amount of financial auditing business will be more important to accounting firms providing business services in Mainland China. Hence, regarding the type of professional service, it is suggested that the firms should actively expand their services in financial auditing, which can be conducive to the provision of business services in Mainland China.

In the dimension of employee contribution, although previous studies found that employee contribution has positive influence on operating performance, it does not have significant influence on the provision of business services in Mainland China. The possible reason is that accountings firms with better employee contribution tend to have better operating performance and more stable revenue, and thus, lack the incentives and motivations to develop business services in Mainland China.

In the dimension of client diversification, this paper explores the manufacturing industry, the wholesale and retail industry, the financial and insurance industry, the real estate industry, and the information and communication industry, and finds that when accounting firms concentrate on clients of specific industries, the probability of providing business services in Mainland China is higher. Thus, it is suggested that accounting firms should concentrate on clients of specific industries, in order that they are more familiar with the attributes of the clients, and thus, provide better business and consulting services. Hence, for client diversification, it is suggested that managers should focus on the clients of one or several industries; by focusing on specialized client groups, accounting firms can grasp more opportunities in providing business services in Mainland China.

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