DEVELOPING EFFECTIVE TRAINING SYSTEM BY USING LEARNING IN ACTION FOR SMALL AND MEDIUM SIZED ACCOUNTING FIRMS IN SICHUAN PROVINCE, CHINA

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Abstract - China's small and medium-sized accounting firms account for more than 90% of the total. This study found that junior accountant training is one of the most challenging tasks facing small and medium-sized accounting firms. Most of them do not have complete training systems due to a lack of effective training methods and the prohibitive cost of hiring professional trainers. Thus, the aim of this study was to discover the gap between the real competency of junior accountants and the expectation of their managers, then to narrow the gap and improve the competency of junior accountants. In this study, the researcher used questionnaires to collect data from 98 small and medium-sized accounting firms in Sichuan province, China, and one of them was chosen as it implements a training course. This study identified the knowledge and skills of junior accountants in order to develop a training system, including planning, content, methods, implementation and evaluation.

Index Terms - Accounting Training, Junior Accountant, Learning in Action, Small and Medium Sized Accounting Firm

I. INTRODUCTION

With economic globalization and the development of science and technology, the world has entered the knowledge age. In this era, knowledge is an important resource that can allow enterprises to gain competitive advantage. As the work process of accounting firms is mainly a process of intellectual capital investment, knowledge and skills are the foundation of the accounting firm's survival and development (Ma, 2008).

China's Ministry of Finance (MOF) issued a "Long-term Talent Development Plan for the Accounting Industry (2010-2020)" in September 2010. In the same year, the Chinese Institute of Certified Public Accountants (CICPA) established five major strategies for the development of the industry, one of which was the training of accountants.

However, today most small and medium-sized accounting firms face the critical test of providing effective training for accountants, especially for junior accountants. This is because in Chinese universities the focus on accounting education is theoretical knowledge, which comprises more than 70% of the content of courses (Chen & Wang, 2016). As a result, many accounting graduates lack practical experience and fail to meet the requirements of firms. Moreover, the employee turnover rate of accounting firms is as high as 30% to 40% per year (Gao, 2013). This leads to a great loss of knowledge resources. Further, most small and medium-sized accounting firms rely on mentoring to train junior accountants, and this method is not conducive to the inheritance and

sharing of tacit knowledge (Wang, 2012). For this paper, the researchers assessed the competency of 9 junior accountants in a QF accounting firm. These junior accountants were scored according to three grades: 1 to 3 = poor, 4 to 6 = ordinary, and 7 to 9 = excellent. Assessment criteria comprised the following 10 items: financial statement, tax, audit, financial software, law, communication skills, problem solving, team work, time arrangement and stress management. The result was a mean of 5.96, which is far below the full score of 9. It is obvious that there is a gap between the real competency of junior accountants and the expectations of their managers.

Table 1. The descriptive statistics before training

	N	Minimum	Maximum	Mean	Std. Deviation
Before	10	5.11	6.94	5.9610	0.70406
Valid N	10				

Lifelong training is a prominent feature of the accounting industry, so accountants receive education and training throughout their careers (Ma, 2012). To reduce the gap and improve the competence of junior accountants, it is important to have a training system to meet the expectations of managers. For this study, a training system has been designed with reference to the knowledge management theory of Learning in Action (Garvin, 2000); it includes planning, content and methods, implementation and evaluation.

For knowledge-intensive accounting firms, a training system based on knowledge management can provide a channel for the sharing and inheritance of tacit knowledge. Tacit knowledge has the advantage of being more explicit and systematic; it allows a firm to avoid that loss of knowledge which occurs with employee turnover.

The study aims to achieve the following objectives:

1. To identify the gap between the real competency of junior accountants and the expectation of their managers.
2. To identify from a sample group knowledge and skills junior accountants need in their daily work.
3. To design and implement training courses, then compare the evaluation results of the test before and after training.

II. LITERATURE REVIEW

The training of junior accountants is the first essential step in the process of the development of their competency and performance. Nowadays, many enterprises realize that in order to gain competitive advantage knowledge is an important resource. It follows then that accounting firms that rely mainly on intellectual resources should pay more attention to the training of human resources. (Ma, 2008)

Ma Jie (2008) found that Chinese and foreign scholars have put forward many ideas and theories with respect to enterprise training, but less in the field of staff training in accounting firms. Chen Huiting (2011) emphasized that the principal challenge current Chinese firms face in the construction of knowledge-based employee management mechanisms is that many systems are imperfect and cannot be strictly enforced.

Ma Tao (2012) found that the training of most Chinese firms can be divided into two categories: one is the training of the junior accountant by a senior accountant in the firm, and the other is industry training institutions. Moreover, Ma Tao found many problems in the analysis of the existing training system of the HY accounting firm: poor training awareness, lack of long-term training planning, an inadequate training management system, lack of training needs analysis, a single training mode and lack of training assessment linked to actual work.

Song Yandi (2015) used interviews and questionnaires to set up a training system for the K accounting firm based on a competency model, comprised of training needs analysis, training system design, training system implementation, and training effect evaluation. This study concluded that employees can be trained to become competent accountants and achieve personal and organizational performance improvement.

Michael Polanyi was the first to divide human knowledge into explicit and tacit knowledge, in 1958. Explicit knowledge is knowledge that can be readily articulated, codified, accessed and verbalized (Helie & Sun, 2010). Tacit knowledge can be defined as skills, ideas and experiences that people have but are not codified and may not necessarily be easily expressed (Chugh, 2015).

Learning in Action was published by David A. Garvin in 2000. Its subject is groups working on real projects and learning as individuals, as a team, and as an organization. Garvin divides the learning process into three stages: the first stage is the acquisition of information, the gathering of the raw material of learning. The second stage is the interpretation of information, the understanding of the meaning of that information and its classification. The final stage is the use or application of information in order to engage in new tasks and activities. (Garvin, 2000). Garvin's types of learning also include intelligence, experience and experimentation. The intelligence factor focuses on the collection and interpretation of information: "data can be gathered in three ways: through search, inquiry, or observation" (Garvin, 2000). The experience factor discusses the accumulation of knowledge through experience: "we learn from experience in two distinct ways: by repetition and by exposure" (Garvin, 2000). The experimentation factor is significant in an unfamiliar environment where unproven theories are at play: "there are two types of experiments: exploratory experiments and hypothesis-testing experiments" (Garvin, 2000).

Having taken into consideration the findings of the literature, the researchers have attempted to design a training system for China's small and medium accounting firms based on the theory elaborated in Garvin's Learning in Action. Its object is to make the tacit knowledge of the accounting firm editable and shareable. After comparing results prior to and after training, the competency and work performance of accountants should be improved.

III. METHODOLOGY

Based on the research objectives, a five-point Likert scale questionnaire was developed. The target population was comprised of 191 small and medium-sized accounting firms in Sichuan province in China. The questionnaire was divided into five sections: the preparation of financial statements, tax declaration, auditing, and the law relating to accounting and skills required by a junior accountant. The questionnaire was pre-tested with 7 accountants who were not in the sample group. The Cronbach's alpha coefficient for a questionnaire from the pre-test was 0.935, which was reliable and consistent result. A total of 191 questionnaires were distributed through E-mail to the sample group members. 101 questionnaires were returned and 98 accepted for the purpose of data analysis.

In accordance with the research objective, the returned and completed questionnaires were coded and analyzed by Statistical Product and Service Solutions (SPSS 20.0) for Windows. The researcher conducted a descriptive statistical analysis of mean and standard deviation. This study used the following guidelines to categorize the 38 average values in the questionnaire:

4.21 - 5.00 = Very High
3.41 - 4.20 = High
2.61 - 3.40 = Moderate
1.81 - 2.60 = Low
1.00 - 1.80 = Very Low

IV. RESULTS

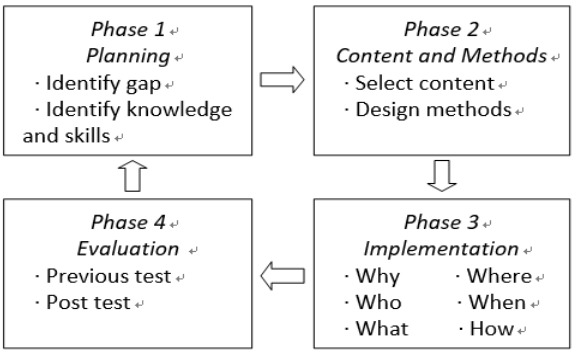


Figure 1. The training system

Figure 1 shows the whole process of the training system designed for small and medium sized accounting firms in China. It is based on the framework of Curriculum Development familiar from the education field.

A. The planning stage

The gap is identified in table 1.

As can be seen from table 2, the mean values of identified accounting knowledge and skills range from 3.88 to 4.55. This indicates that the respondent generally agrees that a junior accountant requires the specified knowledge and skills. With the exception of a few items, the standard deviation values are centered around the mean, meaning that respondents have similar opinions.

Table 2. The knowledge and skills of junior accountant

Knowledge and skills	N	Mean	SD	Rank
Part1. The preparation of financial statements				
1.Issuing the sales invoice	98	4.35	0.719	5
2.Printing bank slips and bank statement	98	4.45	0.628	3
3.Dealing with bill of fee documents	98	4.46	0.661	2
4.Allocate expenses to each product	97	4.21	0.763	6
5.Bookkeeping and prepare statements	98	4.41	0.623	4
6.Binding vouchers and statements	98	4.51	0.542	1
Part2. Tax declaration				
7.Remote reading declare dutiable goods	98	4.37	0.724	3
8.Declaring dutiable goods	98	4.39	0.698	2
9.Clearing the data in the tax card	98	4.42	0.625	1
Part3. Auditing				
10.Assisting to collect audit information	98	4.51	0.561	5
11.Assisting in data sorting and filing	98	4.53	0.560	2
12.Filling in the confirmation requests	98	4.47	0.613	9
13.Filling in the summary sheet of confirmation requests	98	4.49	0.630	7
14.Proficient in operating audit software	98	4.53	0.541	4
15.Spot check of accounting voucher	98	4.50	0.579	6
16.Checking balance sheet reconciliation	98	4.53	0.596	3
17.Conducting cash check with cashier	98	4.55	0.577	1
18.Conducting depreciation testing and inventory for Fixed assets	98	4.46	0.676	10
19.Conducting physical stocktaking	98	4.48	0.613	8
20.Calculating the salary payable and tax payable	98	4.31	0.765	11
21.Preparing a complete audit worksheet	98	4.22	0.880	12
22.Independently undertaking audit of small project	98	3.88	0.955	14
23.Preparing the first draft of the audit report	98	3.98	0.941	13
Part4. The law related to accounting				
24.To understand the accounting law	98	4.34	0.703	1
25.To understand the tax law	98	4.32	0.683	2
26.To understand the	98	4.22	0.711	4

economic law				
27.To understand the company law	98	4.21	0.692	6
28.To understand the measures for payment and settlement	98	4.21	0.722	5
29.To understand the negotiable instruments law	98	4.23	0.715	3
30.To understand the bankruptcy law	98	4.02	0.837	7
31.To understand the securities law	98	3.94	0.906	8
Part5. Skills required by junior accountant				
32.External communication skills	98	4.47	0.578	5
33.Internal communication skills	98	4.52	0.542	1
34.Team work	98	4.44	0.593	6
35.Problem solving	98	4.43	0.658	7
36.Social skill	98	4.50	0.523	2
37.Time arrangement	98	4.48	0.578	4
38.Stress management	98	4.48	0.560	3

B. Content and methods stage

There are a total of 38 questions in the questionnaire, which represent 38 knowledge points in the work of a junior accountant. By comparing the mean and standard deviation of each item, the researchers removed five (21,22,23,30,31) with a lower mean and a higher standard deviation. This means that respondents think these knowledges and skills are less important to a junior accountant.

Table 3. The statistics of knowledge and skills

Scale	Frequency	Percentage
4.21-5.00	34	89.47%
3.41-4.20	4	10.53%
2.61-3.40	0	0%
1.81-2.60	0	0%
1-1.8	0	0%
Total	38	100%

Based on acquired knowledge and skills, the methods are designed according to the Knowledge Management theory set down in Garvin's Learning in Action.

Table 4. Training content and methods

Content	Duration (hours)	Intelligence	Experience
The preparation of financial statements	3	Inquiry	Repetition
Tax declaration	6	Search Observation	Repetition
Auditing	9	Search Observation	Repetition Exposure
The law related to accounting	9	Search	/
Skills required by junior accountant	3	/	Repetition

For the preparation of financial statements, 3 hours of training are required to consult experts and to practice what has been learned. Training to deal with a tax declaration requires 6 hours, during which the junior accountant should be able to learn to search for the relevant rules and regulations on tax websites, observe experts at the task and practice the task. Audit skills requires 9 hours of study of relevant rules and regulations on audit websites, observation of expert workflow, for focused study of financial statements and for practice. It should take 9 hours for a junior accountant to study the relevant legal provisions on the internet with respect to accounting laws. Finally, a junior accountant needs to learn the importance of skill acquisition and augmentation, knowledge it should take 3 hours to acquire. The training times listed above have been confirmed by experts.

C. Implementation stage

For this section, a QF accounting firm was chosen for the implementation of a training course based on convenience and willingness to cooperate. The firm has been established for eight years and is located in Chengdu, Sichuan province, China. It has 15 employees, including 9 junior accountants. Its business scope includes auditing, bookkeeping, tax declarations, capital verification, asset appraisal, accounting consultancy and other accounting services.

In this case, training could be conducted through 5W1H, which addresses the questions of why training is needed, who is involved in the training, what staff should be trained in and how they should be trained (Ma, 2008). The researchers identified key performance indicators (KPI) for each knowledge and skill. After the managers had selected the KPI for each knowledge and skill, this study finally obtained its overall training goal. Moreover, the object was to train junior accountants. Compared with senior accountants, junior accountants are many and lack work experience. The fact that the venue of the training is the QF accounting firm itself is significant because such firms are by definition knowledge-intensive operations. It is natural that junior accountants should receive training in the firm's ambit (Ma, 2012). The content of the training was derived from the 33 items of the questionnaire. Training methods were based on the theory set down in Garvin's Learning in Action.

In order for managers to implement training

smoothly, the researchers specified the following training regulations.

Table 5. The regulations for junior accountant training

Title	The junior accountant training system of QF accounting firm	Number	
		Person in charge	

Chapter 1 General rules

1. Training goals

· To help junior accountants to familiarize with the workflow as soon as possible.

· To improve the competency of junior accountants to meet the expectations of their managers and enable them to become competent accountants.

2. Training objects

The system is applicable to the training of junior accountant.

3. Training place

Training is carried out within the accounting firm.

4. Training time

The duration of training is 1 week, five courses were trained for 3, 6, 9, 9 and 3 hours respectively.

Chapter 2 Training course

5. Training content

The training content is designed according to the knowledge and skills identified in the questionnaire.

Knowledge and skills training	· The preparation of financial statements (6 items) · Tax declaration (3 items) · Auditing (11 items) · The law related to accounting (6 items) · The Skills required by junior accountant (7 items)

Chapter 3 Training management

6. Trainees are not allowed to ask for leave without reason during the training period.

7. Trainees need to sign in before training.

Time		Number	
Content		Sign in	
Trainer			

D. Evaluation stage

The training period was a week. Over the following month, the interview and observation methods were used to assess any improvement in trainees' work.

Table 6. The paired samples statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Before	5.9610	10	0.70406	0.22264
	After	7.3120	10	0.45200	0.14294

Table 7. The paired samples correlations

		N	Correlation	Sig.
Pair 1	Before & After	10	0.902	0.000

Table 8. The paired samples test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Before - After	-1.35100	0.35507	0.11228	-1.60500	-1.09700	-12.032	9	0.000001

The questionnaire collected 38 knowledges and skills, selecting 33 to be the basis of the training course. For the design of the evaluation methods these knowledges and skills items were condensed into 10 items. Each item was measured against key performance indicators that were consistent with the previous test. Three managers scored the junior accountants according to the relevant indicator, finally using the average score as the evaluation result.

The means before and after training were 5.96 and 7.31. The t value was 12.032, degrees of freedom (df=N-1) was 9, and the p value was 0.000001<0.05. Thus, the difference before and after was statistically significant.

DISCUSSION

The main result of this study is the training system itself, its planning, content and methods, implementation and evaluation.

In the planning stage, knowledge and skills are captured by the five-point Likert scale questionnaire. Xu ping (2006) used the same approach to understand accounting practitioners' views on the competency of accountants. Moreover, the questionnaire covers the accountant competency framework in its three modules of knowledge, skills and values. Most of the knowledge captured in this study overlaps with it.

For the content and method stage, the knowledge and skills are reduced from 38 to 33. The method is derived from Garvin's Learning in Action and is similar to the study of Song Yandi (2015). Song's work constructed and perfected a training system for the K accounting firm based on a competency model, which proved effective in improving employee competency.

For the implementation stage, different types of knowledge are made applicable to different training times and methods, an approach for which Ma Jie's work (2008) is a precedent. This study lists several training methods: lectures, case studies, work practices, seminars, online training, informal training, etc. In addition, it is held that that training methods should be flexibly chosen in accordance with goals, content, objects and changes to environment. The view is also taken that for the best training results a variety of training methods should be employed.

For the evaluation stage, evaluation results are compared before and after training. The assessment methods are interview and observation. Ma Tao (2012) also evaluated the training results of the HY accounting firm by interview. More specifically, after the training is completed, employees' behavior is evaluated, especially for any work improvements.

CONCLUSION

This study shows that there is a gap between the real competency of junior accountants and the expectations of their managers. It also suggests that small and medium-sized accounting firms should organize training programs and provide guidelines and templates for junior accountants. This study has developed and implemented a training system to improve the competency of junior accountants, demonstrating the possibility of obtaining an increase in score from 5.96 to 7.31 through the utilization of the training system. The study is also a contribution to the identification of the knowledge and skills junior accountants require in their daily work. The recent and important concept of knowledge management provides theoretical support for the training course design of this study, since knowledge management is a means to make tacit knowledge explicit in order that it can be shared and disseminated.

LIMITATIONS

It should be noted that this study has some limitations. Due to the large number of accounting firms in Sichuan province and the wide distribution of geographical locations, this study selected the form of questionnaire to collect data. The information gathered was acquired from forms sent and out and received back by E-mail. Comparison with the amount of information that can be obtained from face-to-face interviews, should make clear that our method has limitations so far as flexible data is concerned. A further limitation is that in the academic community there exists no common definition of a small and medium-sized accounting firm. This makes it more difficult to obtain information from small and medium-sized accounting firms than from larger ones. This study therefore bases itself on CPA number for the selection of samples, in accordance with the 2011

definition of the International Federation of Accountants (IFAC) of Small and Medium Practices (SMP), as accounting firms that employ a limited number of professionals.

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