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Core Competences of River Ports: Case Study of Pearl River Delta *

Hui Hui Lisa LI[a], Tsz Leung YIP[b]

[a] *Department of Logistics and Maritime Studies, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong (First Author)*
[b] *Deputy Director, C. Y. Tung International Centre for Maritime Studies, Department of Logistics and Maritime Studies, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong, E-mail: t.l.yip@polyu.edu.hk (Corresponding Author)*

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ABSTRACT

With the sound development of ASEAN, more and more attention is paid to hub ports that support cargo and information flows in this marine region. However there are few studies on river and feeder ports. To fill this gap, this study takes a river port as an example to illustrate how to utilize the Balanced Scorecard for evaluating the Core Competences of river and feeder ports. Core competences are helpful for terminal operators when focusing on core strategies, core business and core products / services development for resource limitation. The business pattern which regards core competences as a foundation is beneficial for terminal operators to achieve sustainable competitive advantages. A questionnaire survey has been conducted. The Cronbach alpha method confirms testing reliability of the questionnaire. Study results reveal that two core competences are "capabilities of valuing employee and organization improvement" and "national and municipal government support" for a river port.

1. Introduction

In the past several years, there have been around five Chinese ports in the world's top ten ports in terms of TEUs. Shanghai and Qingdao are located in central and north China respectively, and Hong Kong, Shenzhen and Guangzhou are located in south China around the Pearl River Delta (PRD). The PRD consists of 9 cities, namely Guangzhou, Shenzhen, Foshan, Zhuhai, Jiangmen, Zhongshan, Dongguan, Huizhou and Zhaoqing. In 2011, the PRD accounted for 9.2% of China's GDP with an average growth of 9.9%, and the PRD contributed 26.7% of China's

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total exports at the same time.

From the geographic view, the PRD is the alluvial river delta of the Xi Jiang (literally, west river), Bei Jiang (literally, north river) and Dong Jiang (literally, east river) flowing into the South China Sea. This flat land occupies an 80,000 km2 land area. On the other hand, the PRD mentioned in this study refers to the concept of the PRD Special Economic Zone which was formally proposed in October, 1994. Since the 1980s, this special economic zone has developed extremely fast relying on the advantages of national policies and regional conditions (Table 1).

Table 1
Economic distribution 2011 of the PRD

Cities	Land Area (sq.km)	Population (million)	GDP (billion RMB)	GDP Growth (%)
Guangzhou	7,434	12.8	1242.3	11.3
Shenzhen	1,953	10.5	1150.6	10.0
Zhuhai	1,688	1.6	140.5	11.3
Foshan	3,848	7.2	621.0	11.4
Huizhou	11,158	4.6	209.3	14.6
Dongguan	2,465	8.3	473.5	8.0
Zhongshan	1,800	3.1	219.3	13.1
Jiangmen	9,541	4.5	183.1	13.0
Zhaoqing	14,856	3.9	132.4	14.7

Source: Guangdong Statistical Yearbook 2012

The "*Outline of the Plan for the Reform and Development of the Pearl River Delta*" (2009) which will be called "*Outline*" in the following was issued by Chinese National Development and Reform Commission in January 2009. The "*Outline*" stated that, with the cooperation between Guangdong province, Hong Kong and Macao, the PRD will be constructed to be one of the most powerful and competitive mega metropolitan regions in the world by 2020, and the citizen income level would be doubled compared to that in 2012. Meantime, the "*Outline*" underlined the transportation network development including railways, highways, waterways and airlines which aimed to make the PRD as the most convenient, efficient, safe and open logistics centre. The "*Outline*" also repeated the importance of integrating and improving Guangdong province and Hong Kong ports facilities effectively by cooperation.

The sound development of the PRD has attracted much attention from the public. There is more and more research about Hong Kong, Shenzhen and Guangzhou ports which are the hub ports in the PRD in recent decades. Some discussed the cooperation among them (Wang and Slack, 2000); some talked about the fierce competition among them (Wang and Olivier, 2007). However, within this hub-and-spoke model, the importance of feeder ports is often neglected. The river port in this study – Zhaoqing New Port (ZNP) is one of them. Most of the feeder ports in the PRD are small river ports, and so they are not equipped and operated as effectively as Hong Kong port; they do not receive as much attention from the national or local government as Shenzhen port and they are not as important as the capital of Guangdong Province – Guangzhou port. However, the feeder port development has a direct impact on the whole supply chain including the gateways, because they are the strong supports to hub ports by aggregating and repacking inland cargo. Simultaneously, these feeder ports provide financial income and job opportunities to municipal government and the region's citizens.

The findings of this study will draw more attention from the public on small river ports. This is because their development is also worthy of studying in order to enhance the entire hub-and-spoke network. Meantime, the conclusion will be useful and practical to the improvement of river and feeder ports.

2. Literature Review

The Balanced Scorecard (BSC) was first conceived by Kaplan and Norton in 1990 with the aim of transforming an organization's mission into actions. It is an effective tool to translate intangible strategies into tangible measures by continuous communication between different departments and employees (Kaplan and Norton, 1996). Nowadays, it is widely used in various industries and is not just limited to being a strategies management instrument. According to a study which surveyed executives around the world in 2010, 47% of 11,163 respondents said that they used the BSC as management tool and the satisfaction rate could almost reach 4.0 on a scale of 1 to 5 (Rigby and Bilodeau, 2013). It is clear that the BSC is one of the most popular management instruments. Simultaneously, the usage rate is predicted to keep increasing. Punniyamoorthy and Murali (2008) stated "*the Balanced Scorecard has grown out itself from being just a strategic initiative to its present form of a performance management system.*"

Vasilakis (2008) presented a new concept for "*relative balanced measurement of Trainee's Work Unit (TWU) of Public Services Centres*" by modifying the BSC. The BSC on four organizational performance factors was used to examine the effects of establishing integrated management systems in Ports and Shipping Organizations (Habibollah et al., 2011). Ding (2009) evaluated the Key Capabilities and Core Competences of Port Keelung with the aid of the BSC.

Even though the BSC has been applied widely, there are few related studies on river/feeder ports. To fill this gap, this study takes ZNP as an example to illustrate how to utilize the BSC to evaluate the Core Competences of river/feeder ports.

"*The Core Competence of the corporation*" theory was first proposed by Prahalad and Hamel (1990). Hafeez et al. (2002) defined Core Competences as the "*crown jewels of a company and should be carefully nurtured and developed.*" Ding (2009) indicated that how to evaluate Key Capabilities and obtain Core Competences of a port authority is a critical issue to discuss because of the hyper-competitive environment. Facing the fierce ports competition as explained case by case in Cullinane et al. (2007), "*the real sources of advantage are to be found in management's ability to consolidate corporate wide technologies and production skills into competences that empower individual businesses to adapt quickly to changing opportunities*"(Prahalad and Hamel, 1990).

Hafeez et al. (2002) used a conceptual framework to identify the Core Competences of a U.K. manufacturing company. Building on Hafeez et al. (2002), Ding (2009) took the Port of Keelung as a case study to evaluate the Key Capabilities and Core Competences of seaports. Nevertheless, there is no empirical research to examine the Core Competences of a river/feeder port. It is highly desirable to conduct a survey to test Key Capabilities and Core Competences of river/feeder ports.

Hence this study seeks to answer two research questions:

Q1: Does a river/feeder port have Core Competences?

Port industry is facing greater challenges and risks than ever before. If river/feeder ports do not have Core Competences, they may be lost themselves in this fierce competition. Core Competences may help terminal operators to determine future structures or make business

decisions based on enterprise strengths.

Q2: If a river/feeder port has Core Competences, what exactly are they?

Terminal operators which regard Core Competences as a foundation may focus on core strategies, core business and core products/services development for resource limitation. This business pattern is beneficial for terminal operators to achieve sustainable competitive advantages.

3. Methodology

The definitions and relationships between Preliminary Capabilities (PC), Key Capabilities (KC) and Core Competences (CC) are shown in Figure 1.

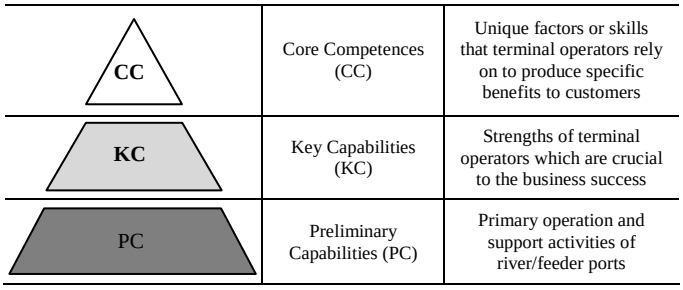

Fig. 1. Relationships between preliminary capabilities, key capabilities and core competences

3.1. *Stage One: Identify Preliminary Capabilities (PC)*

Ding (2009) fully presented 21 primary activity-related capabilities and 16 support activity-related capabilities of Keelung port by utilizing functional analysis and value chain analysis. These 37 PC proposed by Ding (2009) are adjusted to obtain PC of ZNP according to actual situations and relevant studies of river/feeder ports in China.

3.2. *Stage Two: Identify Key Capabilities (KC)*

SWOT analysis and BSC (Hafeez et al., 2002, and Ding, 2009) are used to identify all KC after consulting working people in ZNP. The BSC principle which includes both financial and non-financial measures is borrowed to identify KC of the subject port. This step is fundamentally important to isolating CC effectively.

3.3. *Stage Three: Identify Core Competences (CC)*

To identify the CC of an organization, Hafeez et al. (2002) utilized the collectiveness and uniqueness & strategic flexibility as benchmark; Ding (2009) based on threshold and importance analysis & matrix analysis & fuzzy MCDM. Following Prahalad and Hamel (1990), considerations are listed below:

1. ZNP was put into operation in 2007, so it has a lack of historic data and it is still at the stage of growth;
2. Studies about Chinese river/feeder ports are relatively rare;
3. Prahalad and Hamel (1990)'s philosophy is authoritative and frequently used as a reference by scholars, including Winkelmans (1997).

Therefore three-test principle (Prahalad and Hamel, 1990) is used as benchmark to identify CC from KC, and three criteria will have the same weight of importance.

"*Firstly, a core competence provides potential access to a wide variety of markets …… Secondly, a competence should make a significant contribution to the perceived customer benefits of the end product …… Finally, a core competence should be difficult for competitors to imitate.*" (Prahalad and Hamel, 1990)

Because CC of an organization must meet the above three tests, a five-level Likert scale questionnaire is designed where "1" represents strongly disagree and "5" represents strongly agree. The KC may be measured against three criteria, say access to a wide variety of markets, contribution to perceived customer benefits of end products and inimitability.

The sampling population is the terminal operator and port's clients. The clients consist of ship owners, shippers, forwarders, ship agents and the port authority. Because the respondents are expected to be experts in port management or have an overall acquaintance about ZNP, Judgment Sampling method is used to select samples. According to Hair et al. (2011), Judgment Sampling method is a form of convenience sampling. It is used where individuals are selected with a specific purpose in mind or individuals who have information and knowledge to provide useful ideas and insights.

In the end, through experts grading the KC in three criteria, CC of ZNP is the KC with the highest marks.

4. Analysis and Findings

4.1. *Stage One: Analyze PC in Balanced Scorecard*

The Transport planning and Research institute, Ministry of Transport and Communication Bureau of Zhaoqing proposed "*The overall planning of Zhaoqing ports*" which was passed in November 2010. The "*Planning*" stated that ZNP works as a major regional transit port and is the meeting point of all others including Gaoyao, Sihui, Deqing, Dawang and Sanrong ports in Zhaoqing City. In other words, ZNP should be a good example for others to follow. It not only aims to be a profitable terminal, but also aspires to be the regional transit center. ZNP bears the responsibility to drive urban logistics industry development and economic escalation. That is also the original objective of the national and municipal government to build up ZNP. In the next 10-20 years, ZNP is predicted to be No. 1 attributing approximately 85% of total throughput in Zhaoqing city. To achieve this ultimate goal, ZNP cannot merely consider stockholders benefits. The other perspectives e.g. employee capabilities improvement, customer satisfaction and internal operation process innovation are very important to shape ZNP to be a successful regional transit centre as well. Hence, the BSC is an ideal management tool to slip ultimate objectives into four sub-objectives in financial, customer, internal process and learning perspectives.

To achieve each sub-objective, ZNP is expected to be equipped with corresponding capabilities in each perspective. Ding (2009) fully presented the total 37 PC of Keelung port including 21 primary activity-related capabilities and 16 support activity-related capabilities. A list of adjusted 27 PC based on ZNP's situation and content in Kaplan and Norton (1996) is shown in Table 2. Some are divided into subdivisions, some are combined for similarity and some are deleted or modified for inappropriateness and particularity of river ports. These PC will be further evaluated in Section 4.2 for identifying KC which will be listed in questionnaires for identifying CC.

Table 2
Preliminary capabilities (PC) of river ports

Perspective	Sub-objectives	Code	Preliminary Capabilities (PC)	Reference
Financial	Revenue growth; Fiscal foundation	F1	Capital support capability for port future expansion and development	A5, A11, A25, A37, BSC
		F2	Effective capital deployment capability	A25
		F3	Financial management capability	A24, A25
Customer	Cargo/ship owner's satisfaction & loyalty	C1	Capability to serve high-quality, safely and accurately	A18, A19
		C2	Cooperation capability with other river ports and administrations	A27
		C3	Quick and efficient response capability to cargo/ship owners' requests	A18, A19
		C4	Marketing capability	A17
		C5	Capability to win higher reputation in shipping industry	A27
Internal process	Regional transit center; Drive urban logistics development	P1	Terminal natural condition; e.g. geographical location, climate, shoreline, water draft and land resources	A5, A22
		P2	Connection degree to hinterland	A22
		P3	Transportation network development degree including railway, highway, airport and gateway	A15, A16
		P4	Berth depth, length and amounts	A6
		P5	Port facility management capability including total amount, availability, deployment and maintenance etc.	A7, A8, A9, A10, A11, A12, A23
		P6	Simplified procedure for cargo/vessel certification and inspection	A1
		P7	Berth dispatching capability	A2, A4
		P8	Computerization and informational degree of port management	A36
		P9	Cargo/vessel tracing and supervising capability	A3,A21,A33
		P10	Capability to provide value-add services, like storage, assembling and repackaging etc.	A13,A14,A20
		P11	Clients relationship maintenance capability	A18
		P12	National and municipal government supports	A27
		P13	Occupational safety and environment protection capability	A26
		P14	Legal affairs and policy management capability	A28
		P15	Administration management capability of shipping and navigation	A29
Learning & Growth	Organization innovation; Employee skill improvement	L1	Employee performance appraisal system	A32, BSC
		L2	Capability to motivate employee enthusiasm and initiatives	A31, BSC
		L3	Employee capability to obtain accurate and prompt information	A31, BSC
		L4	Focus on employee training and organization improvement	A30, BSC

Note: a. A1-A37 means codes of evaluation criteria (Ding, 2009)
b. BSC means reference (Kaplan and Norton, 1996)

4.2. *Stage Two: Analyze KC on SWOT and BSC*

SWOT analysis is a common strategy analysis method. The essence is to study the strengths and weaknesses inside an organization and the opportunities and threats outside an organization to gain an overall understanding. Facing the complicated market environment, this method is beneficial when conducting comprehensive, systematic and accurate research on ZNP. For example, the geographic position belongs to internal factors and the economic environment belongs to external factors.

The ultimate mission of ZNP is to be the regional transit centre. In order to apply BSC philosophy, its mission has been divided into four sub-objectives with corresponding PC (see Table 2). Then, these KC will be identified from 27 PC for further positioning CC. As shown in Table 3, the preliminary evaluation criteria used by Ding (2009) are four major criteria – financial, customer, internal process and learning & growth, and 29 sub-criteria based on the BSC. To be concise, this survey evaluates KC using empirical analysis reliant on 10 measures and SWOT analysis, mainly because:

1. ZNP is a river/feeder port at the stage of growth which is definitely different from Keelung Port. It is inappropriate to most of the evaluation criteria used by Ding (2009).

2. This survey's purpose is to identify CC, and in order to avoid discarding a potential KC at the early stage SWOT analysis, 10 main criteria from BSC is used.

Table 3
Evaluation criteria for KC

Perspectives	Sub-objectives	Measures	Reference
Financial	Revenue growth	Revenue growth rate	BSC-p51
	Fiscal foundation	Market share growth rate	BSC-p51
		Cost reduce	C14
Customer	Cargo/ship owner's satisfaction and loyalty	Customer retention	C22,BSC-p63
		Customer satisfaction	C21,BSC-p63
Internal Process	Regional transit centre	Smoothing operational procedures	C32
	Drive urban logistics development	Creating benefits to customers	BSC-p99
		Chance to beat competitors	BSC-p99
Learning & growth	Organization innovation	Employee productivity	C46
	Employee skill improvement	Employee retention	BSC-p129

Note: a. C14-C46 means codes of evaluation criteria (Ding, 2009)
b. BSC p51 means reference content pages no. (Kaplan and Norton, 1996)

Through SWOT analysis and 10 criteria of the BSC, a list of 18 most likely KC is shown in Table 4.

Table 4
Key capabilities of river ports

Perspective	Sub-Objectives	Code	Key Capabilities
Financial	Revenue growth	F1	Capital support capability for port future expansion and development
	Fiscal foundation	F2	Effective capital deployment capability
		F3	Financial management capability
Customer	Cargo/ship owner's satisfaction and loyalty	C1	Capability to serve high-quality, safely and accurately
		C2	Cooperation capability with other river ports and administrations
		C3	Quick and efficient response capability to cargo/ship owners' requests
		C4	Marketing capability
Internal Process	Regional transit centre	P1	Terminal natural condition, like geographical location, climate, shoreline, water draft and land resources
	Drive urban logistics development	P2	Connection degree to hinterland
		P3	Transportation network development degree including railway, highway, airport and gateway
		P4	Berth depth, length and amounts
		P9	Cargo/vessel tracing and supervising capability
		P10	Capability to provide value-add services, like storage, assembling and repackaging etc.
		P11	Clients relationship maintenance capability
		P12	National and municipal government supports
Learning & Growth	Organization innovation	L2	Capability to motivate employee enthusiasm and initiatives
	Employee skill improvement	L3	Employee capability to obtain accurate and prompt information
		L4	Focus on employee training and organization improvement

4.3. *Stage Three: Analyze CC by Questionnaire Survey*

Based on above analysis, a questionnaire of 18 rows and 3 columns is designed. 18 rows represent 18 KC which were introduced earlier, including 3 items related to financial perspective, 4 items related to customer perspective, 8 items related to internal process perspective and the last 3 items related to learning & growth perspective respectively. 3 columns represent 3 criteria to identify CC according to the Core Competences theory by Prahalad and Hamel (1990). They are accessible to a wide variety of markets, and contribute to the perceived customer benefits of end products/services and inimitability.

More specifically speaking, each KC will be assessed three times against three criteria of CC by respondents; namely this KC can provide access to a wide variety of markets for ZNP (1=strongly disagree, 5=strongly agree); this KC can contribute to perceived customer benefits of the end products/services (1=strongly disagree, 5=strongly agree); this KC is not easily imitated by competitors (1=strongly disagree, 5=strongly agree).

Before starting to send out questionnaires, it is important to be sure of the language accuracy and understandability because used questionnaires are translated into Mandarin for the status of respondents. Therefore, the questionnaire's validity was tested by a small group of target respondents and scholars in the related field in January 2013 to avoid possible ambiguity and misunderstandings.

In order to locate target respondents, "*Judgment sampling method*" (Hair et al. 2011) is used as the respondents are expected to have an overall acquaintance about ZNP. Experts who participated in this survey should be specialized in terminal operation & management, or workers who are senior in ZNP's client companies.

Hence, on 18th February 2013, a total 90 questionnaires with explanations were sent out directly to the following offices in person:

1. deputy general manager and six major departments' managers offices in Zhaoqing New Port Co., Ltd
2. manager offices of major client companies including trading, shipping, logistics etc.
3. senior officers' offices in government departments including Zhaoqing Maritime Safety Administration of the PRC, Zhaoqing Station of Exit and Entry Frontier Inspection.

Approximately one week later (27th February 2013), the first author revisited the above offices to collect finished questionnaires. Because some target respondents were not available on 27th February 2013, the first author went to unanswered respondents' offices again on 5th March 2013. In the end, a total 23 usable questionnaires were collected because some respondents politely refused to participate in this survey; some target respondents were not available at that moment; and some questionnaires were filled in carelessly and deemed invalid. The effective response rate was 25.6% (=23/90).

The purpose of Cluster Analysis is to group a set of samples which are more similar in the same group to each other than to those in other groups. In order to explore similarity or difference between individual respondents, Q-mode cluster analysis in which clusters of samples are sought is used. Statistical Product and Service Solutions program version 19 (SPSS) is a software package used for statistical analysis and it is utilized to conduct Hierarchical Cluster Analysis and K-Means Cluster Analysis. The Cronbach alpha method confirms testing reliability of questionnaires. The results are shown in Table 5.

Table 5
Core competence of river ports

Overall Rank	Code	Key Capabilities	Market Score (Rank)	Customer Score (Rank)	Inimitability Score (Rank)	Sum of rank	Sum of mean
1st	L4	Focus on employee training and organization improvement	3.81 (3rd)	4.0 (1st)	2.85 (9th)	13	10.66
2nd	P12	National and municipal government supports	3.95 (1st)	3.57 (9th)	3.05 (3rd)	13	10.57
3rd	F1	Capital support capability for port future expansion and development	3.73 (4th)	3.43 (14th)	3.14 (1st)	19	10.30
4th	F3	Financial management capability	3.95 (2nd)	3.67 (7th)	2.80 (11th)	20	10.42

After adding up average marks and ranking in three criteria of 18 KC separately, it further proves the above findings. Nevertheless there is no universal law for determining the level of threshold; rather threshold value

is settled by rule of thumb. Hafeez et al. (2002) deemed a total score of 7 out of 12 as qualified to be KC, and 6 out of 8 as qualified to be CC. In this study, L4 and P12 scores both are more than 10.5 out of 15 and it is acceptable according to Hafeez et al. (2002).

While L4 (valuing employee training and organization improvement) and P12 (national and municipal government support) get the highest marks out of 18 KC, 45% of respondents think that L4 is easy to imitate by other competitors. On the other hand, F1 (Capital support capability for port future expansion and development) and F3 (Financial management capability) are potential Core Competences. If mean scores of F3 or F1 could improve by 2% (of total 5 marks) in inimitability aspect or by 4% (of total 5 marks) in customer aspect, they will catch up L4 and P12. It can be said that capital strength and financial management skills of terminal operators are advantages in port development process.

Therefore ZNP should make efforts in nurturing CC (L4 and P12) and strengthening potential CC (F1 and F3) continuously, and ZNP should improve its weakness diligently. For government, it is important to create a proper external environment for the port's sustainable and healthy development.

5. Conclusion

5.1. *Discussion and Implications*

This study solved the two research questions proposed at the beginning:

Q1: Does a river/feeder port have Core Competences?

Based on above research findings, it is confirmed that river/feeder ports also have Core Competences. Although in a hub-and-spoke system, river/feeder ports are considered as accessories of load centres and are planned to match the demands of load centres, they can also discover their own ways to plan business strategies based on core competences.

Q2: If a river/feeder port has Core Competences, what exactly is it?

It is interesting to discover that the Core Competences shift the balance towards non-operational activities which are capabilities of valuing employee training and organization improvement (L4) and national and municipal government support (P12).

Hub-and-spoke pattern has dominated global maritime transportation, leading to a limited number of hub ports such as Hong Kong, Singapore and Rotterdam attracting more and more attention from the public. On the contrary, less attention is paid to feeder ports, especially small river ports. This paper conducted a survey on exploring Core Competences of ZNP which is a small river port in the PRD to raise public awareness of river/feeder ports development. Additionally, it is of great importance to find out port Core Competences and set up strategic planning accordingly since port industry is facing greater challenges than ever before.

By studying the literature and consulting with workers in ZNP, 27 Preliminary Capabilities (PC) – 3 items in financial perspective, 5 items in customer perspective, 15 items in internal process perspective and 4 items in learning & growth perspective are classified. Subsequently, the SWOT analysis and the BSC are applied to identify 18 Key Capabilities (KC). In this paper, 10 main criteria are mainly summarized from Kaplan and Norton (1996).

Finally, questionnaires are designed by adopting Prahalad and Hamel (1990). The Cronbach alpha is 0.936, 0.931 and 0.914 respectively in three aspects. With the aid of SPSS, it is interesting to discover that the Core Competences of ZNP are the capabilities of valuing employee training & organization improvement and national & municipal government support, even if the core business of river/feeder ports is transferring cargo between river and shore as an interface.

5.2. *Conclusion, Limitations, and Future Research*

The reason why the factor "*National or municipal government support*" is one of the Core Competences of ZNP may be due to the special situation in China governance. The impact on port development from national development plan in China was also reflected in Li et al. (2012). This could be one of the limitations of this study and further research should consider different governance of port development across the world. Another limitation is that the number of response questionnaires is relatively small because of difficulties in contacting target respondents who are senior staff in companies.

Additionally there is another limitation. Prahalad and Hamel (1990)'s theory contained three tests to filter Core Competences, say access to a wide variety of markets, contribution to perceived customer benefits of end products/services and inimitability. However, Prahalad and Hamel (1990) also underlined that these three tests were minimum thresholds for Key Capabilities becoming Core Competences. Winkelmans (1997) proposed that "*core competency should therefore possess a high degree of durability*" and Hafeez et al. (2002) argued that "*Core Competences are strategically flexible*". There are no universal rules about evaluation criteria for identifying Core Competences because each subject has its own characteristics. Hence this work will give some implications to future studies.

Besides it is recommended that river/feeder ports like Zhaoqing New Port should have a clear understanding of their strengths and weaknesses, especially, Core Competences. They are helpful to create core strategies, core products/services and core business. This is beneficial for terminal operators to achieve sustainable competitive advantages and finally increase the chances to win the competition.

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