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Exploring talent flow in Wuhan automotive industry cluster at China

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ABSTRACT

In recent 10 years, the city of Wuhan has built a big automotive industry cluster in China. The Wuhan automotive cluster is developing quickly, but scarcity of talent has become the bottleneck for its development. Recruiting talented worker is a significant concern and the influence factors of talent flow have been explored. The questionnaire about influence factors of talent flow are designed and sent to nine core enterprises at Wuhan Economic and Technological Development Zone. One hundred and seventy five automotive specialists returned the effective answer sheet. In the questionnaire survey, principal components analysis is used to explore the structure of this instrument, which suggests five components: industry cluster characteristic, urban environment, working environment, income and individual factor. The investigation result demonstrates the top three of these components are income, working environment and individual factor.

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1. Introduction

Clusters of innovative firms have a capability to transform and revitalize local economies, providing economic competitiveness, wealth creation and jobs (OECD, 1993; DTI, 1998; Tether and Storey, 1998; Feldman and Francis, 2001). Porter (1990) argues that a localized concentration of horizontally and vertically linked firms can create and sustain international competitive advantage. 'Chinese city annual report 2005' implies that the industrial accumulation forming the industrial superiority is the important constituent of city competitive advantage. In the PRC 11th five-year Plan, the domestic city should put the strategy of industrial cluster into the urban development strategy. The strategy can impulse and cultivate industry accumulation, optimize the city function, and finally realize the city sustainable development and region coordinated development (IUD, 2005).

Wuhan Economic and Technological development zone, hereinafter WEDZ, is situated at Wuhan which is a leading city of Central China. Under 10 years development, this city has built one of big China automobile industry clusters. The cluster has three big automobile enterprises, the joint ventures between Dongfeng automobile group with France PSA, Nissan and Honda. Also the cluster has more than 100 midsize or small enterprises to manufacture automobile parts and vehicles. An automobile industry analysis report from the R&D center of the WEDZ demonstrates that the total revenue of development zone's automobile industry will be more than RMB 100 billion at 2007. This amount is five times of year 2005 (Wang, 2005).

The expanse of Wuhan automobile industry cluster attracts automobile professional to Wuhan from the whole China. Marshall (1991) states that industrial centralism causes professionals' gathering. A human resource market is formed to satisfy supply and demand. The business owners easily find qualified professionals. The professionals also easily find job. The automobile industry becomes a pillar industry in China economy. But the industry is already short of 800,000 automobile

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professionals (DRC, 2006). The characteristics of industry are the technology-intensity and the fund-intensity. The requirement of high-level professionals causes scarcity of automobile talents. Therefore, the recruiting for talents becomes aggressive day by day. While Wuhan automobile production capacity expands, the confliction becomes more and more remarkable between supply and demand of automobile talents (Wu et al., 2007). Wang (2004) suggests that talent accumulation is a basic guarantee to develop the industrial clusters. The talent accumulation increases cluster's production and also enhances cluster's competitive ability, cluster region socialization cooperation as well as cluster's technological innovation. Bevan (1987) points out that the talent turnover causes the loss of enterprise technology and experience. It seriously affects enterprise competitive ability and production efficiency. The excessively high talent turnover can bring the serious influence to enterprises. Therefore, the talent accumulation and retention in the WEDZ will affect its cluster competitive ability. It should be concerned how to strengthen the ability to accumulate talents in the WEDZ, and how to guide the talent's flow orderly. This article utilizes the factor analysis method to investigate questionnaire survey's data and discuss the influence factor of talent flow. The goal is to discover and induce the key component of affecting the talent flow in the WEDZ. Knowing the reasons for this flow of talent may assist policy makers and decision makers, at both organizational and civic levels, to plan courses of action that meet the interests of both migrating individuals and host organizations and societies (Adir, 1995; Rosenblatt and Sheaffer, 2001). The research conclusion will support fundamental research and provide policy basis to attract, train and retain professionals for the industrial cluster.

2. Literature review

As a new spatial form, industry cluster has been researched on the formation and advantages by many scholars. Marshall (1991) theorized that three primary benefits occur to firms locating in clusters: access to pool of specialized labor, access to a pool of specialized input providers, and technology spillovers among competitors. These externalities are thought to increase with the number of firms in a location due to economies of agglomeration. Baptista and Swann (1996) found positive effects on innovation performance, firm growth and entry of spillovers mediated by strong regional clustering of industries. Porter (1998a) explained the relationships between clusters and productivity, advocating that clustering of companies leads to high productivity because of the access to specialized inputs and employees, access to information, complementarities across products in clusters, and access to institutions and public goods. Recently, many researchers have paid more attention to the role of talent and creative class on the clusters' development (Caves, 2000; Asheim and Vang, 2005; Florida, 2002a, 2002b).

The connection between human capital or talent and regional economic growth has been studied by some

scholars and is supported by a wide body of empirical evidence at the national and regional levels. A large number of studies have found strong relationships between human capital and regional growth (Glaeser et al., 2001; Rauch, 1993; Eaton and Eckstein, 1997; Black and Henderson, 1998; Simon, 1998; Glendon, 1998). Lucas (1988) argued that the driving force behind the growth and development of cities and regions are the productivity gains associated with the clustering of talented people. Romer (1986) established the connection between knowledge, human capital and economic growth in his endogenous growth model, arguing that investments in human capital generate spillovers and increasing returns. Barro (1991) found a close relationship between human capital and economic growth at the country level. More recent research (Glaeser et al., 1995; Glaeser, 1998, 1999, 2000; Simon, 1998) has empirically verified the role of human capital in regional growth. Florida (2002a, 2000b, 2000c) has noted the considerable differences in human capital across regions and has argued for the need to better understand the factors that not only produce human capital but also which enables regions to attract it, suggesting that human capital operates less as a static endowment or stock and more as a dynamic flow.

Scholars have conducted many researches on the influence factors of talent flow. Bevan (1987) assumes that company internal factor is more important on the talent flow than exterior attraction. Moreover employee's leaving decision is based on dismissal desire and convenience of flow. Hinkin and Tracey (2000) state the reasons of talent flow. First, enterprises do not trust employee and employees do not have authority to complete job independently. Secondly, job condition is worse, but job requirement is higher. Finally salary is lower. Ham and Griffeth (1995) explore talent flow and discover several factors correlated to talent flow. These factors are sex, age, family responsibilities, job satisfaction, job expectation, financial compensation, achievement and promotion, job complexion and motivation of enterprise. Kennedy and Fulford (1999) state that the influence factors are divided into two parts: obvious factors and unobvious factors. The obvious factors include age, income, job characteristic, individual desire, anticipated future and opinion of job change. The unobvious factors include sex, race, marital status, family population, education, job period and previous experience of job change. Hiltrop (1999) writes that the influence factors include job income, job challenge, training and promotion, economic condition, job schedule, job responsibility, job independence, job security and career development. Deery (1997) discovers that communication between manager and employee, and enterprise culture are important in the influence factors, as well as income and job expectation. Levin and Rosse (2001) state that there are three factors affecting turnover and talent flow: individual factors (such as demographic characteristics, personality, and individual values), workplace factors (such as type of work, working conditions, and organizational climate) and environment factors (such as broad external economic or societal factors involving the labor

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