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## Empirical research of the resource base, multi-format strategy and retail enterprise's competitive advantage

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### ABSTRACT

Whether the retail enterprises adopting multi-format strategies will have a positive impact on their competitive advantage or not at present, this issue is very important for the retail enterprises' formats management and competitiveness. Thus, this paper studies these from the perspective of resource-based theory. To be different from a large number of qualitative research previous, this paper puts forward the corresponding theoretical assumptions, which be tested empirically by the data of the listed retail companies as samples form the Shanghai and Shenzhen A-share market in 2008-2012, and using hierarchical regression analysis method. The results show that enterprise resources impact the multiple formats strategy's implementation of retail enterprises positively, especially the influence of the logistics resources, the initial retail format and the enterprise culture resources are more significant; multiple formats strategy has a positive influence on retail enterprise's competitive advantage, especially the influence on corporate profitability are more significant; the combined of the enterprise resources and the multiple formats strategy affect on the retail enterprise's competitive advantage is not significant. These findings indicate that multi-format strategies will improve the retailers' competitive advantage.

### KEYWORDS

Resource-based theory; Multiple formats; Competitive advantage.



## INTRODUCTION

The multi-format strategy is a strategic deployment employed by retail enterprises to meet the market demand, to respond to external competition, and to improve the strength of enterprises, and it is embodied in diversified retail operation forms, including store formats and other forms of non-store formats, and it is a related diversification strategy of the enterprise diversification strategies<sup>[1]</sup>. Enterprise competitive advantage of an enterprise is one or more advantages that an enterprise has against its rivals in price, quality, brand, channel, etc.<sup>[2]</sup>, so competitive advantage of a retail business often manifests the value that an enterprise provides its customers, the value can be presented as the same effect with its rivals but needs fewer time and lower price, or customers are willing to pay a higher price when they are provided a unique value<sup>[3]</sup>. Currently, multi-format operation is widely implemented in retail companies ranking among the first hundred in China, and it has been a hot research topic and attracts lots of scholars' attention on if it can have a significant impact on business performance or competitive advantage<sup>[4,5]</sup>.

Currently, there are two main schools of thoughts used in the research of impact of multi-format retail strategy on competitive advantage of an enterprise: one is to examine whether using multi-format strategy has promoted business performance and competitiveness, from the perspective of multi-format strategy application, as Qian & Anderson et al<sup>[6]</sup>, Zhao Quan Wu<sup>[7]</sup> & Shen Ningning<sup>[8]</sup> and others have done. This way of thought, simple and direct, is abundant with research results, but conclusions are various, mainly because impact path of multiple formats on business performance is not taken into consideration. The other takes into consideration of the ways in which a multi-format strategy affects corporate performance. For example, how enterprise scale and capital structure<sup>[9]</sup> influence business performance; how creating customer value<sup>[10]</sup> affects business performance. All these explore the intermediate mechanism of multi-format strategy playing the role, and they are worth learning. However, they do not consider the limitations of a company's own resources, so some scholars begin to call attention to application of resource-based theory to research in the retail enterprise<sup>[11]</sup>. Scholar Yang Yimiao and Guo Yan ever pointed out in their study that growth of retail business is not only related with the stage of a retail enterprise, but also with the specific factors of a certain enterprise, namely, enterprise culture, development strategy, organization structure, human resources, business format, logistics distribution and so on. These factors of a retail enterprise and its mode of growth together affect the retail enterprise, and therefore affect growth performance of the retail enterprise<sup>[4]</sup>.

But fundamentally speaking, the retail enterprises cannot develop multi format without its basic resource, and combining these resources and multi format strategy will have a certain impact on competitive advantage of retail enterprises. Combining theory analysis and practice, it is necessary and inevitable to study multi format strategy and its influence on the competitive advantage of retail enterprises from the resource based theory.

## THEORETICAL ANALYSIS AND RESEARCH HYPOTHESIS

Analysis of mechanism of resource base, multi-format strategy and competitive advantage of retail enterprise

In the study on relationship between resources of companies and its growth, scholar Penrose in his book *Firm Growing Theory* published in 1959 pointed out that corporate resources and capabilities (which are regarded as a black box in the company theory in classical economics) constitute a stable basis for economic efficiency of enterprises, and the enterprise is more than a management unit, but also a collection of a variety of productive resources<sup>[12]</sup>. Scholar Wernerfelt put forward the theory of enterprise resource base, pointed out that the root of all business advantages or disadvantages was resources, defined the resources as material resources, human resources and organizational resources, and claimed that scarce, inimitable and non-alternative resources or assets of an enterprise are the main

source of long-term competitive advantage<sup>[13]</sup>. Later, many scholars continued this research. Amongst, Barney analyzed the impact of corporate resources on sustainable competitive advantage<sup>[14]</sup>; Grant analyzed competitive advantages of the strategic concept on resource base<sup>[15]</sup>. All these studies promote the development of the resource-based theory further. Retail is an industry with relatively low requirements to enter. Currently, most retail enterprises develop multi-format business practices in order to be different from others, to gain economic profit and to maintain a competitive advantage, and doing this necessarily involves the use of enterprise resource base.

In resource-based theory, company is a collection of various resources. Due to various reasons, not all companies have the same resources, and instead, they have heterogeneity in resources, which determines the difference of the enterprise competitiveness. The resource-based thought has been existing for a long time, but its significance on retail competition strategy has not been fully exerted. Scholar Zhang Hui believes that the current retail competition is very complex, and retail businesses are easy to be controlled by an external customer orientation, so once a customer-value has been found, all enterprises swarm to take it as its own customer-value point, ignoring if the inside resources of its own company matches with the situation, leading to the chosen customer value point can not become a strategic advantage point of its own<sup>[11]</sup>. Chen Haiquan, from the perspective of resource-based theory, studied household appliance retailers, and proposed the viewpoint to use external resources tactfully is a key element to promote the rapid growth of China's home appliance chain<sup>[16]</sup>. Therefore, it is significantly necessary to analyze how business is affected by combining the classic idea of the resource base theory and multi-format retail enterprise strategic positioning.

From the perspective of the retail business, the resource can be divided into two types: tangible and intangible resources. Li Fei and other scholars believe that the invisible resources, such as learning and growth are more important than tangible material resources, such as equipment, and the former are embodied in system, culture, image and so on, while the latter are embodied in human being, capital, property and so on, and all these resources will have significant impact on enterprise multi-format strategy<sup>[17]</sup>. Therefore, in this article resources of retail enterprise will be divided into six kinds: human resources, logistics resources, technical resources, the initial format, corporate culture, special resources and other resources, and among these, physical resources are more easily to be imitated by other companies and intangible resources are difficult to be applied directly. These resources will have an impact on components of enterprise formats, including target customers, merchandise, shop site, environment, service, price, and the combination of these elements will form various forms of formats; thus enterprise resources have impact on multi-format strategy<sup>[18]</sup>. In view of retail format consolidation behavior, one aspect or aspects of these elements can be a competitive advantage in the retail business content, namely the formation of a relatively low cost and with super customer value<sup>[19]</sup>, and those will impact on the enterprise competitive advantage which be constituted by the market capacity, grow capacity, profitability and corporate value<sup>[3]</sup>. Therefore, the retail enterprises to adopt multi-format strategy can not be blind followers, starting from their own resource base, subject to the availability of resources can take the appropriate multi-format strategy, the formation of competitive advantage. Enterprise resource-based competitive advantage of multi-format strategy and retail business impact mechanism shown in Figure 1:

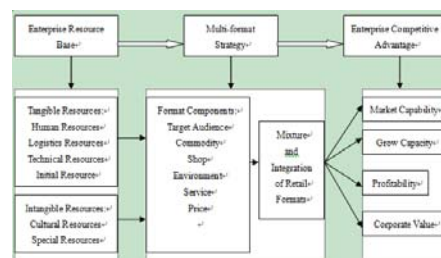


Figure 1 : The ways in which enterprise resource affects competitive advantage of multi-format retailing business

## Hypotheses on resource base, multi-format strategy and competitive advantage

Resource-based theory seeks for internal motivation for business growth, and explains the differences between the enterprise competitive advantages from the particularity of internal resources. The basic assumption of this theory includes: enterprises have different tangible and intangible resources, which can be transformed into different unique abilities; resources in different enterprises cannot be communicated or re-distributed and are difficult to replicate; these unique resources are the source of sustainable competitive advantage for a company. When a company has a competitive value, with the unique resources which are difficult to replicate and replace, it can have a stronger competitive advantage over other companies. Main representatives of resource-based theory include Penrose, Wernerfield, Rumelt, Barney, Dierickt, Cool, Peteraf, and so on. Amongst, Barney<sup>[20]</sup> and Peteraf<sup>[21]</sup> successively integrated different views based on competitive advantage of resource systematically and completely, and developed an analytical framework of resources which has been accepted in academia. They classify the enterprise resources into all assets an enterprise controls, capabilities, organizational processes, corporate property, information and knowledge, and among these the resources which can bring an enterprise sustainable competitive advantage must have the following features: valuable, scarce, difficult to be imitated, difficult to be replaced, and it is the resources with the above four features enable an enterprise to conceive and implement strategies which can improve effectiveness and efficiency of the enterprise<sup>[20,21]</sup>.

Retail enterprise resources are also divided into tangible and intangible resources; taking into consideration of characteristics of retail services, combining with some scholars' researches, this paper will divide tangible resources in retail business into human resources, logistics resources, technical resources and initial format, and divide the intangible resources of enterprise into cultural resources and unique resources of corporate, which are also important driver of retail business performance<sup>[22]</sup>. All these resources can have an impact on the implementation of multi-format strategy, which can be explained in detail like this: human resources are scarce and intellectual resources of an enterprise, and in order to conduct multi-format strategy, an enterprise must have various professional technicians and management personnel who can adapt to different multi formats, and thus only those retailing enterprises who are abundant in human resources can innovate and develop in form of formats; logistics resources can deliver the goods to stores or customers quickly, reducing waiting time, and for enterprises conducting multi-format strategy, in order to acquire competitive advantage, they must base on highly efficient logistics, which goes through the whole process of retailing business, and is one of the key factors in the whole process of purchase - sales - distribution, so logistics plays a vital role in effectively operating retail business<sup>[23]</sup>; technical resources are resources which can ensure efficient operation, and in particular, using modern information technology in the retail can promote innovation in ways of sale, can also enable non-store formats appear continuously, then customers may have experiencing value and trust for the retailer<sup>[24]</sup>, and can reduce management costs; initial formats consist of department stores, supermarkets and specialty stores, and due to the apparent impact from the other two, in order to gain market share, department stores must make use of the advantages of their own history, and actively develop other industry form, weakening business risks; corporate cultural resources contain corporate system, culture, image and management experience, characteristics and other special resources which cannot be easily imitated by outsiders, so if multi-format retail enterprises with better cultural resources expand, it is easy for them to achieve rapid success, expanding corporate reputation<sup>[25]</sup>; an enterprise with better special resource means it can perform well in a certain format and effectively compete with other rivals<sup>[16]</sup>, and in order to achieve its own differentiated development it may expand into other formats, including making a special goods, such as the own-brand products<sup>[26]</sup>.

Taking into account of theoretical analysis, this paper proposes the following hypothesis:

H1: Enterprise resource has a positive impact on adopting multi-format strategy.

To make it further, the following sub-hypothesis are made:

H1a: Corporate human resource has a positive effect on the use of multi-format strategy.

H1b: Logistics resource of an enterprise has a positive effect on the use of multi-format strategy.

H1c: Technological resources have a positive effect on corporate multi-format strategy.

H1d: Initial format of an enterprise has a positive effect on the use of multi-format strategy.

H1e: Cultural resource of an enterprise has a positive impact on the use of multi-format strategy.

H1f: Special resource of an enterprise has a positive effect on the characteristics of multi-format strategy.

Competitive advantage refers to whether a company has created a long-term stable superior value for stakeholders, which can be evaluated through market power (share), the ability to grow (sales growth), profitability (growth rate of return on investment), enterprise value (increasing speed of share price), and customer value (customer satisfaction) and a series of corporate performance indicators<sup>[3]</sup>. Application of multi-format strategy in the retail business is through a combination and integration of a variety of formats, through expanding business in different regions, through meeting shopping various customer demands, and through expanding market share, to increase sales and profitability, and ultimately to enhance enterprise competitiveness. Therefore, the implementation of multi-format strategy makes business have a competitive advantage. Taking into account the interaction of multi-format strategy and corporate resources, compared with retail business which has not implemented the multi-format strategy, enterprise who has adopted multi-format strategy can make a further use of corporate human resources, logistics resources, technical resources, the initial format, corporate cultural resources and special corporate resources. For example, such companies can have abundant intellectual talents, and can continue to share logistics facilities and equipment to reduce logistics costs, and continue to use advanced technology to promote the transformation from traditional business to modern business; in consequence, traditional department stores also obtain through new development opportunities through multi-format; retailer management skills and experience in different formats can spread and sublimate; the success of the main format also stimulate other formats to imitate; all these aspects reflect the resource sharing, collaborative development, and will encourage enterprises to operate in multiple formats better, to achieve the good result of "1 + 1 > 2"<sup>[27]</sup>, and eventually competitive advantage of an enterprise can be promoted and become more obvious. Therefore, the following hypothesis are proposed in this thesis:

H2: Multi-format strategy has a positive influence on competitive advantage, and combination of corporate resources and multi-format strategy has a more significant positive effect.

Corresponding sub assumptions:

H2a: Multi-format strategy has a positive impact on the ability of the enterprise market, and combining corporate resources with multi-format strategy has a more obvious positive effect.

H2b: Multi-format strategy has a positive impact on business growth capacity, and combining corporate resources with multi-format strategy has a more obvious positive effect.

H2c: Multi-format strategy has a positive impact on the profitability of the enterprise market, and combining corporate resources with multi-format strategy has a more obvious positive effect.

H2d: Multi-format strategy has a positive impact on corporate value, and combining corporate resources with multi-format strategy has a more obvious positive effect.

The above theoretical model and research hypotheses can be reflected in Figure 2 as following (what should be noted is that the research of enterprise resource impact on the competitive advantage of is relatively mature, so this study does not focus on it and does not verify it):

## RESEARCH DESIGN

### Research sample and data source

In this study, listed retail businesses in Shenzhen and Shanghai Security Exchange from 2008 to 2012 under the supervision of China Securities Regulatory Commission, including 83 listed companies with A-share, are selected as the initial samples. In order to ensure the validity and consistency of data and

similar literature, according to the following criteria data are filtered: exclude listed companies with B shares and H shares at the same time shares to ensure comparability of data; exclude ST listed companies, the companies who has been annual suspended transactions for a year, exclude the impact of outliers on our results; remove companies whose main business has transformed into non-retail industry and listed companies with incomplete data to ensure the unity of industry and integrity of data<sup>[28]</sup>. In this way, eventually 56 listed companies are acquired as samples, and the data in this paper are from the CSMAR and annual reports of listed companies collected by CNINF. Data are processed with Stata12.0 software.

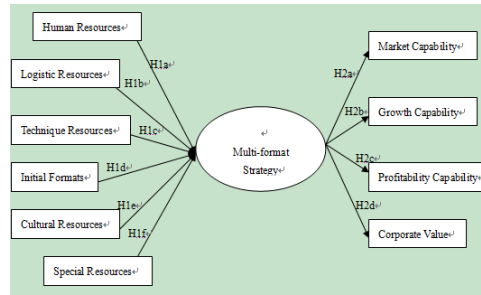


Figure 2 : Conceptual model of research and assumptions to be tested

**Variable definitions and model design**

In this paper multiple formats (*Rfs*) is selected to measure whether a company take the form of multi-format operation, and if so, it is assigned as 1, and otherwise 0.

According to resource-based theory, this paper combining behavioral characteristics of multi-format retail enterprises, measuring the physical equipment resources, that human resources are reflected by the proportion of technical staff among all the staff (*Pntp*); logistics resources are reflected by the percentage of sale expenses in main business income (*Pse*); technological resources are reflected by the proportion of management costs in main business income (*Pme*) (because there is nearly no R&D expenses in retail business projects, so with the approximate alternative); initial formats are reflected by main format types (*Tmr*) (0 stands for department stores, 1 represents supermarket, 2 means specialty); to measure learning and growth resources, logarithmic of intangible assets (*Lnnia*) and percentage of main format sales in corporate operating revenue (*Pmrf*) are used to reflect intangible resources and corporate identity special resources respectively.

In terms of competitive advantage measurement, studies conducted by scholars Li Fei & Wang Xuhun<sup>[3]</sup> and Yu Lin & Sun Minggui<sup>[29]</sup> are drawn, so the proportion of main business income in all retailers' annual main business income (*Mrat*) is used to reflect market capacity, the revenue growth of main business (*Gmbr*) is used to reflect the growth ability, the return on assets (*Roa*) is used to reflect the profitability, Tobin's Q (*Tq*) to the enterprise value, and for the customer value index, since it is difficult to obtain data, and has a great correlation with the above indicators, in this study it is not taken into consideration.

As for controlling variables, logarithm of total assets is selected (*Lnsiz*) to reflect firm size, asset-liability ratio (*Lev*) to capital structure, calendar year (*Yon*) to differences in macro-economy, in which 1,2,3,4,5 represent the year 2008,2009... 2012.

Based on the above selected variables, model (1) and the model (2) (3) (4) (5) are built separately, in which it is assumed that H1a, H1b, H1c, H1d, H1e, H1f are tested by using model (1), and H2a, H2b, H2c, H2d by model (2) - (5).

$$\begin{aligned}
 \text{Log}[P(Rfs)] = & \alpha_0 + \alpha_1 Pntp + \alpha_2 Pse + \alpha_3 Pme + \alpha_4 Tmr + \alpha_5 Lnnia + \alpha_6 Pmrf + \alpha_7 Lnsiz + \alpha_8 Lev \\
 & + \sum_{i=1}^5 \alpha_{i+8} Yon + \varepsilon
 \end{aligned}
 \tag{1}$$



$$\begin{aligned}
 Mrat = & \beta_0 + \beta_1 Rfs + \beta_2 Pntp + \beta_3 Pse + \beta_4 Pme + \beta_5 Tmr + \beta_6 Lnnia + \beta_7 Pmrf + \beta_8 Rfs \times Pntp \\
 & + \beta_9 Rfs \times Pse + \beta_{10} Rfs \times Pme + \beta_{11} Rfs \times Tmr + \beta_{12} Rfs \times Lnnia + \beta_{13} Rfs \times Pmrf \\
 & + \beta_{14} Lnsiz + \beta_{15} Lev + \sum_{i=1}^5 \beta_{r+15} Yon + \varepsilon
 \end{aligned} \quad (2)$$

In model (3) (4) (5), respectively, the dependent variable on the left side of the equation of the model (2) is replaced by *Gmbr*, *Roa*, *Tq*, while the right side of the equation remains unchanged, and then the result is obtained. Based on the principles of simplicity, in this article they are not reflected one by one.

## EMPIRICAL ANALYSIS

### Descriptive statistics and correlative analysis

Before regression analysis, major variables are analyzed descriptively, statistically, and correlatively. The result shows that: (1) there are significant differences among corporations in corporate resources, multi-format strategy and competitive advantages, which provides data to support the significance and feasibility of conducting this study; (2) relation between multi-format strategy and corporate resources is shown like this: it is positively correlative at the level 0.05 with logistics resources and technical resources, and the initial format (because cost is used to measure logistic and technical resources, a negative figure shown by the software actually represents the positive relation between conservation of resources and multi-format strategy; in the initial format, use the specialty stores refers to department store, so a negative figure by the software also explains positive correlation of department with multi-format strategy department; what need to be noted is that regression results in this article are all like this), and multi-format is significantly positively correlated with intangible resources at the level 0.05 and positively correlated with human resources but it is not significant, and negatively correlated with enterprise-specific resources but it is not significant; (3) the relationship between multi-format strategy and competitive advantages is demonstrated in this way: it is significantly positive-correlated with the growth ability at the level 0.05, and significantly negative-correlated with enterprise value at the level 0.05, with market power are positive-related with market power but not significantly, and negative-correlated with profitability but not significantly; (4) the relationship between multi-format strategy, which is combined with the corporate resources, and competitive advantage is shown like this: logistics resources and the initial format, which combine with multi-format strategy, are significantly positive-correlated and negative-correlated with corporate market performance at the level 0.05; human resource, combined with multi-format, is significantly negative-correlated with corporate value at the level 0.05, and negative-correlated with growth capability, but not significantly by relevant analysis, some of these assumptions are preliminary validated.

### Regression analysis

Based on the assumptions above, firstly, how to choose multi-format strategy according to corporate basic resources is analyzed, and the results are shown in TABLE 1. Model 1.1 in TABLE 1 is regression results of all the variables a model (1), and the results show that logistics resources, technical resources, the initial format and intangible resources are significantly positive-correlated, and enterprise-specific resources is significantly negative-correlated, while human resources positive-correlated, but not significantly positive; thus assumption H1b, H1c, H1d, H1e are initially supported.

To avoid the impact of possible multicollinearity, models from 1.2 to 1.7 are used for further test. Model 1.2 examines the relationship between the multi-format strategy and human resources, and the result shows a positive correlation but not significant; assuming H1a is not supported, perhaps due to multi-format retail business strategy, technical personnel knowledge is limited, and their roles have not been played properly, unable to support multi-format strategy. Model 1.3 exams the relation between logistics resources and multi-format strategy, and the result shows a significant positive correlation

between the two at the level 0.01; since the logistic resources is measured by percentage of the cost of sales, the result further illustrates the rational use of enterprise logistics resources, reducing associated costs, can encourage enterprises to adopt multi-format strategy, supporting the hypothesis H1b. Model 1.4 tests relation between technical resources and multi-format strategy, and the result is that they have a negative correlation, but not significant, so H1c is not verified. Possible reasons could be that the investment in technology and equipment is too large, technical training is not used properly, there are differences in adapting formats for different enterprises, and they could not play the role to support multiple formats strategy.

**TABLE 1 : Logistic regression analysis of selecting multi-format strategy based on enterprise resource**

Variables	Model 1.1	Model 1.2	Model 1.3	Model 1.4	Model 1.5	Model 1.6	Model 1.7
Constant	-26.12*** (5.621)	-25.49*** (4.256)	-28.80*** (4.525)	-24.34*** (4.579)	-32.08*** (5.009)	-24.09*** (4.149)	-23.97*** (4.246)
<i>Pntp</i>	2.179 (3.548)	2.975 (3.125)					
<i>Pse</i>	-8.613*** (3.303)		-10.06*** (2.765)				
<i>Pme</i>	-7.278** (3.595)			-0.297 (2.742)			
<i>0/1.Tmr</i>	0 (0)				0 (0)		
<i>2.Tmr</i>	-2.387*** (0.527)				-2.105*** (0.426)		
<i>Lnnia</i>	0.252** (0.118)					0.214** (0.100)	
<i>Pmrf</i>	-3.529*** (1.304)						-0.422 (0.885)
<i>Lnsiz</i>	1.242*** (0.293)	1.170*** (0.200)	1.402*** (0.222)	1.127*** (0.214)	1.526*** (0.240)	0.937*** (0.213)	1.125*** (0.196)
<i>Lev</i>	-0.0683 (1.101)	1.162 (0.949)	-0.0495 (1.018)	1.137 (0.953)	0.375 (1.007)	1.154 (0.957)	1.149 (0.949)
<i>Yon</i>	Control	Control	Control	Control	Control	Control	Control
<i>Pseudo R<sup>2</sup></i>	0.269	0.152	0.189	0.150	0.207	0.162	0.150
<i>LR chi2</i>	93.43***	55.64***	69.01***	54.73***	71.89***	59.37***	54.94***
Observed	260	280	280	280	260	280	280

**Note :** Figures in parentheses are t-statistics, \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ , represent to be significant at levels 1%, 5% and 10% respectively.

Model 1.5 inspects relation between the initial format and multiple formats, due to taking the department store as a reference substance, and the result reflects, retailer business beginning with generalized merchants has a significant positive correlation with multi-format strategy, and assumption H1d is verified. Model 1.6 inspects relationship between intangible resources and multi-format strategy, and they are significantly positive-correlated, so assumption H1e is verified. Model 1.7 examines how special resources of an enterprise relate with multi-format strategy and the two are negatively correlated but not significantly; therefore, assumption H1f is not verified. All these demonstrate that no matter the main format is strong or not, it has no apparent impact on enterprise choosing multi-format strategy, and once again it is confirmed that the retail business is an industry with relatively small barriers to enter, so foreign-funded entrants can achieve a variety of formats simultaneously. From the test result of



integrated Model 1.1 to 1.7, we can see the assumptions H1b, H1d, H1e are verified, while assumption H1a, H1c, H1f are not verified.

Secondly, the relationship among the enterprise resource, multi-format strategy and competitive advantage is analyzed in TABLE 2. Since the interaction of different resources and the multi-format strategy has different effects on the competitive advantage, therefore, priority should be given to the consideration of the impact and test of multicollinearity. In this paper, multicollinearity is tested by VIF, and it is found that the VIF value of the variables  $Rfs \times Lnnia$  and  $Rfs \times Pmrf$  is much greater than 10, so in order to solve this, the two variables are excluded from the model<sup>[30]</sup>. That is only to study the impact of interaction of tangible resources and multiple formats on competitive advantage. The results of remaining variables regression are as follows:

TABLE 2 : Multivariate regression analysis of the impact on the competitive advantage of an enterprise

Variables	Model 2	Model 3	Model 4	Model 5
	( <i>mrat</i> )	( <i>gubr</i> )	( <i>roa</i> )	( <i>tq</i> )
Constant	-0.375*** (-14.98)	-0.205 (-0.39)	0.087 (1.15)	8.035*** (7.42)
<i>Rfs</i>	-0.015** (-2.92)	0.169 (1.58)	0.038* (2.44)	0.325 (1.45)
<i>Pntp</i>	0.093*** (3.47)	0.269 (0.48)	-0.013 (-0.16)	3.339** (2.87)
<i>Pse</i>	-0.109*** (-4.73)	-0.268 (-0.56)	0.256*** (3.67)	1.081 (1.08)
<i>Pme</i>	0.020 (0.82)	-0.832 (-1.63)	-0.405*** (-5.43)	-1.444 (-1.36)
<i>Tmr</i>	0.009*** (4.52)	0.007 (0.17)	-0.015* (-2.55)	-0.121 (-1.44)
<i>Lnnia</i>	0.001 (1.25)	-0.011 (-0.88)	0.002 (0.86)	0.026 (1.01)
<i>Pmrf</i>	0.018*** (3.49)	-0.218* (-2.04)	-0.010 (-0.65)	0.007 (0.03)
<i>Rfs</i> × <i>Pntp</i>	-0.069 (-1.94)	-0.136 (-0.18)	-0.023 (-0.21)	-4.085** (-2.65)
<i>Rfs</i> × <i>Pse</i>	0.136*** (4.00)	-0.628 (-0.89)	-0.552*** (-5.37)	-2.872 (-1.95)
<i>Rfs</i> × <i>Pme</i>	0.013 (0.38)	-0.560 (-0.76)	-0.106 (-0.99)	-2.139 (-1.39)
<i>Rfs</i> × <i>Tmr</i>	-0.006* (-2.35)	-0.091 (-1.76)	0.008 (1.00)	0.198 (1.84)
<i>Lnsiz</i> e	0.017*** (12.33)	0.038 (1.31)	0.002 (0.40)	-0.317*** (-5.31)
<i>Lev</i>	-0.014* (-2.39)	-0.027 (-0.22)	-0.087*** (-4.80)	-0.725** (-2.82)
<i>Yon</i>	Control	Control	Control	Control
Adjust R <sup>2</sup>	0.595	0.092	0.295	0.502
F value	25.112	2.656	7.863	17.517
Observed	280	280	280	280

Note : Figures in parentheses are t-statistics, and \*\*\* p <0.01, \*\* p <0.05, and \* p <0.1, represent that it is obvious at the level of at the 1%, 5% and 10% respectively.

Model 2 in TABLE 2 is the regression of all variables in the model (2) except variables  $Rfs \times Lnnia$  and  $Rfs \times Pmrf$  (Model 3, models 4 and 5 are all the same, and will not no longer be mentioned

later), and the results show that impact of multi-format strategy on the enterprise market capability is significantly negative, and apposite to assumption. And cross term of logistics resources and multi-format strategy is significantly positive, and that of the initial format and multi-format strategy is significantly negative, and that of other resources and multi-format strategy is not significant, assuming H2a is partially supported. To sum up, the implementation of multi-format strategy doesn't have obvious influence in market power performance, and inevitably there would be delays in delivery to multiple formats, leading to poor marketing, showing the adverse reaction, and therefore it is necessary to improve the efficiency of delivery to increase business sales. However, combination of the initial format as the department store format and multi-format strategy has a prominent positive effect on market ability. The combination of multi-format strategy and human resource as well as technical resources is not obvious, which still need to be studied in order to play its role.

Regression results in Model 3 show that the impact of multi-format strategy on business growth capacity is positive but not significant, that the cross-term of tangible resources of enterprises and multi-format strategy is also not significant. Assumption H2b is not verified. This may be because internal use of the multi-format retail strategy is short, and it requires a certain period to adjust, and multi-format strategy combined with the current resources of the enterprise has a positive impact on the enterprise, but it is not significant.

Regression results in model 4 show that the impact of multi-format strategy on corporate profitability is significantly positive, and only the cross-term of the logistics resources has a significant impact on profitability, and the cross-term of other resources with multi-format strategy is not significant, so assumption H2c is partially supported. This demonstrates that the so-called strategy "When it doesn't shine in the east it must shine in the west" of many companies has its own rationality, and multi-format strategy belong to relevant diversification strategy, so in the changing market environment it can improve profitability to some extent, and the rational use of logistics resources under multiple formats can reduce the logistics costs, consequently to increase the corporate earnings significantly. Nevertheless, combination of human resources, technical resources, initial format and formats has no obvious influence on profitability, worthy of attention.

Regression results in model 5 show that multi-format strategy has positive but not significant impact on the enterprise value, but the impact of the cross-term of human resources and multi-format strategy on enterprise value is significantly negative. Assumption H2d is not verified. Thus it is demonstrated that the use of multi-format strategy can make the enterprise value of listed companies increase, but the retail business may have no apparent characteristics in using the multi-format strategy, so it has no significant improvement of the business value in the capital markets. The combination of human resources and multi-format significantly has negative effect on enterprise value, probably because knowledge updating is slow and old thinking mode is mastering the new format when the present resources enter into the running of multi-formats, which, therefore, limits the growth of corporate value. Combination of other resources such as logistics resources, technical resources and initial format with multiple formats has no significant impact on enterprise value.

## Discussion results

In terms of impact of enterprise resource on multi-format strategy of retail business, the study finds that enterprise resources, including physical plant resources, intangible learning resources, and intangible growth resources, all can exert positive effect on multi-format strategy of retail business. To be specific, logistic resources, the initial format (department store format), and corporate culture resources play a significant role in supporting the application of multi-format strategy. This complies with the statement proposed "Each format has its corresponding merchandise mix, sales, scale and suitable customers, and the format chosen by the company reflects the company's own position; thus, poor performance may be caused by improper positioning and selecting format"<sup>[10]</sup>. And it is consistent with the view "The specific factors of a retail business, namely, corporate culture, strategy,

organizational structure, human resources, logistics, and so on, will act on the retail business growth, thereby affecting the performance of the retail business"<sup>[4]</sup>.

For retail managers, retail format innovation is the key to sustainable development, which needs to cultivate and expand its own resources actively, to exert the logistics resources, enterprise management system and culture resources, to realize the combination of software and hardware resources, lastly to promote the implementation of the multi-format strategy. The human resources, technology and other resources which are not significant validation in the study should be reserved actively, as the scholar notes that Wal-mart in China at the first some years spented a lot of time testing the market and reserving the talent, in order to make the foundation for subsequent Chinese market expansion<sup>[31]</sup>. At present, the Chinese commodity market is being intergrated intensely<sup>[32]</sup>, so the retail enterprises need to reserve the talent and technology resources for a long time and maximize their usefulness.

As the impact of multi-format strategy in the retail business on competitive advantage, the study has found that it is positive. Specifically, multi-format strategy has positive influence on growth capacity, profitability and corporate value, which comprise competitive advantage, and the impact on profitability is significant, but the negative impact on market capacity is also significant. Overall, multi-format has achieved a positive effect on the competitive advantage, which is consistent with the view of many scholars. Brown noted that combination of a variety of retail formats can effectively improve the return on investment of various formats and reduce business risk<sup>[33]</sup>; Gensler and others believe that a variety of formats meet customers' needs, enhance customers' loyalty and achieve customers' transformation in different formats, and ultimately promote improvement of the format performance<sup>[34]</sup>; Li and others indicate in their study that diversification through more efficient use of corporate resources can increase their economic interests<sup>[35]</sup>. Therefore, retail managers should actively and steadily use format strategy well, considering the stepwise development of multi-format; otherwise, it will significantly reduce the market ability, will lead to so-called diversification discount phenomenon, which deserves close attention.

In the case of combining corporate resources and multi-format strategy, as to the impact on competitive advantage, the study has found that moderating effect of multi-format strategy is not obvious. It is found from empirical study that the overall impact of enterprise resource in multiple formats strategy on competitive advantage is negative and insignificant, just as what is proposed by the Zhang and Farris, the core of conducting a variety of formats in retail is to integrate a variety of formats together to achieve synergistic services to consumers, to enhance the experiencing value of the customers<sup>[36]</sup>. The results obtained from the listed companies samples demonstrates that, the combination of multi-format strategy with corporate resources is still in a simple stage, the stage of format display portfolio, and a more advanced format synergy has not been achieved, that is the segment consolidation stage. Li Fei and Cao Lanlan suggested facing the phenomenon of multi-format development in retail enterprises, research on synthesis capabilities of sharing resources among different formats, is something that can not be explained by a single retail format theory<sup>[37]</sup>. And effective use of resources inevitably involves collaboration of price resources among different enterprise formats, commodity resource coordination, collaboration of promotional resources, service and resource, etc., which requires managers to study the characteristics of each format in-depth, and to establish an organic link with other formats by information technology<sup>[38]</sup>. And relevant supporting should be done, for example, to adjust the organizational structure, to process data fusion, to analyze customer behavior, to determine the performance indicators, etc., that to promote implementation of enterprise multi-format strategy successfully, consequently to stimulate the resource potential and to promote the nurturing and developing of competitive advantages of enterprises.

## CONCLUSIONS

From the perspective of resource-based theory, this paper studied the impact of resource base on

multi-format strategy and competitive advantage, combined with previous research, the paper finally came to the following conclusions: first, the implementation of enterprise resource will impact multi-format strategy of retail business, especially the positive significant positive impact on logistics resources, the initial format and corporate cultural resources; second, the use of multi-format strategy in retail business has a positive impact on competitive advantage, especially on the components of the growth ability, profitability and corporate value, and the impact on profitability is significant, while the negative impact on the market capacity is significant; third, the impact of combing corporate resources and multi-format strategy on competitive advantage has not been fully reflected, and only combining the logistic resources, the initial format of department stores and multi-format stores can better promote corporate market capacity and profitability, but the combination of the human resources and multi-format strategy has produced a inhibition on corporate value.

The main contribution of this study are: first, analyzed the effect of the implementation of multi-format strategy on enterprise from a theoretical perspective of resource-based theory, expanded and deepened theoretical analysis framework related to multiple formats; second, provided evidence for theoretical question, that is “whether adopting multi-format strategy can enhance corporate performance and efficiency as well as corporate competitive advantage”, and provided reference for enterprises to make scientific multi-format strategy; third, explored how to use the resources of the retail enterprises who have conducted multi-format strategy reasonably to enhance enterprise performance and efficiency, and provided further inspiration for multi-format retail enterprises to strengthen management of their own resources.

In this paper, there are also some parts need to be further improved as follows: first, the sample selected only contains of the data from Chinese listed retail company, while the unlisted retail business has not been concerned, and in the future, samples can be expanded to conduct study; second, in terms of the identification of indicators, although the results of previous research done by scholars is referred, they are just approximate, and in the future, as accurate as possible indicators are needed to be used to represent; third, variables considered in the research model is not complete, and the enterprise department stores, supermarkets and specialty cannot represent all types of retail, while the performance of listed retail companies is also subject to interference of some other factors, which is not taken into consideration in the model.

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