Empirical Analysis of the Growth in Corporate-Brand Apparel

RUAN Yan-wen[1*],GU Li-wen[1] ,HE Zhong-yu[2],LIU Xiao-gang[1]

1 College of Fashion & Art Design
Donghua University,
Shanghai,China；
2 School of Mathematical Science
Fudan University
Shanghai,China

***Abstract* — Currently, corporate-brand apparels are facing problems of short life cycle and slowdown in income growth. We investigate the growth in corporate brand's main features and restrictions to its development to cultivate and promote its growth and sustainable development, and to prolong its life. We estimate the growth in corporate brand apparel by using life cycle models through the analysis of financial data from 61 domestic and foreign corporate brand apparel. According to the analysis of the empirical results, we determined: i) the relationship between the growth in corporate brand apparel and SME (small and medium enterprise), ii) the variation features of the growth in corporate brand apparel earnings, and iii) the "development features-restriction factors" DP-LF model of growth in corporate brand apparel. All these have some reference value for the growth and development of corporate brand apparel.**

Keywords - growth apparel corporate brand, apparel corporate brand, lifecycle

I. INTRODUCTION

The fashion industry is highly competitive because of its low entry barrier, large amount of companies, short product life cycle, badly volatile requirement, low predictability of demands and heavy independence of impulsive buying[1-3]. In China, there were one hundred thousand brands were established every year, but the average life cycle of these brands was shorter than two years, besides, there were almost over 2000 brands were eliminated in the clothing market[4-5]. Therefore, in order to cultivate the apparel companies with growth potential, to offer strong resource support for the brand building of these companies, to lengthen the apparel corporate brands' life cycle, some scholars and organizations presented the concept of growth brand[6-7], did research on the development and cultivation of this kind of brand, and tried to help these companies to lengthen the life of their corporate brands[8]. Consequently, defining the partition standards and features of growth apparel corporate brand was very significant for the construction and cultivation of brands.

This paper gave a definition of the concept of growth corporate brand based on the life cycle model, presented two topics aimed the deficiency of the existing growth corporate brand research and made the supplement and correction of these research.

II. TOPIC DESCRIPTION

A. Growth Corporate Brand

The concept of growth corporate brand was derived from the concept of growth brand which was presented by scholars in variety of fields. However, the existing growth brand theory[6-7] had some deficiency: (1) there was contradiction in the growth brand concept. For instance, some scholars thought that growth brand was the brand belonged to the SME in the growing period, while others insisted that the enterprise scale was not related to the growth of brand; (2) there was no systematic explanation and organizing of the identification and features of growth brand.

Therefore, according to the points above, this paper presented the concept of growth apparel corporate brand based on the life cycle theory. The growth apparel corporate brand meant the corporate brand in the growing period of its life cycle. This paper insisted that the main business income could be used as one of the factors to plot out growth apparel corporate brand.

Topic 1: Was the growth corporate brand equal to SME?

Topic 2: The brand earnings' features of variety types of corporate brands.

B. Corporate Brand and Company

As the business environment changing, corporate brand were more and more concerned about by scholars in variety kinds of fields. Corporate brand shared the same named, the same identification system and the same brand culture with its owning company. Unlike the product brand, corporate brand was not created by company owners, but was a kind of symbolized expression[14] which was formed naturally following the establishment of the owning company to dissociate the owning company's image from the ones of others in the capital market.

The corporate brand value accurately reflected the sum value of the owning company's tangible and intangible assets: in the perspective of tangible assets, the corporate brand represented the situation of the hardware facilities, finance and personal allocation; in the perspective of intangible assets, it represented the culture, development vision, operation strategy, productivity situation, social

image, market popularity and market reputation of the owning company etc. The corporate brand value is the emphasis of the branding of the company[15-16]. The corporate brand passed the brand value to all of the stakeholders groups in the purpose of dissociating itself from other competitors and obtaining respect and loyalty from others[10].

Corporate brand value was based on the owning company's assets. If the assets increased, corporate brand value was under solid guarantee of the company entity, while it depreciated for the reason of losing basis if the tangible assets decreased.

If the owning company changed its name when the company entity still remained, the new corporate brand would inherit all the tangible and intangible assets which were belonged to the original corporate brand. Another situation was that, when the owning company came to the end of its life cycle, its corporate brand would move to hibernation mode for the reason of losing the support from the company entity. And when this corporate brand was revived by another company entity, because of the time-lag of information transmission, the corporate brand's development may not be synchronized with the one of new company entity in a short period. In this situation, corporate brand carried part of the value which was belonged to the previous owning company, but in the long term, this corporate brand's development would tend to be synchronized with the one of new owning company. That was because there was a correlated relationship between the life cycle of the corporate brand and the owning company. In this relationship, the owning company and the corporate brand could promote or restrict the development of each other. Though there was error between the developments of them, from the perspective of the whole development trend, they would always tend to be synchronized with each other.

Therefore, the corporate brand's development highly depended on its owning company entity. Besides, the company life cycle was a method to partition the types of companies in the angle of company development situation. So that was to say, the life cycle of owning company influenced the one of corporate brand on the key link of tangible assets. Therefore, the life cycle model based on the tangible assets was appropriate to the partition of the owning company's corporate brand.

C. Corporate Brand Life Cycle

There were various of life cycle theories and partitions methods [22-26]. According to the life cycle theory, most companies' life cycle stages could be concluded as: growth stage, maturity stage, decay stage and abandonment stage. Based on the discussion of the relationship between corporate brand and its owning company, this paper insisted that the life cycle of corporate brand could also be divided into growth stage, maturity stage, decay stage and abandonment stage. Growth corporate brand meant the corporate brand in the growth period of its life cycle. Because growing was a dynamic process, this paper believed that the corporate brand would turn into different stages along with the time changing and the corporate brand development.

III. EMPIRICAL RESEARCH

A. Model Method and Sample Source

Modified exponential function belonged to the time series functions for evaluating life cycle distribution. Xiong Yijie [18-19] presented that modified exponential function model was available to the life cycle evaluation and partition of the companies with short term data grasped and obvious data changing rules. This paper took the main business sales revenue as the factor to partition life cycle. The basic mathematic equation of the modified exponential function model was as follow:

$$Y = K + AB^t \tag{1}$$

Where, Y was the time series which was studied. K was a positive constant, which was the extreme limit of the time series Y when it changed with time. Both A and B were undetermined parameters. t was the variable. It told that the time series was in the particular life cycle periods when the value of A and B in the certain ranges as follows:

(1) When A>0, B>1, corporate brand was in the period of growth, main business sales revenue began to rise with time in a gradually increased growth range from smooth state;

(2) When A<0, 0<B<1, corporate brand was in the period of maturity, but was closed to the extreme limit. So the growth range gradually became smooth from rising sharply;

(3) When A<0, B>1, corporate brand was in the period of decay, main business sales revenue began to decline over time in a gradually decreased growth range from smooth state;

(4) When A>0, 0<B<1, corporate brand was in the period of abandonment, but was closed to the extreme limit. So the decreased range gradually became smooth from declining sharply;

This paper selected the annual and quarterly sales revenue data by collecting the annual financial data in the annual reports belonged to 61 quoted apparel companies from the Osiris data base of the BVD series and the financial annual reports. Meanwhile, the quoted company's sales revenue meant the main business sales revenue of clothing, not including the sales revenue beyond main business. After obtaining the open related data between 2003 and 2013, this paper assured the validity of the analysis result by eliminating the companies with incoherent or incomplete data as well as the corporate brand whose main business has changed its clothing business into the smallest portion of total business. In order to keep the research objects' business information confidential, this paper renumbered 61 quoted apparel companies: "F" represented quoted apparel corporate brand outside China, "D" represented Chinese quoted apparel corporate brands, the serial number of the corporate brands were ranked in Arabic numerals.

B. Measurement Analysis

After obtaining the 61 quoted apparel companies' open sales revenue data from 2003 to 2013, this paper organized the sales revenue by EXCEL, analyzed the sales revenue matrix by MATLAB 7.0, and fitted the life cycle curve aimed at each groups of apparel corporate brands through programming, taking the value between the goodness of fit of 0.6~1. Except 4 companies which could not be judged, 57 quoted apparel companies were fitted as follows in the value of A, B and K, the life cycle periods of which were judged based on the fitting results of the value of A and B.

According to the fitting results, in the total 61 apparel companies, 38 of them were in the period of growth, accounted for 63.31%; 12 of them were in the period of maturity, accounted for 19.67%; 7 of them were in the periods of decay and abandonment, accounted for 11.47%. World widely speaking, most existing quoted apparel companies were in the period of growth.

TABLE I FITTING RESULT OF 61 APPAREL CORPORATE BRANDS

Period of Life Cycle	Amount of the Apparel Corporate Brands	Proportion(%)
Growth	38	62.31%
Maturity	12	19.67%
Decay	3	4.92%
Abandonment	4	6.55%
Unable to Estimate	4	6.55%

C. Measurement Results

This paper insisted that the life cycle of corporate brand could also be divided into periods of growth, maturity, decay and abandonment. According to the sample analysis, this paper partitioned the Chinese apparel corporate brand into variety of types.

For Chinese quoted apparel companies, there were 31 corporate brands were fitted, 20 of them were in the period of growth, accounted for 61.29%; 6 of them were in the period of maturity, accounted for 19.35%; 2 of them were in the period of decay and abandonment, accounted for 6.46%. Thus, most chinese quoted apparel corporate brands were in the period of growth.

All types of corporate brands were shown as in Table V.

TABLE II PARTITION OF 31 CHINA APPAREL CORPORATE BRANDS

Corporate Brand Types	Amount	Corporate Brand Code
Growth Corporate Brand	19	D014; D034; D035; D036; D037; D042; D043; D044; D045; D047; D049; D050; D051; D054; D055; D058; D059; D060; D062
Maturity Corporate Brand	6	D039; D040; D046; D048; D052; D056
Decay Corporate Brand	1	D057
Abandonment Corporate Brand	1	D004

IV. DISCUSSION

A. The Relationship between the Growth Corporate Brand and Apparel SME

As was discussed above, growth brand belonged to SME in the period of growth, or the company scale was unrelated to the brand growth. This paper held the point that there was no positive connection between growth corporate brand and its owning company's scale.

About the partition of the SMEs, there has been no agreement worldwide. EU (European Union) took the total amount of staff and sales revenue as factors to partition SMEs, which was the most-used and most-cited partition method [25]. In China, the partition of SMEs also took the different kinds of industries to which the SMEs belonged into account, and fractionized SMEs based on three factors of employee quantity, total sales revenue and total assets. Besides, this paper focused on the field of Chinese clothing industry. Thus, this paper quoted the factors which were used in China to partition SMEs in industry, retail industry and wholesale business, and computed sales revenue in terms of thousand dollars, and exchanged the computing units in the rate of RMB to USD (0.16387) in 2013, which was shown in the table below.

TABLE III PARTITION OF CHINA SMES OF MANUFACTURE, RETAILING AND WHOLESALE BUSINESS

Enterprise Scale	Sales Revenue		Employee Quantity
	Unit: RMB(,0000 CNY)	Unit: USD(,000 USD)	unit: Person
Medium Enterprise	<40000	<65548	<1000
Small Enterprise	<500	<819.35	<300
Micro Enterprise	<100	<163.87	<10

The sample statistic result of Chinese growth apparel corporate brand in this paper was shown in the table below.

TABLE IV CHINA GROWTH APPAREL CORPORATE BRANDS

Corporate Brand Code	Year Founded	Enterprise Age	Sales Revenue in 2013 (,000 USD)	Employee Quantity in 2013 (person)
D014	2004	11	869942	6314
D034	2001	14	289662	5448
D035	1995	20	94313	3111
D036	1975	40	1518494	5327
D037	1975	40	288174	9120
D042	1968	47	218636	-
D043	2004	11	382508	6994
D044	2011	4	54624	392
D045	2002	13	130112	1473
D047	2006	9	224496	3721
D049	1987	28	374331	1960
D050	2000	15	1274766	1371
D051	2001	14	425569	3811
D054	2003	12	204900	4809
D055	1980	35	166354	1351
D058	2008	7	112955	1305
D059	1999	16	203911	220
D060	2002	13	320826	5000
D062	1981	34	754041	3257

Comparing indicator data of apparel SMEs' scale, the result showed that, in the perspective of sales revenue, there was only one of the 19 companies which were in the range of the SMEs' scale while all of others had the sales revenue which were far beyond the requirements on SMEs and were not in the range of the SMEs' scale. In the perspective of employee quantity, except the corporate brand whose data missed, there were only 2 corporate brands' owning companies (D044, D060) which were in the range of the scale of SMEs, the employee quantity of other 18 companies were far beyond the requirements on the SMEs. Therefore, this paper insisted that, growth corporate brand did not only represent the SME. In addition, the identification of growth corporate brand was unrelated to the scale of company. In addition, as was shown in the table above, there was no positive relationship between growth corporate brand and company's natural age.

B. Growth Apparel Corporate Brand's Brand Earnings Features

Brand earnings meant the profit created by brand. In order to analysis the brand earnings features of growth apparel corporate brand, this paper carried out contrastive analysis of the brand earnings of variety types of corporate brands in Chinese clothing industry field and summarized the changing features of the growth corporate brand's brand earnings.

The essence of corporate brand was its brand value. As an important factor in the brand value computing model, brand earnings' computation methods varied with different judgment angles. The brand earnings computation method in this paper came from INTERBRAND brand value evaluation method. Brand earnings was one of the two computation varieties for calculating brand value. The INTERBRAND brand value evaluation equation was as below:

$$h = \frac{E^2}{JRC^{2.5}} \quad (2)$$

where, V was brand value, P was brand earnings, M was brand strength coefficient.

The equation of brand earnings was:

$$P = BP - CR - \mathrm{TX} \quad (3)$$

$$= \left(\mathrm{OP} - \mathrm{MOR} \times BPr\right) - TA \times CRr - \mathrm{TX} \quad (4)$$

where, BP was brand sales revenue, CR was capital return, TX was liable to duty, OP was operating profit, MOR was main business revenue, BPr was brand sales profit margin, TA was total assets, CRr was the rate of capital return.

Among them, the rate of capital return was used as the indicator to measure the operation results which obtained

through the total capital used by company. The equation was as below:

$$\mathrm{CRr} = \frac{NI}{SE} \times 100\% \quad (5)$$

Where, CRr was the rate of capital return, NI was net margin, SE was stockholder's equity.

This paper calculated the three-year brand earnings of variety types of Chinese apparel corporate brands. When calculating, this paper quoted the empirical value of 5.1% for brand sales profit margin, which has no influence on AAGR (average annual growth rate) computation result.. According to the computation result, this paper obtained the AAGR of brand earnings of each corporate brand. Aiming at its laws, analysis and summary has been done.

TABLE V3YEARS BRAND EARNING AND AAGR OF CHINA APPAREL CORPORATE BRANDS

Types of Corporate Brand	Code of Corporate Brand	Three-year Brand Earnings(,000 USD)			AAGR (%)
		year 3rd	year 2nd	year 1st	
Growth Corporate Brand	D014	-19279	-10591	-21950	6.28
	D034	-10931	-13702	-12101	4.96
	D035	-5185	-6517	-7674	17.8
	D036	80272	82205	36982	47.33
	D037	-8239	-6081	-12077	17.4
	D042	-1260	-8622	-7996	60.3
	D043	-12607	-29918	-48785	49.17
	D044	-10966	-26693	-14263	12.32
	D045	-2959	-14364	-10030	45.68
	D047	-13534	-10777	-22360	22.2
	D049	-13642	-27901	-26785	28.63
	D050	-71765	-158969	-152241	31.34
	D051	-8125	-14900	-13025	21.02
	D054	-8960	-16297	-16750	26.86
	D055	-1854	-15726	-12287	61.16
	D058	17750	8036	3252	133.63
	D059	-6523	-7836	-11122	23.42
	D060	-47068	-50419	-93102	28.9
	D062	-4490	-43193	-35087	64.23
Maturity Corporate Brand	D039	-6690	-18425	-7664	6.57
	D040	-5962	-6484	-7327	9.79
	D046	-3361	-2773	-3755	5.39
	D048	-108468	-193579	-148047	14.4
	D052	-71550	133752	-99939	15.39
	D056	-2519	-3154	-3607	16.43
Decay Corporate Brand	D057	-12182	-13470	-8790	-17.72
Abandonment Corporate Brand	D004	-6920	-6235	-317	-367.22

According to the sample analysis, this paper insisted that brand earnings' integral law of all types of apparel corporate brands was that: the brand earnings of growth apparel corporate brand and maturity apparel corporate brand showed positive growth generally, the AAGR of brand earnings of growth apparel corporate brand was larger than the one of maturity apparel corporate brand; the brand earnings of decay apparel corporate brand and abandonment apparel corporate brand showed negative growth generally, the negative AAGR of brand earnings of abandonment

apparel corporate brand was larger than the one of decay apparel corporate brand.

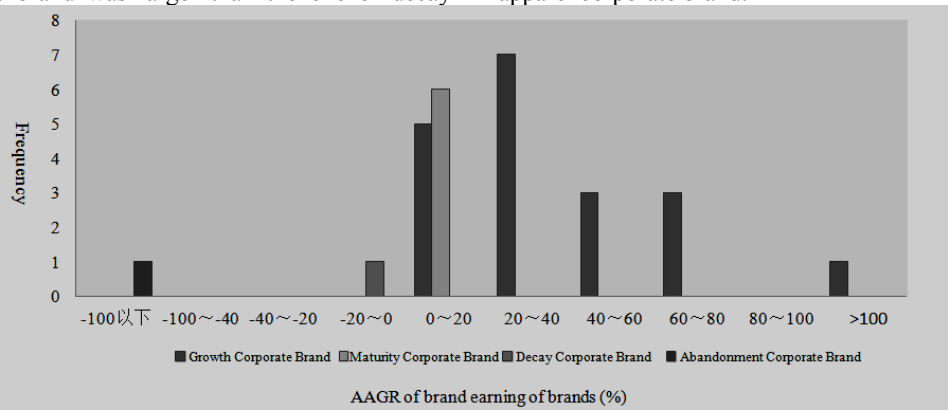

Figure1 AAGR of brand earning of 4 types of china apparel corporate brands.

Compared with growth apparel corporate brands, maturity apparel corporate brands' AAGA of brand earnings was generally smaller than 20%. Though some growth apparel corporate brands' AAGA of brand earnings was in the same range as the ones of maturity apparel corporate brands, most of them were larger than 20%.

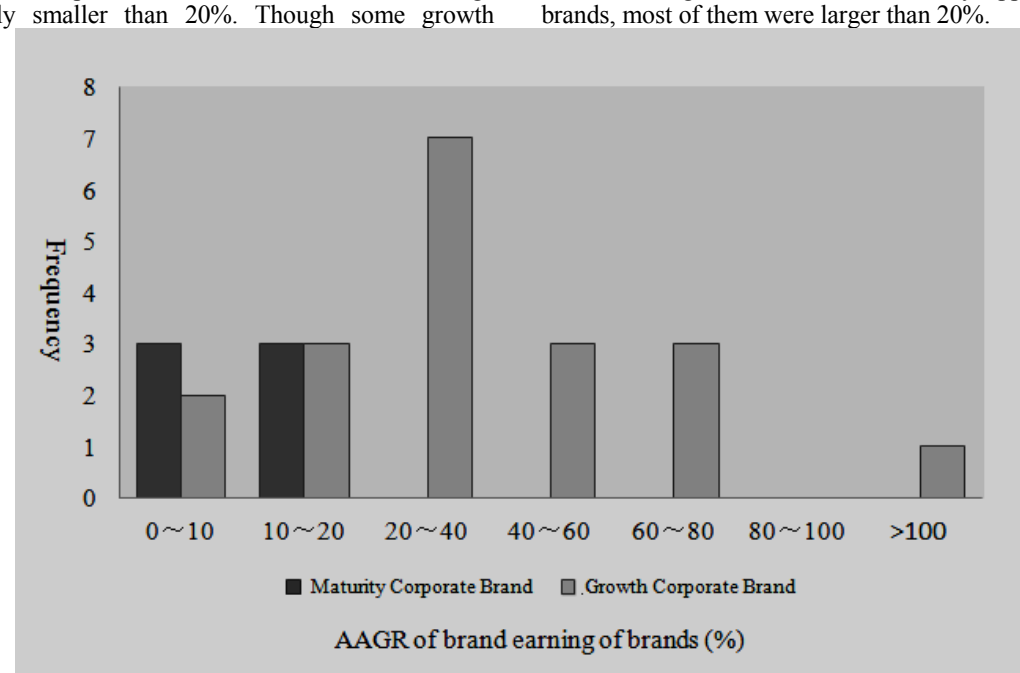

Figure2 AAGR of brand earning of growth type and mature type china apparel corporate brands.

Comparing the brand earnings of these growth corporate brands, as the samples shew, 26% of the 19 growth corporate brands held the brand earnings' AAGR between 10% and 20%, 69% of all these brands' rates were between 20% and 80%, 5% of all these brands' rates were larger than 100%. Most of the growth corporate brands held the brand earnings' AAGR much larger than the ones of maturity corporate brands, but there were still a small part of growth corporate brands held the brand earnings' AAGR which were a little bit smoother.

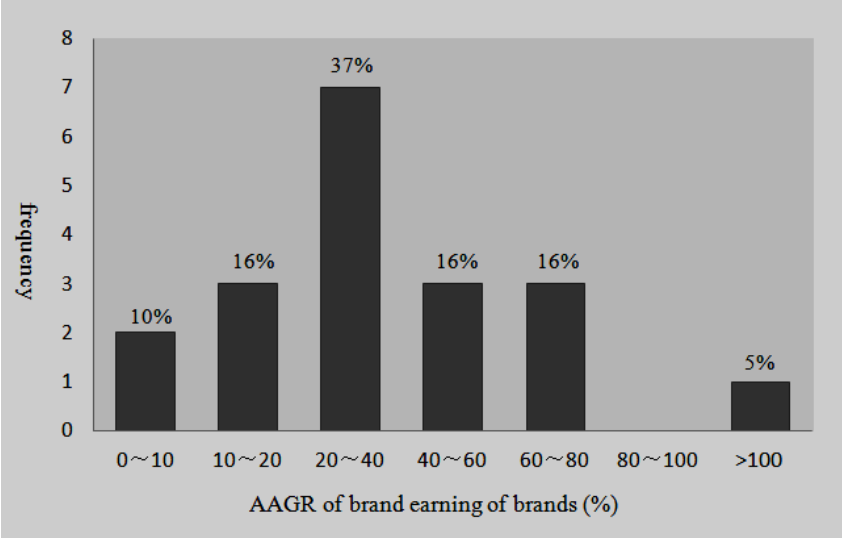

Figure 3. AAGR of brand earning of growth china apparel corporate brands

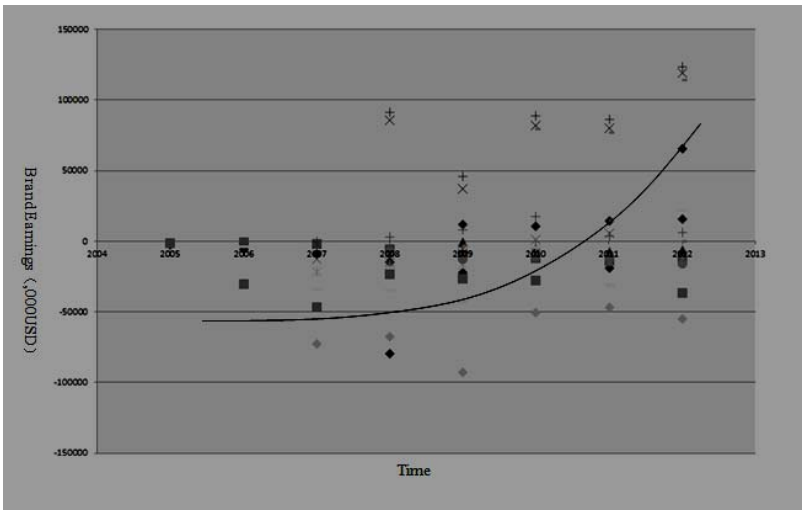

Figure 4. AAGR change with time of 17 apparel growth corporate brands.

According to the analysis above, except the situation that corporate brand's brand earnings fell suddenly which was caused by uncontrollable factors in the external environment, this paper obtained the brand earnings features of growth corporate brand in Chinese clothing field based on the sample results.

The brand earnings' variation shew positive growth with two features of smooth growth and sharp growth. To analyze the reasons, when the growth corporate brand was in the initial growth stage, corporate brand and its owning company was still unstable, therefore, the profit growth created by brand was smooth or stagnant. When it came to the middle stage or later stage, the development of corporate brand was tend to be synchronized with that of its owning company. Subsequently, company enhanced the construction of corporate brand in the purpose of shaping brand value, which led to the sharp increasing of the profit created by corporate brand. So this paper insisted that, growth corporate brand was the most viable and dynamic one of the four types of corporate brands. The purpose of cultivating corporate brand was exactly to keep the corporate brand value maintain a certain and sustainable growth, which would prolong the life of corporate brand.

In addition, this paper considered that, with the development of apparel corporate brand and its utilization and adjustment of the resource inside and outside the company, apparel corporate brand would not always be one

of a certain type, but would vary among all types of corporate brands.

V. CONCLUSION

This paper presented the concept of growth apparel corporate brand based on the theory of life cycle, carried out empirical analysis of growth apparel corporate brand, and got the conclusion as below according to the analysis result.

(1) Growth apparel corporate brand did not only mean SME

This paper insisted that, growth corporate brand did not only mean SME, and there was no positive relationship between the definition of growth corporate brand and the scale of company. In addition, growth corporate brand was not positively related to company's natural age.

(2) The brand earnings features of growth apparel corporate brand

Compared with maturity corporate brand, this paper considered that the brand earnings of growth corporate brand generally shew positive growth with two features of smooth growth and fast growth.

The research on growth apparel corporate brand was of great significance on the help for company to prolong its corporate brand's life, the brand establishment and the cultivation. The research results would help company and society to know growth apparel corporate brand more clearly. It would also make company see the resources restriction to enter the fast growing stage earlier as well as to prolong its life and vitality with apparel corporate brand value created continually.

The research limitation consisted in the perspectives as below. (1) Industry limitation and geographical limitation. The empirical research of growth corporate brand in this paper mainly oriented the corporate brands of Chinese clothing industry. Because growth corporate brand existed in every industry and every country, in future research, research range could be extended ulterior. In addition, the intense research of growth corporate brand could help to know about it in a more broadly and more comprehensive angle. (2) Data resources limitation. Because of the transparency and the availability of the exposed data, the sample data mainly derived from Chinese or worldwide quoted corporate brands. However, based on our understanding, a huge part of growth corporate brands were SMEs. Therefore, the research on this type of companies could help us to know growth corporate brand more deeply.

REFERENCES

[1] Choi T M, Liu S C, Tang C S, et al, "A cross cluster and cross region analysis of fashion brand extensions", The Journal Of The Textile Institute, vol.102, No.10, pp. 890-904, 2011.

[2] Christopher M, Peck H., "Managing logistics in fashion markets", International Journal of Logistics Management,vol.8, No.2, pp. 63–74, 1997.

[3] Reynolds P, David S, Paul W., "Cross-national comparisons of the variation in new firm formation rates", Regional Studies: The Journal of the Regional Studies Association, vol. 28, No.4, pp. 443–456, 1994.

[4] Li J, Yu M Y, Wang Q, "The analysis of brands competitiveness", Journal of Shanghai Jiaotong University, vol. 41, No.6, pp. 1035-1044, 2007.

[5] Tang W L, "Brand lifecycle 'play chess'", Marketing Research, vol.1, pp. 51-53, 2008.

[6] Guo R., "Analysis on key dimensions of corporate sustainable growth ability", Science of Science and Management of S. & T., vol. 11, pp. 137-141, 2005. (in Chinese)

[7] Gao P., "Image design of growh brand", Journal of Nanjing Arts Institute, vol. 3, pp.150-15, 2012. (in Chinese)

[8] Wu Y G., "Six key factors of brand development", Journal of Shanghai Jiaotong University, vol.41, pp. 41-44, 2007. (in Chinese)

[9] Balmer J M T., "The three virtues and seven deadly sins of corporate branding", Journal of General Management, vol. 27, No.1, pp.1-17, 2001.

[10] Hatch M J, Schultz M., "Are the strategic stars aligned for your corporate brand", Harvard Business Review, vol.2, pp. 128-34, 2001.

[11] McDonald M H B, DeChernatony L, Harris F., "Corporate marketing and service brands", European Journal of Marketing ,vol. 35, No.3, pp. 335-52, 2001.

[12] Simoes C, Dibb S., "Rethinking the brand concept: new brand orientation", Corporate Communications: An International Journal, vol.5, No.4, pp.217-240 , 2001.

[13] Balmer J M T, Gray E R.., "Corporate brands: what are they? What of them?", European Journal of Marketing ,vol. 37, No. 7, pp. 972 – 997, 2003.

[14] Huang W L. Interaction among city brands, "corporate brands and product brands ", China Brand, vol.3, pp. 1-10, 2013. (in Chinese)

[15] DeChernatony L., "Brand management through narrowing the gap between brand identity and brand reputation", Journal of Marketing Management, vol. 15, No.1, pp.157-179, 1999.

[16] Urde M., "Brand orientation", Journal of Marketing Management, vol.15, No.1, pp. 117-33, 1999.

[17] Adizes I., "Corporate Lifecycles", N.J:Prentice Hall, New Jersey, pp. 10-15, 1989.

[18] Xiong Y J., "The method of corporate lifecycle analyse", Jouranal of Applied Statistics and Management, vol. 21, No.3, pp. 36-39, 2002. (in Chinese)

[19] Reng P Y,Yu W P, Yang A H., "The research of china press corporate lifecycle and ability strategy based on management entropy", China Industrial Economic, vol.10, pp.76-82, 2004. (in Chinese)

[20] Li Y., "Modified model of corporate lifecycle", South China Journal of Economics, vol. 2, pp.47-50, 2000. (in Chinese)

[21] Dickinson V., "Cash Flow Patterns as a Proxy for Firm Life Cycle", Accounting Review, vol.86, No.6, pp.1969-1994, 2011.

[22] Chen J G., "Discussion of corporate lifecycle and spallation", China Industrial Economics, vol.11, pp. 5-13, 1995. (in Chinese)

[23] Shan W, Han F R., "3D corporate lifecycle model", Journal of Beijing University of Technology, vol.28, No.1, pp. 117-120, 2002. (in Chinese)

[24] Asamoah E S., "Customer based brand equity (CBBE) and the competitive performance of SMEs in Ghana", Journal of Small Business and Enterprise Development, vol.21, No.1, pp. 117 – 131, 2014.

[25] European Commission, "SME definition: Commission Recommendation ", Brussels: EU Commission, pp. 1-19, 2003.

[26] Yang Y X, Wan Y M, Song C P., "Application and research on the methods of apparel brand assets assessment", Journal of Donghua University(Natural Science), vol.28, No.3, pp. 51-54, 2002. (in Chinese)