

# Journal of Asia-Pacific and European Business

Vol. 4 No. 01 (2024)  
Online ISSN 2769-4925  
Print ISSN 2834-0507  
JHK Press, USA





# JAPEB

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# Research on the Impact of Executive Remuneration and Independent Director Ratio on Corporate Performance in Listed Companies

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## Abstract

This paper evaluates the impact of executive remuneration and the ratio of independent directors on corporate performance, using data from listed companies from 2008 to 2019. The findings reveal that (1) executive remuneration is significantly and positively related to corporate performance, while the ratio of independent directors is significantly and negatively associated with corporate performance. Higher executive remuneration notably enhances corporate performance, whereas a larger proportion of independent directors appears to correlate with a decline in corporate performance. (2) Regarding the underlying mechanism, Tobin's Q plays both a full and partial mediating role in the effects of executive remuneration and the ratio of independent directors on corporate performance, respectively. (3) Heterogeneity analysis shows that the positive impact of executive remuneration on corporate performance is more pronounced in state-owned listed firms than in non-state-owned listed firms. Lastly, based on both empirical and theoretical research, this paper proposes recommendations to help improve corporate performance and foster competitive advantages for enterprises.

Keywords: Executive Remuneration, Independent Directors Ratio, Corporate Performance, Mediating Effect, Multivariable Linear Regression Model

## 1. Introduction

In today's advanced economy, enterprises and executives have become increasingly interconnected. Entrepreneurs, as the driving force behind socio-economic development, require robust human capital to thrive, especially in a globally competitive environment. An enterprise is only as effective as its executives, who represent a unique form of human capital, bringing not only specialized expertise but also extensive management experience. This allows them to formulate strategies that enhance profitability and performance. To leverage this human capital, organizations must establish effective incentive structures that align executives' interests with corporate objectives, encouraging them to develop strategies that improve organizational performance. By investigating how executive compensation influences corporate performance, companies can establish a theoretical basis for crafting a reasonable incentive system that drives success.

The potential of an independent director ratio to improve corporate performance has garnered substantial academic interest. With the expansion and standardization of listed companies, many countries now mandate independent directors to ensure accountability and transparency. In today's market, the proportion of independent directors is a crucial factor in enhancing board independence and governance effectiveness. Studies suggest that a higher proportion of independent directors can lead to improved decision-making and increased oversight, which positively impacts corporate performance. Thus, it is necessary to examine this factor's effect on corporate performance.

Tobin's Q, an investment theory increasingly applied in recent years, offers a valuable tool for evaluating corporate performance, growth potential, and management efficiency. By linking financial and physical assets, Tobin's Q measures the societal wealth generated by a company's resource utilization. This dual perspective enables stakeholders to assess corporate efficiency and overall value, providing a crucial metric for analyzing corporate strategies, investment decisions, and performance.

This paper employs data from publicly listed companies from 2008 to 2019, using multiple linear regression models and fixed effects, to examine the impact of executive compensation and the independent director ratio on corporate performance, while also exploring the mediating effect of Tobin's Q. After a regression analysis of the entire sample, the sample is divided into state-owned and non-state-owned enterprises for heterogeneity analysis, offering a nuanced understanding of how ownership structures impact the influence of executive compensation and governance structures on corporate outcomes. The findings enhance the theoretical study of corporate governance mechanisms and offer practical insights for executives, shareholders, policymakers, and corporate leaders aiming to optimize performance and foster sustainable growth in a competitive landscape.

## 2. Literature Review

In recent years, a growing number of international scholars have explored the relationship between executive compensation and firm performance, generally concluding that executive compensation positively impacts firm

performance. For instance, Amarou (2017) found a positive correlation between executive compensation and financial performance, suggesting that accounting performance largely determines executive bonuses. Adam (2019) proposed a framework for understanding how executive monetary compensation affects financial performance, discovering partial support for a weighted effect of executive compensation on financial outcomes. Similarly, Zhao (2019) conducted an empirical analysis of the relationship between executive compensation and company performance in the real estate and information technology sectors, concluding that compensation incentives can positively affect firm performance. In China, many domestic companies have long linked executive pay to performance, indicating that higher executive pay generally corresponds with improved corporate performance. Wang (2020) identified a positive correlation between executive salary and company performance, emphasizing that adequate compensation for executives can effectively enhance performance and add greater value.

Building on the established link between executive compensation and corporate performance, this paper examines the relationship from the perspective of ownership structure. Zhang et al. (2021) studied state-owned enterprises and concluded that executive compensation incentives across government-regulated, naturally monopolistic, and free-market sectors can significantly enhance performance. However, Ren et al. (2019) found that the impact of executive compensation on performance is relatively limited in state-owned enterprises. Sun Chen et al. (2021) noted that the negative correlation between board network position and executive compensation is weaker in state-owned enterprises compared to non-state-owned ones.

The board of directors plays a vital role in corporate governance and decision-making, directly influencing performance. According to Sun et al. (2021), a higher proportion of independent directors on the board has a potentially adverse effect on firm performance. Specifically, independent directors with financial backgrounds tend to increase executive compensation, while those without financial backgrounds may reduce it (Shao et al., 2021). Luo (2014) argued that the social reputation mechanism of independent directors does not significantly enhance the effectiveness of executive compensation contracts, potentially diminishing company performance. Conversely, Qu (2014) believed that while independent directors positively impact performance in state-owned enterprises, the system does not necessarily promote long-term corporate performance.

Tobin's Q has been widely applied in studies concerning corporate performance and investment behavior. Cai et al. (2017) suggested that Tobin's Q—the hypothesis that the marginal Q value of corporate assets is a key investment determinant—may not be entirely valid in China's investment market, highlighting limitations in its application in domestic research. Pang et al. (2019) incorporated the financing and securities lending system with Tobin's Q, finding that this system enhances investment-Q sensitivity by reinforcing the private information available to investors. Fang (2022) constructed a Tobin's Q model to demonstrate that significant price distortions in stock prices can reduce Tobin's Q validity. Zhang et al. (2013), however, argued that using Tobin's Q to investigate the Growth Enterprise Board may be challenging due to insufficient model feasibility.

This paper aims to provide a reference for companies to develop a scientific and suitable executive compensation system and an optimal independent director framework, while considering the mediating role of Tobin's Q. This approach seeks to enhance the incentive role of executive compensation, establish an appropriate proportion of independent directors, and ultimately improve corporate performance, promoting stable and efficient development.

On one hand, this study underscores the importance of continuously evaluating and adapting governance practices in response to shifting market dynamics and competitive pressures. On the other hand, the findings offer guidance for companies looking to implement effective governance mechanisms. By aligning the interests of executives and independent directors with organizational goals, companies can establish a solid foundation for sustained success.

### 3. Research Design

#### 3.1 Empirical Model Design

Using data sourced from the CSMAR database, focusing on publicly listed companies in China from 2008 to 2019, this study employs a fixed effects (FE) analysis to empirically test the hypothesis of the impact of executive compensation and independent director proportion on corporate performance. The multiple regression model is defined as follows:

$$ROE_{it} = \alpha_0 + \alpha_1 Compensation_{it} + \alpha_2 RID_{it} + \alpha_3 X_{it} + \gamma_t + \mu_i + \varepsilon_{it} \quad (1)$$

In Equation (1),  $\alpha_1$  and  $\alpha_2$  represent the regression coefficients of primary interest in this study, indicating the effect levels of executive compensation and independent director ratio on corporate performance.  $X_{it}$  refers to the control variables, while  $\gamma_t$  and  $\mu_i$  denote time and regional dummy effects, respectively.  $\alpha_0$  is the intercept, and  $\varepsilon_{it}$  represents the random error term.

To examine whether Tobin's Q exhibits a mediating effect between executive compensation, independent director ratio, and corporate performance, the following mediation model is constructed as shown in Equation (2):

$$ROE_{it} = \alpha_0 + \alpha_1 Compensation_{it} + \alpha_2 RID_{it} + \alpha_3 X_{it} + \gamma_t + \mu_i + \varepsilon_{it}$$

$$Q_{it} = \beta_0 + \beta_1 \text{Compensation}_{it} + \beta_2 \text{RID}_{it} + \beta_3 X_{it} + \gamma_t + \mu_i + \varepsilon_{it} \quad (2)$$

$$ROE_{it} = \delta_0 + \delta_1 \text{Compensation}_{it} + \delta_2 \text{RID}_{it} + \eta Q_{it} + \delta_3 X_{it} + \gamma_t + \mu_i + \varepsilon_{it}$$

Here,  $Q_{it}$  serves as the mediating variable, Tobin's Q, demonstrating a mechanism that influences the relationship between executive compensation, the ratio of independent directors, and corporate performance. If the coefficient estimates of  $\beta_1$ ,  $\beta_2$ , and  $\eta$  are statistically significant and non-zero, it indicates the presence of a mediating effect via Tobin's Q.

### 3.2 Data description of variables

1. Executive Compensation (  $\text{Compensation}_{it}$  ) : The explanatory variable of this study, measured as the total compensation for executives, including salary, bonuses, and long-term incentives. A significantly positive coefficient indicates that increased executive compensation enhances corporate performance, whereas a negative coefficient suggests the opposite.

2. Ratio of Independent Directors (  $\text{RID}_{it}$  ) : An explanatory variable measured by the proportion of independent directors on the board. A significantly positive coefficient suggests that a higher proportion of independent directors improves corporate performance, while a negative coefficient indicates a potential decline.

3. Corporate Performance (  $\text{ROE}_{it}$  ) : The explained variable, measured by return on net assets (ROA), calculated as net profit divided by average equity.

4. Tobin's Q (  $Q_{it}$  ) : The mediating variable, defined as the enterprise's market price (share price) divided by its replacement cost, serving as an indicator of the market's valuation of the company's asset value relative to the cost of producing those assets.

5. Sales Revenue (  $\text{Revenue}_{it}$  ) : Measured by the growth rate of sales revenue, representing the ratio of the current year's increase in sales revenue to the previous year's total sales revenue. This variable reflects corporate growth potential and operational capability.

6. Control variables (  $X_{it}$  ) : 6. Several control variables are included to account for factors affecting corporate performance:

Asset Level: Measured by total assets, which includes all economic resources owned or controlled by the enterprise, encompassing property, debts, and rights.

Debt Ratio: Measured by the debt-to-asset ratio, indicating total liabilities as a percentage of total assets.

Equity Level: Measured by total owners' equity, reflecting investor ownership interest in the company's net assets.

Fixed Assets: Measured by total fixed assets, representing non-monetary assets held for production or service provision for more than 12 months, such as buildings, machinery, vehicles, and equipment.

Period Expense Ratio: Indicates the ratio of period expenses to operating income, reflecting cost control efficiency.

Intangible Asset Level: Measured by net intangible assets, accounting for original value, accumulated amortization, net value, impairment provisions, and net intangible asset values.

Current Assets: Representing assets realized or consumed within one year or business cycle, including cash, short-term investments, receivables, and other current assets.

Current Liabilities: Measured by total current liabilities, referring to debt obligations due within a year or an operating cycle.

For empirical analysis, all variables are logarithmically transformed.

### 3.3 Descriptive statistics

The mean, standard deviation, and correlation coefficients for the variables used in this study are presented in Table 1.

Table 1 Results of descriptive statistics of variables

Variable name	Definitions	Number	Mean value	Standard deviation	Minimum value	Maximum value
ROE	Corporate performance, which is the return on net worth	776	2.679-	1.084	7.086-	2.104
Compensation	executive compensation	855	15.157	1.090	11.623	18.779
RID	Ratio of independent director	925	1.003-	0.134	1.386-	0.511-
Asset	Total assets	931	22.009	1.881	16.704	29.002
ALR	asset-liability ratio	931	0.835-	0.748	4.088-	4.574
OE	Total owners' equity	899	21.271	1.783	14.529	26.469
FA	Fixed Assets	928	19.877	2.154	10.920	26.014
PC	Period expense ratio	905	1.702-	0.935	4.357-	4.163
IA	Net intangible assets	889	18.533	2.193	9.471	23.092
CA	Total current assets	908	21.088	1.788	15.138	27.995
CL	Total current liabilities	908	20.770	1.876	15.032	27.872
Q	Tobin's Q	918	0.417	1.139	3.055-	4.332
Revenue	Sales Revenue Growth Rate	615	-1.623	1.573	-9.611	7.311

Table 1 provides descriptive statistics for the explanatory, explained, control, and mediating variables, respectively. The logarithmic mean of return on net assets is -2.679, suggesting lower enterprise performance and a notable range between the maximum and minimum values. The logarithmic mean of executive compensation is 15.157, indicating relatively high executive compensation with expanded variability. The proportion of independent directors has a logarithmic mean of -1.003, with a small standard deviation, suggesting minimal deviation from the mean. Total assets, total owners' equity, fixed assets, net intangible assets, total current assets, and total current liabilities show moderate to high values. Overall, these statistics establish a foundation for understanding the variables in this study and highlight variability in corporate performance and compensation structures.

#### 4. Empirical analysis

##### 4.1 Benchmark regression

The data were managed and statistically analyzed using Stata 16.0, encompassing baseline regression, mediation effect analysis, heterogeneity analysis, and robustness analysis.



Table 2: Regression Results of Executive Compensation and Independent Director Ratio with Corporate Performance

VARIABLES	(1) ROE	(2) ROE
Compensation	0.275*** (2.82)	0.196* (1.84)
RID	-1.348** (-2.60)	-1.387** (-2.60)
Asset		0.095 (0.20)
ALR		-0.137 (-0.60)
OE		-0.439* (-1.86)
FA		-0.087 (-0.99)
PC		-0.204 (-1.49)
IA		0.050 (0.67)
CA		0.260 (1.05)
CL		0.098 (0.53)
Constant	-7.881*** (-5.25)	-6.744** (-2.38)
Year FE	YES	YES
Observations	709	663
R-squared	0.068	0.120
Number of id	81	79

Note: \*, \*\*, \*\*\* denote 10%, 5%, and 1% significance levels, respectively (not repeated below).

The regression results in Table 2 reveal significant associations between executive compensation, the proportion of independent directors, and corporate performance. In model (1), without control variables, executive compensation has a positive effect on corporate performance at the 1% significance level, and the independent director ratio has a negative effect on corporate performance at the 5% significance level. With the inclusion of control variables in model (2), executive compensation positively predicts corporate performance at the 10% significance level, while the independent director ratio continues to have a negative effect on corporate performance at the 5% significance level.

#### 4.2 Mediating effect analysis

The regression results in Table 3 indicate that executive compensation and the independent director ratio are significantly associated with corporate performance. In (1), using Tobin's Q as the dependent variable regressed on executive compensation and independent director ratio, executive compensation positively predicts Tobin's Q at the 10% significance level ( $\beta_1 = 0.124, p < 0.1$ ), while the independent director ratio has a negative and significant predictive effect on Tobin's Q at the 1% significance level ( $\beta_2 = -0.628, p < 0.01$ ).

In (2), with Tobin's Q and the independent variable as predictors of corporate performance, executive compensation does not significantly predict corporate performance ( $\delta_1 = 0.103, p > 0.1$ ), but Tobin's Q positively predicts corporate

performance ( $\eta = 0.834$ ,  $p < 0.01$ ), indicating that Tobin's Q fully mediates the relationship between executive compensation and corporate performance. When both the proportion of independent directors and Tobin's Q are used as predictors, the independent director ratio negatively predicts corporate performance ( $\delta_2 = -0.860$ ,  $p < 0.05$ ), while Tobin's Q positively predicts corporate performance ( $\eta = 0.834$ ,  $p < 0.01$ ), reflecting a partial mediation effect.

Table 3: Analysis of the Mediating Effect of Tobin's Q in the Impact of Executive Compensation and the Independent Director Ratio on Corporate Performance

VARIABLES	(1) Q	(2) ROE
Q		0.834*** (7.14)
Compensation	0.124* (1.95)	0.103 (1.06)
RID	-0.628*** (-2.81)	-0.860** (-2.14)
Asset	-0.958*** (-6.76)	0.827* (1.97)
ALR	0.004 (0.04)	-0.158 (-0.77)
OE	0.238*** (3.32)	-0.596** (-2.53)
FA	-0.023 (-0.59)	-0.041 (-0.52)
PC	-0.032 (-0.71)	-0.152 (-1.26)
IA	0.050* (1.72)	-0.020 (-0.33)
CA	0.208** (2.60)	0.046 (0.22)
CL	-0.046 (-0.58)	0.179 (1.04)
Constant	9.315*** (7.13)	-14.203*** (-5.34)
Year FE	YES	YES
Observations	757	661
R-squared	0.644	0.225
Number of id	80	79

#### 4.3 Heterogeneity analysis

Listed companies are categorized as "state-owned" and "non-state-owned" based on shareholding. This analysis splits listed companies accordingly, with results shown in Table 4.

Table 4 Heterogeneity analysis results of "state-owned listed companies" and "non-state listed companies".

VARIABLES	(1) ROE	(2) ROE
Compensation	0.214** (2.02)	-0.001 (-0.01)
RID	-0.890 (-1.67)	-1.430 (-1.21)
Asset	-1.223** (-2.21)	1.256* (1.71)
ALR	0.350 (1.24)	-0.271 (-1.05)
OE	0.282 (1.14)	-1.045** (-2.57)
FA	-0.175 (-1.37)	-0.044 (-0.39)
PC	-0.420** (-2.54)	-0.203 (-1.21)
IA	-0.049 (-0.43)	0.072 (1.03)
CA	0.664* (1.91)	0.014 (0.04)
CL	0.209 (0.93)	-0.067 (-0.28)
Constant	0.024 (0.01)	-8.993** (-2.24)
Year FE	YES	YES
Observations	348	315
R-squared	0.250	0.136
Number of id	45	48

Table 4 indicates that regardless of ownership type, the impact of the independent director ratio on corporate performance is not significant. In model (1), executive compensation positively predicts corporate performance in state-owned listed companies ( $\alpha_1 = 0.214$ ,  $p < 0.05$ ), showing a significant effect at the 5% level. However, in model (2), executive compensation does not significantly predict firm performance in non-state-owned firms ( $p > 0.1$ ).

#### 4.4 Robustness analysis

To test the robustness of the main regression results, this study replaces the original dependent variable, corporate performance (measured by return on equity, ROE), with sales revenue growth rate (SRS), keeping other variables constant. The regression results are displayed in Table 5.

Table 5 Regression results with sales revenue growth rate as the dependent variable

VARIABLES	(1)	(2)
	Revenue	Revenue
Compensation	0.825*** (5.28)	0.261*** (2.93)
RID	-1.178* (-1.88)	-0.932** (-1.99)
Asset		0.892*** (4.50)
ALR		-0.214 (-1.36)
OE		0.083 (0.45)
FA		-0.010 (-0.17)
o.FL		-
PC		-0.303** (-2.62)
Constant	5.165** (2.16)	-7.903*** (-3.83)
Year FE	YES	YES
Observations	732	694
R-squared	0.319	0.538
Number of id	81	79

As shown in Table 5, when the dependent variable is replaced with the sales revenue growth rate (while keeping the independent variable unchanged and excluding control variables in model (1), executive compensation has a positive effect on sales revenue growth rate at the 1% significance level ( $\alpha_1=0.825$ ,  $p<0.01$ ), and the independent director ratio has a negative effect at the 1% significance level ( $\alpha_2=-1.178$ ,  $p<0.1$ ). With control variables included in model (2) under a bivariate fixed effect model, executive compensation continues to positively predict sales revenue growth rate at the 1% significance level ( $\alpha_1=0.261$ ,  $p<0.01$ ), while the independent director ratio has a negative effect at the 5% significance level ( $\alpha_2=-0.932$ ,  $p<0.05$ ). Among the control variables, total assets and the expense ratio show high significance, while the remaining control variables do not have notable significance. In summary, the robustness of the main regression results is demonstrated.

## 5. Conclusions and Recommendations

### 5.1 Conclusion

First, this study finds a significant association between executive compensation, the proportion of independent directors, and corporate performance. Specifically, higher executive compensation correlates with a lower proportion of independent directors, ultimately improving corporate performance. This suggests that adequately compensating executives unlocks their potential, which in turn enhances company performance. Implementing effective executive compensation incentives is therefore critical for promoting organizational growth and supporting company development. Furthermore, the analysis of ownership structure shows that the correlation between compensation and performance is stronger in state-owned companies than in non-state-owned ones, reinforcing the research findings.

Second, Tobin's Q plays a mediating role in the impact of executive compensation and the independent director ratio on corporate performance. Executive compensation has a positive effect on Tobin's Q, acting as a complete mediator in the relationship between executive compensation and corporate performance. Conversely, the proportion of independent directors negatively impacts Tobin's Q, suggesting a partial mediating effect in the relationship between independent directors and corporate performance.

## 5.2 Recommendations

### 1. Develop a Reasonable Compensation Policy

When designing executive compensation policies, regional and industry factors should be carefully considered. A comprehensive approach to assessing a company's internal conditions can help determine appropriate compensation levels that effectively motivate executives and improve corporate performance. Realizing the goal of inclusive policies remains a work in progress.

### 2. Increase Executive Compensation Incentives

Improving corporate performance through executive compensation incentives is particularly vital in state-owned enterprises, where executive compensation has a more pronounced impact on performance. By prioritizing executive salaries, appropriately raising pay levels, and offering non-monetary rewards, state-owned companies can motivate executives to better serve the organization, ultimately enhancing overall performance.

### 3. Optimize Compensation Structure and Incentive Mechanisms

Increasing executive compensation can substantially bolster company performance. Many industries currently lack adequate compensation incentives; therefore, businesses should establish fair compensation mechanisms to align executive interests with organizational goals. Addressing this will help resolve issues related to fairness and motivation, unleashing enthusiasm, drive, and creativity.

### 4. Enhance Systems Surrounding Independent Directors

As the proportion of independent directors grows in importance, efforts should focus on promoting sustainable development. Companies should appoint independent directors with professional backgrounds and determine an appropriate number of independent directors to ensure effective governance. Strengthening the independent director system supports responsible decision-making and fosters long-term corporate development.

### 5. Utilize Tobin's Q to Analyze Growth Opportunities

Tobin's Q can serve as a tool to analyze potential growth opportunities and assess market risks. Given that corporate development often involves uncertainty, Tobin's Q can provide insights into potential risks, supporting consolidation and strategic planning. This range of entrepreneurial strategies has the potential to fuel economic growth both regionally and beyond.

## References

- Adam, M. A., Youssef, A., & Sakr, A. M. (2019). The effect of executive compensation on financial performance in Egypt. *Open Access Library Journal*, 6(12), 1-14.
- Cai, W., & Wu, F. (2017). The industry threshold effect of Tobin's Q and corporate investment rationality: An empirical analysis based on panel data from listed companies in China. *Journal of Xiangtan University: Philosophy and Social Sciences Edition*, 41(6), 88-93. [In Chinese: 蔡旺春, & 吴福象. (2017). 托宾 Q 的行业阈值效应与企业投资理性——基于我国上市公司行业面板数据的实证分析. 湘潭大学学报: 哲学社会科学版, 41(6), 88-93.]
- Fang, J. (2022). Do asset price distortions create investment constraints for enterprises? A theoretical and empirical analysis based on Tobin's Q. *Finance and Economics*, (1), 4-11. [In Chinese: 方健. (2022). 资产价格扭曲是否形成了企业投资约束——基于托宾 Q 值的理论与实证分析. 金融与经济, (1), 4-11.]
- Luo, J. (2014). The star effect of independent directors: An examination based on the sensitivity of executive compensation to performance. *Nankai Business Review*, (3), 62-73. [In Chinese: 罗进辉. (2014). 独立董事的明星效应: 基于高管薪酬-业绩敏感性的考察. 南开管理评论, (3), 62-73.]
- Pang, J., Chen, D., & Wang, W. (2019). The financing and securities lending system and corporate investment behavior: An analysis based on "external governance" and "information learning" channels. *Investment Research*, 38(4), 4-29. [In Chinese: 庞家任, 陈大鹏, & 王玮. (2019). 融资融券制度与企业投资行为——基于“外部治理”和“信息学习”渠道的分析. 投资研究, 38(4), 4-29.]
- Qu, L., Zhang, J., & Hao, Y. (2014). How independent directors enhance corporate performance: A mechanism interpretation based on a four-layer agency model. *China Industrial Economics*, (7), 109-121. [In Chinese: 曲亮, 章静, & 郝云宏. (2014). 独立董事如何提升企业绩效——立足四层委托—代理嵌入模型的机理解读. 中国工业经济, (7), 109-121.]

- Ren, G., Zhou, X., & Shi, X. (2019). State ownership, executive compensation, and corporate performance. *Journal of Zhengzhou University: Philosophy and Social Sciences Edition*, (4), 46-51. [In Chinese: 任广乾, 周雪娅, & 石晓倩. (2019). 国有控股, 高管薪酬与企业业绩. 郑州大学学报: 哲学社会科学版, (4), 46-51.]
- Shao, J., & Liu, Y. (2021). Does the professional background of independent directors affect executive compensation? — A perspective based on the differences between financial and non-financial backgrounds. *Economic and Management Review*, 37(5), 127-138. [In Chinese: 邵剑兵, 刘云贺. (2021). 独立董事职业背景会影响企业高管薪酬吗?——基于财务背景与金融背景差异视角. 经济与管理评论, 37(5), 127-138.]
- Sun, Y., Yuan, Z., & Liu, S. (2020). The impact of board independence on corporate performance. *Liaoning Economy*, (01), 46-48. [In Chinese: 孙艳丽, 袁子婷, & 刘尚来. (2020). 董事会独立性对公司绩效的影响. 辽宁经济, (01), 46-48.]
- Sun, C., & Zhuang, X. (2021). An empirical study on the impact of board network positions on executive compensation levels. *Journal of Northeastern University (Natural Science)*, 42(7). [In Chinese: 孙宸, & 庄新田. (2021). 董事网络位置对高管薪酬水平影响的实证研究. 东北大学学报: 自然科学版, 42(7), 8.]
- Wang, T. (2020). The impact of executive compensation on corporate performance: A study based on panel data from A-share manufacturing listed companies. *Productivity Research*, (12), 4. [In Chinese: 王甜. (2020). 高管薪酬对公司绩效影响——基于A股制造业上市公司面板数据研究. 生产力研究, (12), 4.]
- Yamina, A., & Mohamed, B. (2017). The impact of firm performance on executive compensation in France. *Mediterranean Journal of Social Sciences*, 8(2), 63-69.
- Yin, X., Ming, H., Cui, J., & Bao, X. (2021). Could executive compensation incentive enhance the efficiency of enterprise resource allocation? An empirical study from China. *Discrete Dynamics in Nature and Society*, 2021(1), 7073878.
- Zhang, W., Gu, F., & Liu, L. (2021). The impact of executive compensation incentives on the performance of state-owned enterprises. *Research on Financial and Economic Issues*, 10, 122-129. [In Chinese: 张文锋, 谷方杰, & 刘磊. (2021). 国有企业高管薪酬激励对企业绩效的影响效应研究. 财经问题研究, 10, 122-129.]
- Zhang, B., Lan, J., & Pang, H. (2013). An empirical study on the impact of PE on the value of listed companies in the SME and GEM boards: Based on Tobin's Q. *Macroeconomic Research*, (3), 15-23. [In Chinese, 张斌, 兰菊萍, & 庞红学. (2013). PE对中小板, 创业板上市公司价值影响的实证研究——基于托宾Q值的考察. 宏观经济研究, (3), 15-23.]
- Zhao, D. (2019). Industry Dividend Cycle, Executive Compensation Incentive and Enterprise Performance. *Academic Journal of Humanities & Social Sciences*, 2(6), 36-49.



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# A Research on the Impact of Advertising Slogans' Attributes on Consumer Purchase Intention

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## Abstract

Advertising serves as a bridge between products and consumers. As a means of publicity, the ultimate goal of advertising is to cater to both the psychology and needs of consumers. The promotion of the product is the focal point of any marketing strategy. When designing advertisements, businesses should consider not only whether the content aligns with the product's characteristics but also how consumers perceive the advertisement's content. This paper, therefore, aims to study the effects of various attributes of advertising slogans on consumers' willingness to purchase, considering product types (hedonic, practical, and neutral) and focusing on a key element of advertising content: the slogan. Through this study, the paper concludes the following: the attributes of advertising statements for different product types significantly influence consumer attitudes and purchase intentions. Consumers respond more positively to emotional advertising statements for hedonic products, while rational statements are more effective for practical and neutral products. Moreover, consumer attitudes fully mediate the relationship between advertising statement attributes and purchase intentions for each product type. Thus, consumers are more inclined to purchase hedonic products paired with emotional slogans and practical or neutral products paired with rational slogans. Additionally, the sentence structures of different slogan attributes impact consumers' purchase intentions. For emotional slogans, consumers prefer imperative sentence types; for rational slogans, they favor non-invocative sentence types. This paper explores factors affecting consumers' purchase intentions from both a product and linguistic perspective, aligning with market needs and offering valuable insights for businesses' marketing decisions.

Keywords: advertising slogans attributes; consumer purchase intention; product type

## 1. Introduction

Advertisement has played a crucial role in marketing. According to a British regulatory body for media, Ofcom (Office of Communication), the gross revenue of global advertising went up to 308.1 billion pounds between 2011 and 2015 (Fuchs, 2018). It turns out that an increasing number of enterprises have realized the importance of advertisement and paid more attention to it in order to gain more profit and market share. Based on the report from Windstock, some Chinese-listed companies ramped up their investment in advertising in 2015. However, it's regrettable that despite the substantial increase in advertising and promotional expenses, the performance did not see a considerable improvement. For instance, although Bairun Corporation's total investment increased dramatically by more than 951 times compared to 2014, the net profit growth rate was only 74.36%. Therefore, only making a large amount of investment in advertising is not enough to navigate the market. It is important to figure out which advertising appeal is compatible with product types to the maximum extent while making advertising campaigns.

Advertising slogans are the purveyors of an advertisement's appeal, especially at the lexical level as Vestergaard and Schroder say in *The Language of Advertising*, "Advertising takes many forms, but in most of them language is of crucial importance" (p. 140). The language of an advertisement functions as a stimulus to arouse consumers' interests and desires and then evoke them to take the action of purchasing. A great advertising campaign involves an appropriate advertising appeal that draws consumers' attention and influences their feelings toward the product (Ruchi & Gupta, 2012).

Theoretically, advertising slogans and consumer purchase intention have been studied individually rather than collectively. There are few studies that discuss the influence of different sentence types of advertising slogans on consumer purchase intention, especially based on the product type and advertising appeal. Therefore, this study focuses on product type, advertising appeal and consumer purchase intention as study objectives and fills in the gap in the related field.

## 2. Literature Review

### 2.1 Advertising slogans

Advertising slogans are defined differently in previous researches. Therefore, terms such as advertising message and advertising sentence, which have the same definition as advertising slogans, are adopted in this paper.

The advertising message is an important component in an advertisement because it can make advertising more persuasive and more promotional (Vestergaard & Schroder, 1985). Advertising sentences are designed to be memorable for consumers (Huang, 2004; Li, 2004). A proper advertising sentence can help improve the market share and the financial

state of a company (Mathur & Mathur, 1995). From the syntax level, the grammar of advertising sentences shows little intervention in consumers' understanding and attitude towards the advertisement. However, the simpler the grammar is, the easier it is for consumers to memorize (Bradley & Meeds, 2002). In the study of Heflin and Haygood (1985), consumers are more impressed by advertising sentences and the price of the advertised product rather than the product brand.

Advertising slogans contain advertising appeals, which are driving powers aiming to encourage consumers to take purchasing actions or leave a positive impression of the product or brand (Kotler, 1997; Lewis, 1900). Via mass media, advertising slogans, carrying the advertising appeal, convey specific opinions or certain information about the product to the target group in order to motivate the consumer and make the selling job easier (Belch & Belch, 2001). It is essential to make a good and persuasive advertisement associated with a proper appeal by matching the product type because it helps producers sell more products and earn more (Johar & Sirgy, 1991; Nelson, 1974).

Advertising appeals can be categorized into three groups, rational appeals, emotional appeals and moral appeals based on Kotler's theory (Ruchi, 2012). Accordingly, in this study, the types of advertising appeal are considered as the attributes of advertising slogans. The attributes of advertising slogans are defined as rational slogans and emotional slogans as well. Fourteen different factors are counted as identifying the informative attribute of the advertisement based on the classification system proposed by Resnik and Stern (1977). They are: (1) price, (2) quality, (3) performance, (4) components or contents, (5) availability, (6) special offers, (7) taste, (8) nutrition, (9) packaging, (10) warranties, (11) safety, (12) independent research, (13) company research, (14) new ideas. Advertisements with at least one of these informative cues can be identified as rational ones. Shortly afterwards, Pelsmacker and Genuens (1997) filled in the gap in the classification system. They put forward a standard for distinguishing advertisements with emotional appeal. In their study, humor, warmth, nostalgia, eroticism and provocation act as emotional stimuli to arouse consumers' emotional reactions. An advertisement containing one or more of these stimuli is recognized as an emotional advertisement.

In advertisements, three types of sentences, simple sentences, interrogative sentences, and imperative sentences, are commonly used (Guo, 2015). Hence, in this study, the sentence types of advertising slogans are separated into two groups. One is imperative sentences, and the other is non-imperative sentences including simple sentences and interrogative sentences. Imperative sentences have a broad usage in advertisements (Dietrich, 2018). Savina (2017) claimed that the imperative sentence is the most useful tool in persuasion. Non-imperative sentences also have a pragmatic function in advertisements. According to the theory of Tsui (1992), when using interrogative sentences, the advertiser empathizes with the existing problem of the potential customer to get them to confirm the problem and offer them a solution to that problem.

## *2.2 Consumer purchase intention*

Consumer purchase intention, defined by Fishbein and Ajzen (1977), is a factor that affects the final purchase decision and leads to buying behavior. Furthermore, Mullet and Karson (1985) added that consumers' subjective preference is involved in purchase intention, which predicts the buying behavior. For marketing managers, consumer purchase intention is a key indicator used to forecast future sales, determine following actions and measure consumer demand for new products (Jamieson & Bass, 1989; Dodds, Monroe and Grewal, 1991). Other scholars gave their opinions about consumer purchase intention as well. Zhu (1985) considered purchase intention as a display of consumers' psychology. Engel et al. (1993) noted that purchase intention is about personal affection that is closely related to the brand. Han and Tian (2005) discussed that purchase intention shows a possibility of buying behavior.

Consumer buying behavior and purchase intention are highly related. Spears and Singh (2004) studied the relationship between consumers' attitudes and purchase intention and suggested that attitude decides intention. Hervé and Mullet (2009) concluded that consumers' attitude to the product or the brand is the intrinsic factor of consumer purchase intention. However, scholars such as Eagly and Chaiken (1993) hold an opposing view. They supposed that attitude equals an individual's opinion while the intention is a cognitive motivation that encourages an individual to take action to purchase. Thus, attitude and intention are very different.

In conclusion, most scholars agree that purchase intention indicates the likelihood that an individual will buy the product (Dodds, Monroe, and Grewal, 1991). A study conducted by Bagozzi and Baumgartner (1989) concluded that magazine readers' intentions and behavior are linked tightly. Banks, Blundell and Lewbel (1997) also found a congruency between consumers' intentions and behavior in their experiment. For these reasons, consumer purchase intention is an effective indicator for predicting buying behavior (Katona, 1960).

## *2.3 Advertising slogans' impact on consumer purchase intention*

The main objective of advertising is to gain profits, as discussed before. Using appropriate advertising slogans with different attributes is a method to increase the chance of motivating consumers to buy the product. Consumers' psychological routes to process source cues are very different (Johar & Sirgy, 1991). Thus, consumers react differently when facing advertisements. As an important concept in psychology, attitude is also widely used in other study fields. It



is a state of constant affection or disapproval towards a person, character or object (Fishbein & Ajzen, 1975; Sallam & Wahid, 2012). Advertising slogans with different attributes exert a certain impact on consumers' attitudes (Schiffman & Kanuk, 2007). Besides, consumer purchase intention is an essential factor involved in this process because advertisers endeavor to make consumer purchase intention positive by influencing the thought process and the attitudes of the receivers of advertisement (Dianoux, Linhart & Vnouckova, 2014). Some researchers found that consumers tend to receive emotional slogans first and then rational ones (Ray & Batra, 1983; Chan, 1996), which makes the effectiveness of emotional advertisements better than that of rational advertisements (Ding, 2000). While Aaker and Norris (1982) supposed that rational advertising slogans are superior to emotional slogans in influencing consumer purchase intention towards the advertisement because rational ones offer precise information of the product.

In addition, brand is another element in studying consumer behavior. Pang and Bi (2015) found that the match between different attributes of advertising slogans and the country-of-origin stereotype of a brand has a significant impact on consumer attitude and then on their willingness to purchase, or in other words, on consumer purchase intention. Also, different attributes of advertising slogans match with brand familiarity. Toward an unfamiliar brand, consumers show a positive attitude towards the emotional appeal. While toward a familiar brand, consumers show a positive attitude towards the rational appeal (Li, et al., 2015). Moreover, the emotional message is more persuasive than the rational message. (Pallak, Murrioni, Koch, 1983).

Nevertheless, Aker and Stayman (2010) noted that advertising slogans with rational attributes are more effective than those with emotional attributes. Laskey (1995) pointed out that rational slogans carry more information, including key information about the product, and it is more likely to get more attention from consumers. What's more, rational slogans are simpler and clearer than emotional ones. Thus, the consumer intention to purchase rationally advertised products is much stronger (Holbrook, 1978).

### 3. Research Design

Table 3 - 1 shows the definition and classification of each variable studied in the paper.

Table 3 - 1 Definition and classification for each variable

Variables	Classification	Definition
Product type	Hedonic Utilitarian Neutral	Based on product function, hedonic products are for sensory feelings, fun and enjoyment or affection; utilitarian products provide cognitive benefits to consumers; and neutral products are those that are unable to be identified and are in between hedonic and utilitarian attributes.
The attributes of advertising slogans	Utilitarian Emotional	Rational advertising slogans offer relevant facts about the product or the brand and cause logical thinking processes, whereas emotional ones preferably associate the product or the brand with the feeling of affection
The syntax of advertising slogans	Imperative Non-imperative	Imperative sentences include claiming and commanding; non-imperative sentences include simple sentences and interrogative sentences.
Consumer attitude		The attitude towards the advertising slogan and advertised product.
Consumer Purchase intention		The intention to buy the advertised product.

#### 3.1 Hypotheses and theoretical model

##### 3.1.1 Hypotheses

Based on the theories listed above, the following hypotheses are proposed:

Hypothesis 1: Advertisement slogans of different product types have a significant influence on consumer attitude.

Hypothesis 2: Advertising slogans of product type have a significant influence on consumer purchase intention.

Hypothesis 3: Emotional advertising slogans work better with imperative sentences on consumer purchase intention, while utilitarian advertising slogans work better with non-imperative sentences on consumer purchase intention.

Hypothesis 4: Consumer attitude has a positive influence on consumer purchase intention.

Hypothesis 5: There is a mediating effect of consumer attitude in the relationship between different attributes of advertising slogans of product and consumer purchase intention.

3.1.2 Theoretical model

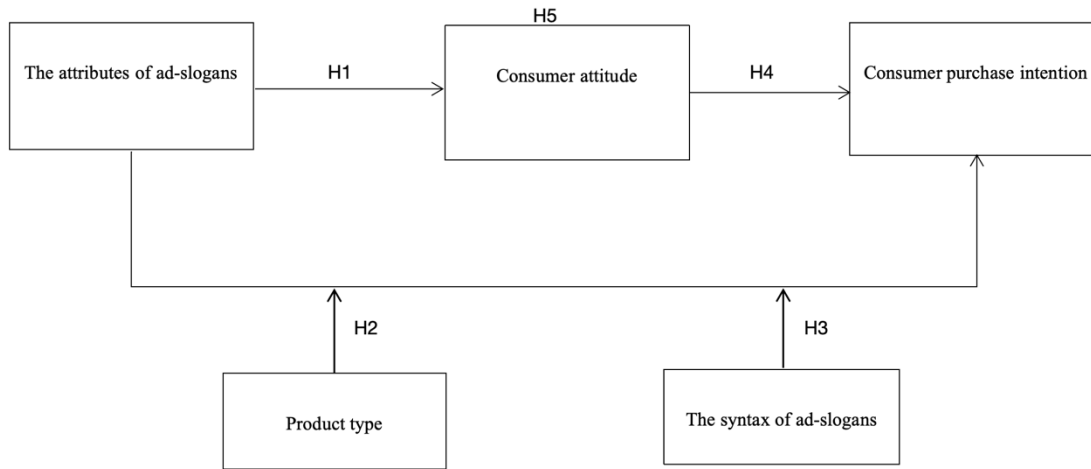


Figure 3 - 1 An operational framework

Source: Made by author.

3.2 Questionnaire design

This study organizes the questionnaire among a group of university students since they are the main force in consumption. Their consumption preferences are highly personal and diverse. According to the report by iiMedia Research, an organization delving into data statistics, the annual spending by China's university students exceeded ¥870 billion yuan in 2022. Therefore, this study focuses on university students since they show great potential in purchasing power.

The survey research method is adopted in this thesis, and the scales proposed by previous researchers have been used in surveys to build up a proper and valid questionnaire (seen in Appendix).

4. Data Analysis and Hypotheses Test

4.1 Demographic characteristics of the respondents

In this study, 200 questionnaires were issued and 180 of them were returned, with a 90% recovery rate. 168 valid survey packets were acquired and utilized for analysis after invalid questionnaires were removed, yielding an effective rate of 93.3%. The sampling group consisted of 168 Chinese university students. The characteristics of the respondents are shown in Table 4 - 1. The questionnaire is shown in Appendix 3.

Table 4 - 1 Demographic characteristics of the respondents

	Category	Frequency	Percent (%)
Gender	Male	84	50.0%
	Female	84	50.0%
Age	Less than or equal to 20	36	22.0%
	21-25	101	60.0%
	26-30	31	18.0%
The highest level of education qualification	Bachelor degree	122	73.0%
	Master degree	46	27.0%
Total		168	100%

According to Table 4.1, there is an almost even distribution between male and female when it comes to “gender.” The sample consisted of 168 people, 84 of whom were men and 84 of whom were women. Regarding the highest level of education, 73.0% had a bachelor's degree, and 27.0% had a master's or higher degree.

Table 4 - 2 Descriptive analysis of the variables

Dependent variables: consumer purchase intention

Product type	Advertising slogans	Mean	Std. deviation	N
Hedonic	Emotional	5.4129	0.54536	28
	Utilitarian	2.5239	0.45586	28
	Total	3.9684	1.54027	56
Utilitarian	Emotional	2.3900	0.37827	28
	Utilitarian	5.4775	0.62117	28
	Total	3.9338	1.63895	56
Neutral	Emotional	4.5100	0.53798	28
	Utilitarian	5.3107	0.51123	28
	Total	4.9104	0.65847	56

Table 4 - 2 is a descriptive analysis of each factor. The mean scores, the standard deviation as well as valid N of these factors are listed in the table.

#### 4.2 Reliability analysis

The results of the questionnaire reliability test are displayed below, Cronbach's alpha for each variable is measured. It can be seen that the reliability coefficient of consumer attitude  $\alpha = 0.947$ , the reliability coefficient of Consumer purchase intention  $\alpha = 0.938$ , which implies that every scale of the questionnaire is reliable.

Table 4 - 3 Scale-reliability statistics

Variable	Item number	Cronbach's Alpha
Consumer's attitude	A1	0.947
	A2	
	A3	
	A4	
Consumer purchase intention	B1	0.938
	B2	
	B3	
	B4	

#### 4.3 Validity analysis

Table 4 - 4 KMO and Bartlett's TEST

Variable	KMO	Bartlett's Test of Sphericity		
		Approx. Chi-Square	df	sig
Consumer's attitude	0.963	2225.410	120	0.000
Consumer purchase intention	0.962	1773.647	120	0.000

The obtained values of KMO are both above 0.7, with 0.963 and 0.962 respectively, which indicates a valid structure of the questionnaire for research. The results of the Bartlett sphere test showed that the values of the chi-square test are 2225.410 and 1773.647. When the *Sig* value (*P* value) is at the test level of 0.05, it is statistically significant (Seber and Lee, 2003). Therefore, the *Sig* values of these two variables are 0.000, which is less than 1%, close to 0, and also proves a significant correlation between these variables.

#### 4.4 ANOVA analysis

In this chapter, consumer attitude is abbreviated to CA and consumer purchase intention is abbreviated to CPI.

##### 4.4.1 Demographic characteristics, CA and CPI

###### 4.4.1.1 Gender, CA and CPI

Table 4 - 5 CA and CPI between Male and Female university students

		Sum of squares	df	Mean square	F	Sig.
CA	Between groups	0.038	1	0.038	0.030	0.863
	Within groups	209.076	166	1.259		
	Total	209.113	167			
CPI	Between groups	0.491	1	0.491	0.222	0.623
	Within groups	355.967	166	1.024		
	Total	336.458	167			

From Table 4 - 5, it can be noticed that the P values are 0.863 and 0.623 respectively. Both of them are greater than 0.05, indicating that they are not at the significant level, and these three factors are not affected by the graduate's gender.

#### 4.4.1.2 Age, CA and CPI

Table 4 - 6 CA and CPI between the Ages

		Sum of squares	df	Mean square	F	Sig.
CA	Between groups	0.184	2	0.092	0.073	0.930
	Within groups	208.029	165	1.266		
	Total	209.113	167			
CPI	Between groups	0.489	2	0.245	0.120	0.887
	Within groups	335.969	165	2.036		
	Total	336.458	167			

As can be seen in Table 4 - 6, the P values of ages regarding CA and CPI are 0.930 and 0.887 respectively, and they are greater than 0.05. Therefore, it can be said that consumers' attitude and consumer purchase intention are not significantly different with respect to age.

#### 4.4.1.3 Education level, CA and CPI

Table 4 - 7 CA and CPI between the Education Level

		Sum of squares	df	Mean square	F	Sig.
CA	Between groups	0.184	1	0.013	0.011	0.918
	Within groups	208.029	166	1.260		
	Total	209.113	167			
CPI	Between groups	0.015	1	0.015	0.007	0.932
	Within groups	336.443	166	2.027		
	Total	336.458	167			

From Table 4 - 7, it can be noted that the P values are all larger than 0.05. In other words, consumers' attitude and consumer purchase intention are not affected by the highest level of education.

#### 4.4.2 Advertising slogans' attributes of different products and CA

##### 4.4.2.1 Interaction effect

Table 4 - 8 The Result of two-way ANOVA analysis  
 Dependent Variable: CA

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model		5	34.985	165.788	0.000
Intercept	2972.262	1	2972.262	14084.881	0.000
Product type	20.717	2	10.358	49.086	0.000
Advertisement sentence	3.655	1	3.655	17.320	0.000
Product type*Advertising slogans	150.555	2	75.278	356.724	0.000
Error	34.186	162	0.211		
Total	3181.376	168			
Corrected total	3.655	167			

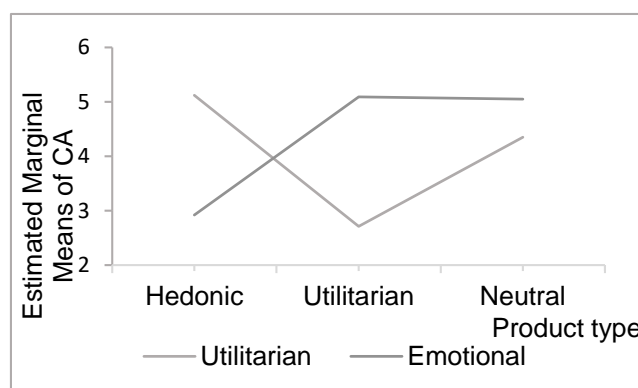


Figure 4 - 1 The result of interaction effect

From Table 4 - 8 and Figure 4 - 1, the P value of the product type \* attributes of advertising slogans is less than 0.05, which means that their interaction affects consumers' attitude significantly.

#### 4.4.2.2 Simple effect

Table 4 - 9 Pairwise Comparisons for Product type \* Advertising slogans

Dependent variable: consumer attitude

The attributes of advertising slogans	(I) product type	(J) product type	Mean Difference (I-J)		95% Confidence Interval for	
					Lower bound	Upper bound
Utilitarian	Hedonic	Utilitarian	3.023*	0.000	2.691	3.354
		Neutral	.903*	0.000	0.571	1.234
	Utilitarian	Hedonic	-3.023*	0.000	-3.354	-2.691
		Neutral	-2.120*	0.000	-2.451	-1.789
	Neutral	Hedonic	-.903*	0.000	-1.234	-0.571
Emotional	Hedonic	Utilitarian	-2.954*	0.000	-3.285	-2.622
		Neutral	-2.787*	0.000	-3.118	-2.455
	Utilitarian	Hedonic	2.954*	0.000	2.622	3.285
		Neutral	0.167	0.537	-0.165	0.498
	Neutral	Hedonic	2.787*	0.000	2.455	3.118
		Utilitarian	-0.167	0.537	-0.498	0.165

Based on estimated marginal means

\* The mean difference is significant at the .05 level

b Adjustment for multiple comparisons: Sidak.

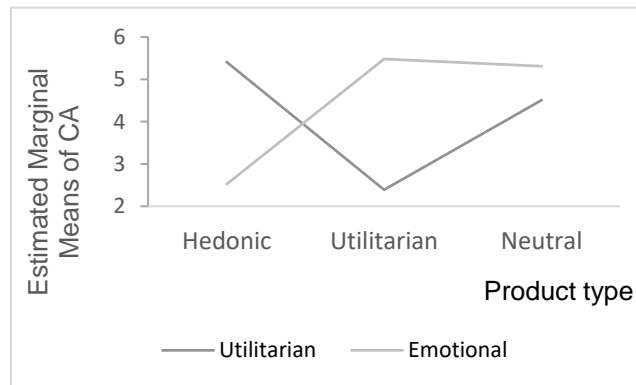


Figure 4 - 2 The simple effect for Product type \* Advertising slogans

Table 4 - 10 Pairwise Comparisons for Advertising slogans \* Product type

Dependent variable: consumer attitude

Product type	(I) The attributes of advertising slogans	(J) The attributes of advertising slogans	Mean Difference (I-J)	Sig	95% Confidence Interval for	
					Lower bound	Upper bound
Hedonic	Utilitarian	Emotional	2.889*	0.000	2.618	3.16
	Emotional	Utilitarian	-2.889*	0.000	-3.16	-2.618
Utilitarian	Utilitarian	Emotional	-3.087*	0.000	-3.359	-2.816
	Emotional	Utilitarian	3.087*	0.000	2.816	3.359
Neutral	Utilitarian	Emotional	-.801*	0.000	-1.072	-0.529
	Emotional	Utilitarian	.801*	0.000	0.529	1.072

Based on estimated marginal means

\* The mean difference is significant at the .05 level

b Adjustment for multiple comparisons: Sidak.

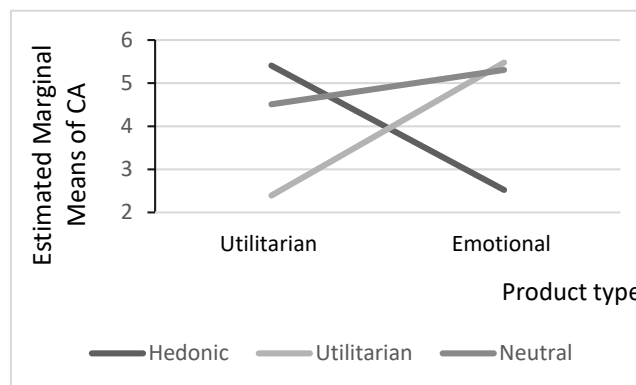


Figure 4 - 3 The simple effect for Advertising slogans \* Product type

Based on the four graphs presented above, there exists a highly significant connection between product type and the attributes of advertising slogans.

Referring to Table 4 - 9 and Figure 4 - 2, the P values of the utilitarian slogan within all three dimensions of product type are equal to 0.000, which strongly suggests a high correlation between these two variables. Specifically, the mean value of the utilitarian slogan for hedonic products is higher than that for utilitarian products and neutral products, with differences amounting to 3.023 and 0.903 respectively. Moreover, the mean value of the utilitarian slogan for utilitarian products is 2.120 lower than that for neutral products.

Conversely, the P values of the emotional slogan demonstrate significance in all dimensions except for that of the combination of utilitarian products and neutral products. The P value in this case is 0.137, which is greater than 0.05. This

indicates that the emotional slogan, regardless of whether it pertains to utilitarian products or neutral products, shows no difference in terms of its impact on consumer purchase intention. Meanwhile, the mean value of the emotional slogan for hedonic products is lower than that for utilitarian products and neutral products, with differences of 2.954 and 2.787 respectively. Consequently, it can be concluded that the emotional slogan performs best only when associated with hedonic products.

Table 4 - 10 and Figure 4 - 3 lead to the same conclusion, albeit from a different perspective regarding product type. Evident significance can be clearly observed within the relevant columns.

The findings of this study reveal that consumers' attitude is influenced by both product type and the attributes of advertising slogans. Depending on the specific product type, advertising slogans with different appeals exert varying degrees of influence on consumer attitude. For hedonic products, consumers tend to have a more positive attitude towards the emotional slogan; for utilitarian products, consumers are more positive towards the utilitarian slogan; and for neutral products, consumers also display a more positive attitude towards the utilitarian slogan.

#### 4.4.3 Advertising slogans' attributes of different products and CPI

This step also employed a two-factor mixed design. Specifically, consumer purchase intention was selected as the dependent variable, while product type and the attributes of advertisement were chosen as the independent variables. The aim was to observe whether there was a relationship among them.

Table 4 - 11 The Result of two-way ANOVA analysis

Dependent Variable: CPI

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model		5	58.733	222.341	0.000
Intercept	3064.323	1	3064.323	11600.408	0.000
Product type	34.389	2	17.194	65.092	0.000
Advertising slogans	4.660	1	4.660	17.641	0.000
Product type*Advertising slogans	254.616	2	127.308	481.941	0.000
Error	42.793	162	0.264		
Total	3400.781	168			
Corrected total	336.458	167			

a. R Squared = 0.873 (Adjusted R Squared = 0.869)

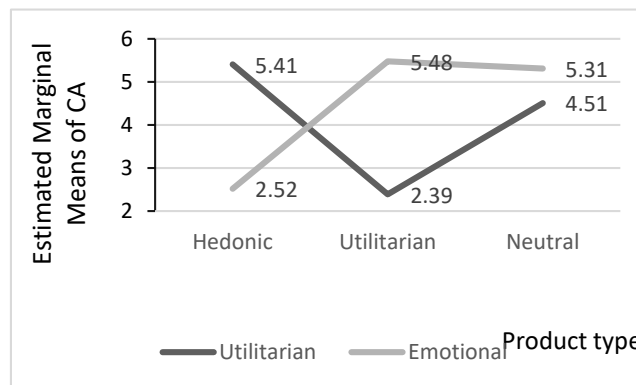


Figure 4 - 4 The result of interaction effect

As depicted in Table 4 - 11 and Figure 4 - 4, the P value of the product type multiplied by the attributes of advertising slogans is 0.000, which clearly indicates that their interaction exerts a significant influence on consumer purchase intention.

Through ANOVA analysis, this finding vividly demonstrates that there exists a remarkable interaction effect between product type and the attributes of the slogan with regard to consumer purchase intention. It further verifies that these variables are among the principal factors that prompt consumers to take the action of purchasing. Additionally, it helps to

explain the interaction effect generated by these two factors on consumers' cognitive process or mental process in response to advertisements. This finding provides solid support for hypothesis 2, which posits that there is a significant relationship among product type, the attributes of advertising slogans, and consumer purchase intention.

#### 4.4.4 The attributes and syntax of advertising slogans and CPI

Based on the table and the figure below, it becomes evident that the P value in the dimension of levels stands at 0.000. In contrast, the dimension of the syntax of advertising slogans fails to exhibit significance in relation to consumer purchase intention, as its P value is 0.712, which is greater than 0.05. Nevertheless, the attributes and the syntax of advertising slogans interact with one another and jointly exert an impact on consumer purchase intention. This implies that, in the absence of the content of the advertisement itself, a single element like the type of advertising slogans alone holds little meaning when it comes to influencing consumer behavior.

Table 4 - 12 The Result of two-way ANOVA analysis  
 Dependent Variable: CPI

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model		3	15.474	13.2	0.000
Intercept	2942.808	1	2942.808	2510.448	0.000
The attributes of advertising slogans	11.435	1	11.435	9.755	0.002
The syntax of advertising slogans	0.16	1	0.16	0.137	0.712
Attributes * Syntax	34.826	1	34.826	29.709	0.000
Error	192.245	164	1.172		
Total	3181.474	168			
Corrected total	238.666	167			

a. R Squared = .195 (Adjusted R Squared = .180)

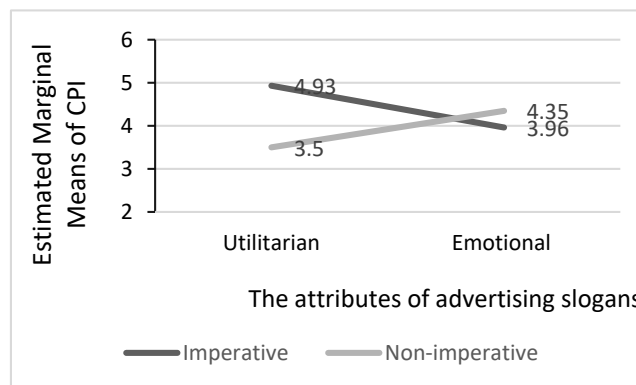


Figure 4 - 5 The result of interaction effect

#### 4.5 Mediation analysis

##### 4.5.1 Correlation analysis

As shown in Table 4 - 14, coefficients at the 0.01 level signify significance. Hence, it can be observed that, apart from the attributes of advertising slogans, the correlation coefficients of any other two variables are well above 0.00. Moreover, clear significance is demonstrated when the coefficient values are smaller than 0.05, which indicates that product type, consumer attitude, and consumer purchase intention are significantly correlated with each other pairwise. Specifically, the relationship between product type and consumer attitude is significant, with a correlation coefficient value of 0.248, suggesting a positive correlation between them. The correlation between product type and consumer purchase intention is also positive, as evidenced by a coefficient value of 0.272. Additionally, it is evident that there is a positive correlation between consumer attitude and consumer purchase intention, given that the correlation coefficient is 0.958. This implies that the more positive the consumer attitude is, the stronger the consumer purchase intention will be.



Table 4 - 14 Findings for Correlation Analysis

		Product type	The attributes of advertising slogans	Consumers' attitude	Consumer purchase intention
Product type	Pearson correlations	1	0.000	0.248**	0.272**
	Sig. (2-tailed)		1.000	0.001	0.000
The attributes of advertising slogans	Pearson correlations	0.000	1	0.127	0.118
	Sig. (2-tailed)	1.000		0.100	0.129
Consumers' attitude	Pearson correlations	0.248**	0.127	1	0.958**
	Sig. (2-tailed)	0.001	0.100		0.000
Consumer purchase intention	Pearson correlations	0.272**	0.118	0.958**	1
	Sig. (2-tailed)	0.000	0.129	0.000	

\*\* Correlation is significant at the 0.01 level (2-tailed)

Since correlation analysis is unable to explain the causal effects among these variables (Seber & Lee, 2003), and furthermore, when the independent variable features a binary variable, the stepwise method in regression analysis can be utilized to analyze the mediation effect (Wen & Ye, 2014). Consequently, regression analysis will be adopted in the subsequent step.

#### 4.5.2 Regression analysis

##### 1. Product type (PT), advertising slogans' attributes (ASA) and CA

Table 4 - 15 The result of regression analysis I

Model		Unstandardized coefficients		Standardized coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.113	0.332		9.373	0.000
	PT	0.337	0.102	0.248	3.319	0.001
	ASA	0.283	0.166	0.127	1.705	0.090

##### a. Dependent Variable: CA

From table 4-15, the independent variable is product type and the attributes of advertising slogans, and the dependent variable is consumer attitude. The statistical significance of the model is shown by the *Sig.* 0.001, less than 0.05, which reveals that product type and the slogan's attribute work together on consumers' attitude. The regression coefficients of product type *B* and attributes of the slogan *B* are both larger than 0. And the *Sig.* value from the chart above sees a significant positive connection between product type, attributes of advertising slogans and the consumers' attitude.

##### 2. PT, ASA and CPI

Table 4 - 16 The result of regression analysis II

Model		Unstandardized coefficients		Standardized coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.829	0.421		6.722	0.000
	PT	0.471	0.129	0.272	3.654	0.001
	ASA	0.333	0.21	0.118	1.583	0.115

a. Dependent Variable: CPI

As presented in Table 4 - 15, the independent variables are product type and the attributes of advertising slogans, while the dependent variable is consumer attitude. The statistical significance of the model is indicated by the Sig. value of 0.001, which is less than 0.05. This reveals that product type and the attributes of the advertising slogan jointly exert an influence on consumers' attitude. Both the regression coefficients of product type (denoted as B) and those of the attributes of the slogan (also denoted as B) are greater than 0. Moreover, the Sig. values shown in the chart above suggest a significant positive association among product type, the attributes of advertising slogans, and consumers' attitude.

3. PT, ASA, CA and CPI

Table 4 - 17 The result of regression analysis III

Model		Unstandardized coefficients		Standardized coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-0.935	0.156		-5.977	0.000
	PT	0.063	0.04	0.036	1.573	0.118
	ASA	-0.009	0.064	-0.003	-0.145	0.885
	CA	1.209	0.03	0.949	40.822	0.000

a. Dependent Variable: CPI

From Table 4 - 17, the dependent variable is consumer purchase intention, and the predictors are product type, the attributes of the slogan, and consumer attitude. The P value is 0.000, which indicates the significance of this model. The regression coefficient of consumer attitude is 1.209, which is greater than 0. The test reveals that there is a positive connection between consumer attitude and consumer purchase intention.

Mediation with bootstrapping indirect effect = 0.408. (IE lower 95% CI=0.204 upper 95% CI=0.618)

Source: Made by author.

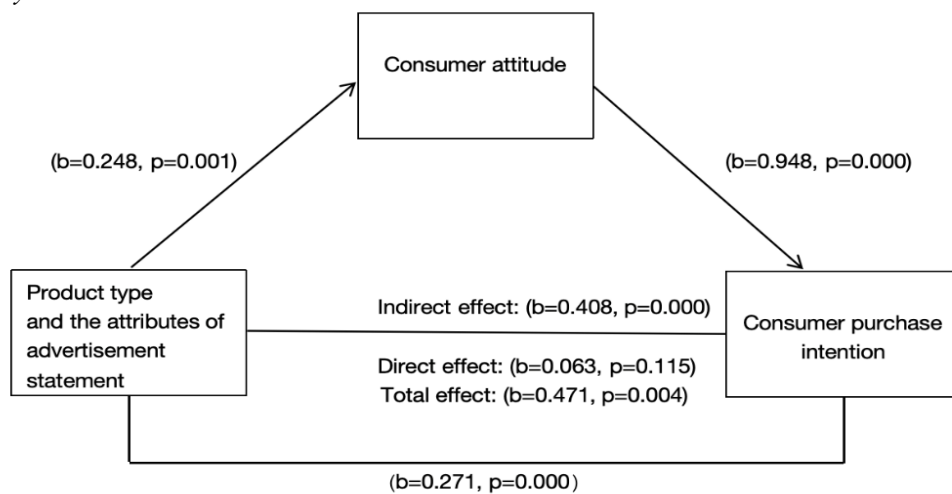


Figure 4 - 8 The result of mediation analysis

This section aims to examine the way in which consumer attitude mediates the relationship between product type and the attributes of advertising slogans and consumer purchase intention. The program PROCESS v4.1 was adopted to analyze the mediation effect with 5000 bootstrapping resamples. If the 95% Bias Corrected and Accelerated Confidence Intervals for the indirect effects of X (product type and the attributes of advertising slogans) on Y (consumer purchase intention)

do not contain 0, the mediator M (consumer attitude) is proved to have a significant mediation effect between the independent variable and the dependent variable (Preacher & Hayes, 2004).

The mediation model is depicted in Figure 1. Without the mediator (consumer attitude) involved, the influence of product type and the attributes of the slogan on consumer purchase intention is significant ( $b = 0.271$ ,  $p = 0.000$ ). Additionally, there is a strong connection between the independent variable and the mediator ( $b = 0.248$ ,  $p = 0.001$ ). According to the data ( $b = 0.948$ ,  $p = 0.000$ ), consumers' attitude is a significant predictor of consumer purchase intention after controlling for product type and the attributes of the slogan. However, after the involvement of the mediator (consumers' attitude), the independent variable does not show significance for the dependent variable. In other words, when taking consumer attitude into account, the product type and the attributes of the slogan cannot remain significant for consumer purchase intention, with the coefficient value of 0.063 as well as the P value of 0.115. Therefore, the analysis suggests a full mediation. Moreover, a substantial indirect effect of consumer attitude on consumer purchase intention is shown by an effect size of 0.408 [95% CI: 0.204, 0.618] with no zero contained. Thus, it can be inferred that the relationship between product type and the attributes of advertising slogans and consumer purchase intention has been fully mediated by consumer attitude.

#### 4.6 Hypotheses testing

The outcomes of the hypotheses that were investigated in the study are shown in the table above.

Table 4 - 18 Hypotheses testing

Hypotheses	Results
Hypothesis 1: Advertisement slogans of different product types have a significant influence on consumer attitude.	Accepted
Hypothesis 2: Advertising slogans and product type have a significant influence on consumer purchase intention.	Accepted
Hypothesis 3: Emotional advertising slogans work better with imperative sentences with on consumer purchase intention, while utilitarian advertising slogans work better with non-imperative sentences on consumer purchase intention.	Accepted
Hypothesis 4: Consumer attitude has a positive influence on consumer purchase intention.	Accepted
Hypothesis 5: There is a mediating effect of consumer attitude in the relationship between different attributes of advertising slogans of product and consumer purchase intention.	Accepted

### 5. Conclusion

This study investigates how product type and the attributes of advertising slogans affect consumer attitudes and purchase intentions among university students, as well as the influence of advertising sentence syntax. It examines the importance of the interaction effect between product type and advertising slogan attributes on consumer purchase intentions, leading to several key conclusions.

#### 5.1 Key conclusions

First, the attributes of advertising slogans should align with the relevant product type. Consumers exhibit distinct preferences when encountering different slogan attributes associated with various product types. For hedonic products, consumers are less likely to consider rational aspects of advertising messages, instead focusing on sensory experiences. As a result, emotional slogans are more effective than utilitarian ones. Conversely, utilitarian products, valued for their practicality and necessity in daily life, benefit from slogans with a utilitarian appeal that provide information about the product itself.

Second, consumer attitude positively influences purchase intentions. Correlation analysis reveals that the more positive consumers' attitudes are, the stronger their willingness to purchase the advertised product. Regression and mediation analyses further indicate that consumer attitude fully mediates the relationship between advertising slogan attributes (based on product type) and purchase intention.

Finally, the syntax of advertising slogans enhances the impact of their attributes. Different sentence patterns should align with the attributes of the slogans. Emotional slogans often employ imperative sentences, which motivate, encourage, or demand action, thereby amplifying the sensory appeal. In contrast, utilitarian slogans benefit from non-imperative sentences that convey rational information, assisting in effectively communicating the product's usefulness.

#### 5.2 Implications of the study

Companies with creative promotion strategies are superior to others and have a greater chance to gain more market share. Therefore, when formulating strategies, advertisers have to cater to and satisfy consumers' needs regarding product types and advertisements. Here is some advice for advertisers:

Combine advertising slogans' attributes with the relevant product type. First, organizations could combine product types and the attributes of advertising slogans properly. When advertising a utilitarian product, the functional and rational traits of the advertised product should be mainly conveyed to consumers. In other words, information about the product itself, such as price, quality, function, style, and after-sales service, should be offered to the target group, and this information must be reliable and believable to increase consumer purchase intention. For hedonic products, the advertiser has to grasp the needs of its target group. Consumers are keen on the sensory feeling when buying and enjoying hedonic products, and the advertisement can serve as a bridge of communication between the product and consumers' needs. Therefore, emotional advertisements are supposed to contain the emotional experiences that consumers can relate to, and then the probability of consumers' buying behavior will increase.

Grasp consumers' attention by amplifying the advertising effect. Consumer attitude and consumer purchase intention are closely related. When exposed to a stimulus, consumers express their attitude first, followed by their desire to purchase the product. Therefore, when conducting an advertisement, the advertiser can use different sentence patterns for slogans with different attributes to strengthen the advertising effect and draw consumers' attention. The influence of the slogan's qualities on customer purchase intent might be enhanced by effectively utilizing the function of the sentence type. Therefore, to promote a utilitarian product or a neutral product, non-imperative sentences can be taken into account, while promoting a hedonic product, imperative sentences can be adopted.

### 5.3 Suggestions for future research

Future studies could focus on specific groups, for example, those who have higher purchasing power, to obtain more specific study results. Future research may also use mixed methods and choose representative samples for in-depth interviews to enrich the findings and uncover hidden information. Besides, future studies could utilize different scales to examine the relationship between the attributes of advertising slogans and consumer purchase intention. The questionnaire could be collected several times over a set period to avoid cross-sectional bias (Collins, 1994). Moreover, future studies could study other aspects of advertisements, such as types or forms of advertisement, to examine their influence on consumer purchase intention and broaden the application field of theories.

### References

- Aaker DA, Norris D (1982). Characteristics of TV Commercials Perceived as Informative. *J. Adv. Res.*, 22(2): 61-71.
- Aaker, D. A. , & Stayman, D. M. . (2010). Implementing the concept of transformational advertising. *Psychology & Marketing*, 9(3), 237-253.
- Batra, R. and M. Ray. "Affective responses mediating acceptance of advertising." *Journal of Consumer Research* 13 (September 1986): 234-249.
- Chan, K. K. (1996). Chinese viewers' perception of informative and emotional advertising. *International Journal of Advertising*, 15(2), 152-166.
- Dianoux, C., Linhart, Z., & Vnouckova, L. (2014). Attitude toward Advertising in General and Attitude toward a Specific Type of Advertising – A First Empirical Approach. *Journal of Competitiveness*, 6, 87–103.
- Dietrich, H. E. (2018). *Imperatives in advertisements: A study of politeness strategies in a persuasive genre* (Doctoral dissertation).
- Dodds, W. B. , Monroe, K. B. , & Grewal, D. . (1991). Effects of price, brand, and store information on buyers' product evaluations. *Journal of Marketing Research*, 28(3), 307-319.
- Fishbein M, Ajzen I (1975). *Belief, Attitude, Intention and Behavior Reading: An Introduction to Theory and Research*, Mass: AddisonWesley.
- Fuchs, C. (2018). The Rise of Online Advertising. In *The Online Advertising Tax as the Foundation of a Public Service Internet: A CAMRI Extended Policy Report*, 3–11. University of Westminster Press. <http://www.jstor.org/stable/j.ctv5vddk0.4>
- Herv é C., & Mullet, E. (2009). Age and factors influencing consumer behaviour. *International journal of consumer studies*, 33(3), 302-308.
- Hirshman EC. The effect of verbal and pictorial advertising stimuli on aesthetic, utilitarian and familiarity perceptions. *J Advert* 1986;15:27–34 [Summer].
- Holbrook, M. B. . (1978). Beyond attitude structure: toward the informational determinants of attitude. *Journal of Marketing Research*, 15(4), 545-556.
- Johar, J. S., & Sirgy, M. J. (1991). Value-expressive versus utilitarian advertising appeals: When and why to use which appeal. *Journal of advertising*, 20(3), 23-33.
- Kotler P (1997). *Marketing Management: Analysis, Planning, Implementation and Control*, 9th ed., New Jersey: Prentice-Hall.

- Laskey, H. A. , Fox, R. J. , & Crask, M. R. . (1995). The relationship between advertising message strategy and television commercial effectiveness. *Journal of Advertising Research*, 35, 31-40.
- Mullet, G. M., & Karson, M. J. (1985). Analysis of purchase intent scales weighted by probability of actual purchase. *Journal of marketing research*, 22(1), 93-96.
- Nelson, P. (1974). Advertising as information. *Journal of political economy*, 82(4), 729-754.
- Pallak, S. R., Murroni, E., & Koch, J. (1983). Communicator attractiveness and expertise, emotional versus rational appeals, and persuasion: A heuristic versus systematic processing interpretation. *Social Cognition*, 2(2), 122-141.
- Ray ML, Batra R (1983). Emotion & Persuasion in Advertising: What We Do & Don't Know About Affect. In: Bagozzi RP, Tybout AM (Eds.). *Advances in Consumer Research*.
- Ruchi, G. (2012). *Advertising principles and practice*. S. Chand Publishing.
- Sallam, M. A. A., & Wahid, N. A. (2012). Endorser Credibility Effects on Yemeni Male Consumer's Attitudes towards Advertising, Brand Attitude, and Purchase Intention: The Mediating Role of Attitude toward Brand. *International Business Research*, 5, 55-66.
- Schiffman LG, Kanuk LL (2007). *Consumer Behavior*, Pearson Education International Press.
- Vestergaard, T., & Schrøder, K. (1985). *The Language of Advertising (Language in Society)*, New York: B. Blackwell, p.140.
- Chai J, Zhang L, & He W. (2013). The influence of self-concept and self-brand connection on the effectiveness of advertising benefit appeals. *Journal of Marketing Science*, 8(1), 123-139. [in Chinese: 柴俊武, 张蕾, & 何伟. (2013). 自我概念, 自我—品牌联结对广告利益诉求有效性的影响. 营销科学学报, 8(1), 123-139.]
- Guo, G., Zhou J., & Deng S. (2015). Advertising appeals and purchase intention: The interaction of product type and product involvement. *China Business and Market*, 29(11), 87-95. [in Chinese: 郭国庆, 周健明, & 邓诗鉴. (2015). 广告诉求与购买意愿: 产品类型, 产品涉入的交互作用. 中国流通经济, 29(11), 87-95.]
- Pang, J. & Bi, S. (2015). The influence mechanism of the matching degree between advertising appeal and brand country-of-origin stereotype on brand attitude. *Acta Psychologica Sinica* (03), 406-416. [in Chinese: 庞隽 & 毕圣. (2015). 广告诉求-品牌来源国刻板印象匹配度对品牌态度的影响机制. 心理学报(03),406-416.]

## Appendix 1

Dear friend, thank you for participating in this survey. We are currently conducting a study on consumer purchase intention and need your support. The questionnaire is filled in anonymously, and there is no right or wrong answer. The information you fill in is only for research purposes and is absolutely confidential, so please feel free to fill in the questionnaire according to your first impression, and check the boxes of your preferred choices carefully. Your support is very important to our research, thank you for your support!

1. your gender is: male / female
2. your age is: 20 years old and below / 21-25 years old / 26-30 years old
3. your education level is: Bachelor or below / Master Doctor or above
4. How do you feel about the product "Bouquet"?

1—————2—————3—————4—————5—————6—————7

Very disagree Very agree

Effective    1   2   3   4   5   6   7

Helpful

Functional

Necessary

Practical

Fun

Exciting

Delightful

Thrilling

Enjoyable    1   2   3   4   5   6   7

Note: The options for the following questions are the same as in the fourth item, but are not described in detail for reasons of space.

6. How do you feel about the product "Sport shoes"?
7. How do you feel about the product "Fashion Magazine"?
8. how do you feel about the product "rechargeable batteries"?
9. How do you feel about the product "Smartphone"?
10. How do you feel about the product "Air Conditioner"?
11. How do you feel about the product "Jewelry"?
12. How do you feel about the product "USB flash drive"?
13. How do you feel about the product "Massager"?
14. How do you feel about the product "Perfume"?
15. How do you feel about the product "Thermos"?

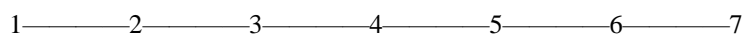
16. How do you feel about the product "face wash"?
17. How do you feel about the product "Red Wine"?
18. How do you feel about the product "warm gloves"?
19. How do you feel about the product "Game Console"?
20. How do you feel about the product "VR glasses"?

**Appendix 2**

Dear friend, thank you for participating in this survey. We are currently conducting a study on consumer purchase intention and need your support. The questionnaire is filled in anonymously, and there is no right or wrong answer. The information you fill in is only for research purposes and is absolutely confidential, so please feel free to fill in the questionnaire according to your first impression, and check the boxes of your preferred choices carefully. Your support is very important to our research, thank you for your support!

What do you think of the ad? Please tick one number.

Score Description:



Very disagree

Very agree

I think the advertising statement:

Effective          1   2   3   4   5   6   7

Helpful

Functional

Necessary

Practical

Fun

Exciting

Delightful

Thrilling

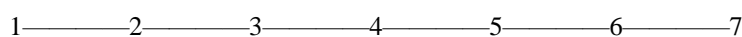
Enjoyable          1   2   3   4   5   6   7

**Appendix 3**

Dear friend, thank you for participating in this survey. We are currently conducting a study on consumer purchase intention and need your support. The questionnaire is filled in anonymously, and there is no right or wrong answer. The information you fill in is only for research purposes and is absolutely confidential, so please feel free to fill in the questionnaire according to your first impression, and check the boxes of your preferred choices carefully. Your support is very important to our research, thank you for your support!

What do you think of the ad? Please tick one number.

Score Description:



Very disagree

Very agree

1. Bold, sexy and simply irresistible accessories.

What do you think of the advertisement and the product advertised as? (Please select a number)

Good    1    2    3    4    5    6    7

Satisfying

Attractive

Pleasing    1    2    3    4    5    6    7

After reading the slogan,

I will look out for the product in the ad in the future. 1 2 3 4 5 6 7

I would like to own the advertised product.

I would buy the advertised product.

I would recommend buying the product to people around me.

Note: The options for the following questions are the same as in the first item, but are not described in detail for reasons of space.

2. Add a touch of luxury and elegance to your look.
3. Gold Jewelry, Built for You.
4. Be addicted to handmade, vintage and local glamour!
5. Love your skin, your skin will love you back.
6. Gift a fresh day to yourself.
7. A simple care for your sensitive skin.
8. Get a smooth and oil free touch.
9. Why settle for less?
10. Don't hesitate, go for it.
11. Fast, robust, and secure.
12. Seize the Speed, Conquer the World!



## A Corpus-based Diachronic Study on the Linguistic Variation of Corporate Annual Reports from the Real Estate Industry in China

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The research is financed by the Grant (No. GD21CWY05) from the Guangdong Provincial Fund for the Philosophy and Social Science Planning Project and the project of Teaching Innovation (*The Research on the Ideological and Political Education Teaching Model in English Major Courses Empowered by Educational Information Technology*) from Guangdong University of Technology.

### Abstract

This project compiles a comprehensive corpus by collecting annual reports from Chinese listed companies over multiple years. Based on the characteristics of these reports, the study examines historical trends, industry-specific variations, and differences between Chinese and Western cultural contexts to identify key factors influencing the translation of annual reports in China. It conducts a multi-level analysis of these reports and summarizes the forms and distribution of related events. Tools like AntConc, WordSmith, and other corpus analysis software are used to examine the data. Finally, the study makes reasonable predictions regarding potential future trends based on the research findings.

**Keywords:** Annual reports, Industry Differences, Diachronic Changes

### 1. Introduction

This study explores the temporal and industrial variations in the annual reports of Chinese listed companies, set against the backdrop of the 12th and 13th Five-Year Plans. Fuoli (2017) believed the annual corporate report is a formal document that contains legally required and voluntary disclosure information, both digital and textual, about a company's financial position and future prospects. It aims to examine how these reports have evolved over time and across industries, considering the objectives and policies outlined in China's national economic development plans. By investigating the changes and adaptations companies have made in response to these goals, as well as the broader economic and regulatory landscapes, this research seeks to provide a nuanced understanding of corporate reporting dynamics in China.

The primary objective of this research is to analyze the temporal and industrial dynamics within the annual reports of Chinese listed companies, within the context of the 12th and 13th Five-Year Plans. By examining reports from different time periods and industries, the study aims to identify trends, shifts, and sector-specific practices in reporting, aligned with the strategic objectives outlined in these national plans. Additionally, it seeks to answer the following questions:

How have the keywords in the annual reports of Chinese real estate companies changed over time, compared to BNC?

What are the specific reporting practices and trends in industries such as real estate, manufacturing, finance, and technology, across various time periods, in light of the strategic objectives set forth in the national economic development plans?

### 2. Literature Review

Corpora have become valuable tools for applications in various fields. The term "corpus" originated from Latin and was initially used in linguistic research. The earliest definition of a corpus can be traced back to 1982, when Professor Francis of Brown University (1982) described a corpus as a collection of texts used for language analysis, representative of a particular language, dialect, or specific aspect of a language. Later, Professor J. Sinclair from the University of Birmingham (1991) in the UK proposed his own definition of a corpus— a naturally occurring collection of language used to reflect the state and changes of a language. Professor Mona Baker from the University of Manchester (1993) was the first to apply corpora to translation studies. In her paper *Corpus Linguistics and Translation Studies: Implications and Applications*, she elaborated on the theoretical value, practical significance, and specific pathways for using corpora in translation studies. This paper is hailed as the seminal work in corpus-based translation studies, sparking a surge of research in the field.

The annual report plays a crucial role in communicating and shaping the reputation of companies to the public. According to Fulkerson's (1996) research on the importance of annual reports to investors, two-thirds of portfolio managers and 54% of security analysts consider annual reports the most important document a public corporation can produce.

Gui (2006) believed that high-frequency words refer to words that are frequently used during a specific period. These words are characterized by high usage, wide distribution, strong stability, broad circulation, and a strong combinatory ability. According to statistics from the Brown Corpus, the top 3,000 words cover 84% of the text, with the top 1,000 words covering 72%.

While there is some existing literature on the English translation of corporate annual reports based on corpus analysis, much of the domestic research in corpus-based translation studies has focused on literary genres, with comparatively little attention given to non-literary genres, especially corporate texts. The translation of corporate profiles has attracted increasing scholarly attention in recent years, with most studies adopting qualitative research methods. These studies primarily focus on the differences between Chinese companies and foreign-listed companies in three areas: vocabulary, syntax, and discourse. However, there is a lack of sufficient literature on the diachronic analysis of annual reports from China.

Therefore, this study aims to fill this gap by constructing a corpus of annual reports from China's real estate industry and analyzing its linguistic changes. The study will focus on the use of high-frequency words and their changes over time to reveal industry trends and the evolution of language styles. Through this method, we can gain a deeper understanding of the linguistic characteristics of corporate annual reports and how these characteristics reflect the business conditions and market strategies of enterprises.

### **3. Methodology**

This research builds a specialized corpus of annual reports from listed companies in China, covering the period from 2001 to 2021. For in-depth analysis, we divide the corpus into four periods, each defined by the national Five-Year Plans. We then use corpus analysis tools, such as AntConc (2023) and WordSmith (2009), to examine patterns within the corpus. Wei (2002) believed that the keyword table function of AntConc is useful for analyzing high-frequency words to explore the themes and content features of the corpus.

First, we compare the corpora of companies within the same industry across different time periods by creating keyword lists. For example, Zhang Xuhua (2021) published *Patterns and Meanings of High-Frequency Nouns in English and Chinese*. Through corpus-driven research, the book analyzes the typical usage of high-frequency nouns in both languages, exploring the pragmatic meanings they convey, the attitudes of language users, and the co-selective relationships between form and meaning. It also innovatively compares the use and meanings of semantically corresponding nouns in English and Chinese. Creating keyword lists enables us to observe changes and trends in the industry over time.

Secondly, by analyzing the collocations of words that show significant differences, we further investigate the reasons behind the changes in the industry. Firth (1957) said, "You shall know a word by the company it keeps." According to Firth, the law of companionship between lexical items, the mutual expectations and attractions between them, and the class associations of collocating elements are all formal properties of word collocation and key aspects of collocation research. The study of collocation focuses on lexical items. By observing, analyzing, and summarizing the typical behavior of words in a given context, we can identify their collocational partners, common grammatical forms, and associated meanings and functions. This approach helps us better understand the dynamics and mechanisms driving change within the industry.

Overall, these analyses provide a comprehensive understanding of the diachronic changes and differences in the real estate industry in China, offering valuable insights for future research and decision-making.

### **4. Results and Discussion**

In order to reveal the process of development of the real estate industry in China, we compared the annual reports with the BNC to generate the keyword lists in different periods. Then, the top frequency words were summarized to show the features of the real estate industry during the past two decades.

#### *4.1 Comparison between the Corpus of Annual Reports from Chinese Real Estate Industry and BNC*

First, we selected the annual reports of five publicly listed real estate companies from the 10th Five-Year Plan period (2001-2005) and built the Subcorpus 1, as our target corpus, focusing specifically on the "Management's Discussion and Analysis" section. The BNC corpus was used as the reference corpus. We generated a list of keywords by comparing the two corpora.

Table 1. The Keywords of Real Estate Companies during the 10th Five-Year Plan Period

Type	Rank	Freq_Subcorpus 1	Freq_BNC	Range_Subcorpus 1	Range_BNC	Keyness (Likelihood)
company	3	1765	0	28	0	2731.736
RMB	6	1006	0	28	0	1552.893
group	8	642	1	24	1	976.066
profit	10	576	0	28	0	887.803
year	11	680	21	28	1	885.797
capital	12	548	0	27	0	844.564
development	13	509	0	27	0	784.352
report	15	468	0	20	0	721.07
ltd	16	444	0	27	0	684.035
co	17	443	0	27	0	682.492
HK	18	400	0	16	0	616.154
property	19	385	0	25	0	593.017
board	19	385	0	21	0	593.017
directors	21	372	0	23	0	572.967
business	22	378	1	27	1	569.59
period	23	460	23	26	1	552.331
Shenzhen	24	322	0	19	0	495.87
project	25	335	2	26	1	493.901
sales	26	303	0	23	0	466.579
meeting	27	315	2	24	1	463.312

The top 10 keywords, "company," "RMB," "group," "profit," "year," "capital," "development," "report," "Ltd," and "Co.," highlight the real estate industry's emphasis on financial transparency and capital management. This focus on investment planning and company structure suggests a trend toward standardization and strategic management, particularly evident during the 10th Five-Year Plan period, which indicates an upward trajectory in the sector.

Next, we collected the annual reports of five listed real estate companies from the 11th Five-Year Plan period (2006-2010) and focused on the "Management's Discussion and Analysis" sections to build Subcorpus 2 as our target corpus. The BNC corpus was used as the reference corpus. Using AntConc, we generated a keyword list by comparing the two corpora, highlighting significant linguistic differences and trends.

Table 2. The Keywords of Real Estate Companies during the 11th Five-Year Plan Period

Type	Rank	Freq_Sub corpus 2	Freq_BNC	Range_Sub corpus 2	Range_BNC	Keyness (Likelihood)
company	5	3119	0	53	0	2389.389
RMB	6	2954	0	56	0	2262.364
group	8	2438	1	56	1	1850.262
year	10	1987	21	56	1	1334.057
development	12	1197	0	56	0	914.067
December	15	1089	0	40	0	831.446
approximately	16	1101	1	41	1	826.909
sales	18	1048	0	55	0	800.089
project	19	979	2	51	1	723.134
property	20	871	0	52	0	664.764
total	22	920	5	56	1	651.51
projects	23	848	0	53	0	647.186
profit	24	834	0	52	0	636.486
increase	26	994	22	56	1	597.093
business	27	797	1	56	1	595.143
area	28	788	1	41	1	588.288
management	29	741	0	56	0	565.424
construction	30	782	3	53	1	564.242
HK	31	716	0	29	0	546.325
financial	32	708	1	52	1	527.382

The top 10 keywords — "company," "RMB," "group," "year," "development," "December," "approximately," "sales," "project," and "property" — emphasize financial performance, project specifics, and market dynamics. This suggests a trend toward greater transparency and a strategic focus on growth and sales, particularly evident during the 11th Five-Year Plan period.

Next, we selected the annual reports of five listed real estate companies from the 12th Five-Year Plan period (2011-2015) and focused on the "Management's Discussion and Analysis" sections to create Subcorpus 3. The BNC corpus served as the reference corpus. Using AntConc, we generated a keyword list by comparing the two corpora to identify significant linguistic trends and shifts in focus during this period.

Table 3. The Keywords of Real Estate Companies during the 12th Five-Year Plan Period

Type	Rank	Freq_Sub corpus 3	Freq_BNC	Range_Sub corpus 3	Range_BNC	Keyness (Likelihood)
RMB	5	2612	0	59	0	2263.31
group	6	2539	1	55	1	2184.155
company	8	1964	0	58	0	1699.733
year	10	1762	21	59	1	1339.882
development	11	1240	0	59	0	1071.688
December	12	1029	0	45	0	888.975
project	13	1051	2	48	1	883.142
sales	14	1006	0	59	0	869.067
property	17	911	0	54	0	786.857
total	18	892	5	58	1	719.016
properties	20	818	0	50	0	706.407
approximately	23	755	1	38	1	638.763
area	24	742	1	39	1	627.557

management	25	690	0	59	0	595.726
projects	25	690	0	57	0	595.726
profit	28	638	0	55	0	550.777
land	29	608	0	55	0	524.848
investment	30	597	0	59	0	515.342
HK	31	593	0	27	0	511.885
business	32	588	1	59	1	494.904

The top 10 keywords - "RMB," "group," "company," "year," "development," "December," "project," "sales," "property," and "total" - primarily reflect financial aspects. Notably, the emphasis on terms related to development and growth indicates that the real estate industry experienced an upward trend during the 12th Five-Year Plan period.

Finally, we selected the annual reports of five listed real estate companies from the 13th Five-Year Plan period (2016-2020) and focused on the "Management Discussion and Analysis" sections as the Subcorpus 4. The BNC corpus served as the reference corpus, and we utilized AntConc to generate the keyword list comparing the two corpora. This analysis aimed to identify significant trends and shifts in focus within the real estate sector during this period.

Table 4. The Keywords of Real Estate Companies during the 13th Five-Year Plan Period

Type	Rank	Freq_Sub corpus 4	Freq_BNC	Range_Sub corpus 4	Range_BNC	Keyness (Likelihood)
RMB	4	3311	0	60	0	2812.749
group	5	3161	1	58	1	2668.57
year	8	2054	21	61	1	1550.671
development	10	1392	0	61	0	1178.339
company	11	1292	0	58	0	1093.486
December	12	1226	0	55	0	1037.501
property	13	1043	0	58	0	882.34
project	14	994	2	50	1	816.226
total	15	983	5	59	1	779.284
sales	16	876	0	61	0	740.836
business	17	871	1	61	1	723.187
billion	21	820	0	48	0	693.405
projects	22	807	0	58	0	682.396
management	23	781	0	60	0	660.379
increase	25	954	22	58	1	643.334
approximately	26	766	1	47	1	634.522
properties	27	701	0	54	0	592.647
land	29	674	0	55	0	569.792
investment	30	657	0	60	0	555.403
market	32	636	2	60	1	514.832

The top 10 keywords-"RMB", "group", "year", "development", "company", "December", "property", "project", "total", and "sales"-are primarily finance-related. Notably, the focus on terms indicating growth and development suggests that the real estate industry experienced an upward trend during the 13th Five-Year Plan period.

#### 4.2 Wordlist Analysis of the Annual Reports in Different Periods

We selected the Management Analysis and Discussion section from the annual reports of five companies during the 10th Five-Year Plan period (2001-2005) from the corpus of listed companies and used AntConc to generate a word list for this section during that period.

Table 5. The Top Frequency Words of Management's Analysis and Discussion from Real Estate Companies during the 10th Five-Year Plan Period

Type	Rank	Freq	Range
company	6	1765	28
RMB	8	1006	28
year	16	680	28
group	17	642	24
profit	19	576	28
capital	21	548	27
development	22	509	27
report	24	468	20
period	25	460	26
ltd	26	444	27
co	27	443	27
HK	28	400	16
board	29	385	21
property	29	385	25
business	33	378	27
directors	34	372	23
project	36	335	26
Shenzhen	38	322	19
total	40	318	28
meeting	41	315	24

The ten most frequently used words in the chairman's speech during this period include "company", "RMB", "year", "group", "profit", "capital", "development", "report", "period" and "ltd". These terms indicate the company's focus on financial performance and annual reports, showing the industry is experiencing stable growth and capital management, with an emphasis on profit and capital. It can also be inferred from "development" that the real estate industry was in an upward trend during this period.

Then, we selected the Management Analysis and Discussion section from the annual reports of five companies during the 11th Five-Year Plan period (2006-2010) from the corpus of listed companies and used AntConc to generate a word list for this section during that period.

Table 6. The Top Frequency Words of Management's Analysis and Discussion from Real Estate Companies during the 11th Five-Year Plan Period

Type	Rank	Freq	Range
company	7	3119	53
RMB	8	2954	56
group	11	2438	56
year	16	1987	56
development	21	1197	56
approximately	24	1101	41
December	25	1089	40
will	26	1071	54
sales	27	1048	55
increase	29	994	56
project	30	979	51
total	32	920	56
property	33	871	52

projects	34	848	53
profit	35	834	52
business	36	797	56
area	38	788	41
construction	39	782	53
management	40	741	56
HK	42	716	29

The ten most frequently used words in the chairman's speech during this period include "company," "RMB," "group," "year," "development," "approximately," "December," "will," "sales," and "increase." These terms reflect the company's focus on annual performance, sales growth, and future outlook, indicating that the industry is expanding steadily and actively planning for future development.

Similarly, we selected the "Management Analysis and Discussion" section from the annual reports of five companies during the 12th Five-Year Plan period from the corpus of listed companies and used AntConc to generate a word list for this section during that period.

Table 7. The Top Frequency Words of Management's Analysis and Discussion from Real Estate Companies during the 12th Five-Year Plan Period

Type	Rank	Freq	Range
RMB	8	2612	59
group	9	2539	55
company	12	1964	58
year	13	1762	59
development	21	1240	59
project	22	1051	48
December	23	1029	45
sales	24	1006	59
property	27	911	54
total	28	892	58
will	29	854	59
properties	31	818	50
approximately	33	755	38
area	34	742	39
management	36	690	59
projects	36	690	57
increase	38	686	55
profit	39	638	55
land	40	608	55
investment	42	597	59

The ten most frequently used words in the chairman's speech during this period include "RMB," "group," "company," "year," "development," "project," "December," "sales," "property," and "total." These high-frequency words reflect the real estate industry's focus on financial performance, project progress, and annual summaries, indicating the industry's emphasis on capital operations, corporate structure, and market sales trends.

Finally, we selected the "Management Analysis and Discussion" section from the annual reports of five companies during the 13th Five-Year Plan period from the corpus of listed companies. Using AntConc, we generated a word list for this section during that period.

Table 8. The Top Frequency Words of Management's Analysis and Discussion from Real Estate Companies during the 13th Five-Year Plan Period

Type	Rank	Freq	Range
RMB	6	3311	60
group	7	3161	58
year	12	2054	61
development	19	1392	61
company	20	1292	58
December	21	1226	55
property	23	1043	58
project	24	994	50
total	26	983	59
increase	27	954	58
sales	30	876	61
business	31	871	61
billion	33	820	48
will	33	820	60
projects	35	807	58
management	36	781	60
approximately	37	766	47
properties	38	701	54
land	39	674	55
investment	40	657	60

The ten most frequently used words in the chairman's speech during this period include "RMB", "group", "year", "development", "company", "December", "property", "properties", "project" and "total". These high frequency words show that the real estate industry focuses on financial performance, project management and annual summary, reflecting the industry's continuous attention to capital operation, asset management and project development.

## 5. Conclusion

Based on an in-depth analysis of the corpus, we conclude that the real estate industry in China has shown an overall upward development trend. Despite the various challenges encountered during the industry's development, steady growth momentum has been maintained. This growth can be attributed to positive shifts in both the domestic and international economic environments, as well as strong policy support for the real estate market.

Indeed, the results of this analysis are highly consistent with the observed facts, further demonstrating the value and effectiveness of corpus analysis in revealing industry trends and predicting future developments. By conducting a thorough analysis of the vast amounts of data in the corpus, we can more accurately grasp the industry's development context and trends, thereby providing strong support for decision-making.

Therefore, corpus analysis has become an invaluable tool for various types of research. It not only helps us understand the current state and future directions of the industry but also offers valuable data-driven insights. It is believed that, in future research, we will continue to fully leverage the advantages of corpus analysis, contributing further insights and support to the industry's development and progress.

## References

- Anthony, L. (2023). *AntConc* (Version 4.2.4) [Computer software]. Waseda University. <https://www.laurenceanthony.net/software>.
- Baker, M. (1993). *Corpus Linguistics and Translation Studies: Implications and Applications*. In M. Baker, G. Francis, & E. Tognini-Bonelli (Eds.), *Text and Technology: In honor of John Sinclair*. Amsterdam (pp. 233-250). John Benjamins. <https://doi.org/10.1075/z.64.15bak>.



- Firth, J.R. (1957) *Papers in linguistics 1934–51*. Oxford: Oxford University Press.
- Fulkerson, J. . (1996). How investors use annual reports. *American Demographics*, 18(5), 16-19.
- Francis N. (1982). Problems of assembling and computerizing large corpora. In *Computer Corpora in English Language Research*. Bergen: Norwegian Computing Centre for the Humanities.
- Fuoli, M. (2017). Building a trustworthy corporate identity: a corpus-based analysis of stance in annual and corporate social responsibility reports. *Applied Linguistics*, 39(6), 846-885.
- Gui, S. (2006). An overview of English vocabulary learning: Answers to common questions. *Foreign Language World*, 01, 57-65. [In Chinese: 桂诗春. (2006). 英语词汇学习面面观——答客问. 外语界(01), 57-65.]
- Scott, M. (2009). *WordSmith Tools* (Version 5) [Computer software]. Lexical Analysis Software.  
<http://www.lexically.net/wordsmith/>
- Sinclair J. (1991). *Corpus, Concordance, Collocation*. Oxford: Oxford University Press.
- Wei Naixing. (2002). Corpus-based and corpus-driven word Collocation Research. *Contemporary Journal of Linguistics*, 4(2), 101-114,157. [In Chinese: 卫乃兴. (2002). 基于语料库和语料库驱动的词语搭配研究.当代语言学, 4(2), 101-114,157.]
- Zhang Xuhua. (2021). *Patterns and meaning of High Frequency Nouns across English and Chinese*. Shanghai: Shanghai Foreign Language Education Press. [In Chinese: 张绪华. (2021). 型式与意义——语料库驱动的英汉高频名词对比研究. 上海: 上海外语教育出版社]





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