

**(IJ-06) International Agricultural Branding Ecosystem: An Analysis of East Asian
Tea Performance in USA Through E-partnership**

Xiuli Chen^{1*}, Wei Ding², Song Yang³, Tao Wang⁴, Tiantian Zheng¹, Yupo Wang⁵, Xueying Zhang¹, Xin Li¹, Kesu Lin⁶, Yi He⁴, Joohan Ryoo⁴

¹. College of Global Talents, Beijing Institute of Technology Zhuhai, China

². Modern Management School, Zhejiang Industry and Trade Vocational College, Wenzhou, China

³. Liberal & Arts college university of Illinois at Urbana- Champaign, USA

⁴. Graduate School of International Studies, Hanyang University, Seoul, South Korea

⁵. School of Management, Jinan University, Guangzhou, China

⁶. College of Agricultural & Biotechnology, Zhejiang University, Hangzhou, China

*Corresponding author: Xiuli.chen@cgt.bitzh.edu.cn

ABSTRACT

Several Asian nations with rare land per capita - but high birth rates - have flourished by transferring individuals out of agriculture and towards non-agricultural productivity. However, advances in science and technology generate new methods and prospects to add to the development of agriculture. The rapid expansion and development of internet and personal, mobile terminal technology can help tea brands to meet the challenges driven by the upgrading markets and other participants through obtaining a more competitive stratagem. This study aims to recognize the branding strategies that expand values of the agricultural products especially tea in East Asia. How those teas perform in American market online are inspected by collecting public data related to consumers such as tea price, rating etc. For international branding in agriculture to enhance the brand *performance* in the era of digitalization, this research looks at ways to strategize *partnership, patent, place, product, professionalism* and *people* (7P) of tea brands. The Linear Model applying R language among brand performance (price) and strategies of product, patent, professionalism, people, place and partnership are analyzed proving the significant roles of place, patent and partnership.

Keywords: 7P, place branding, strategic brand management, sustainability, tea quality

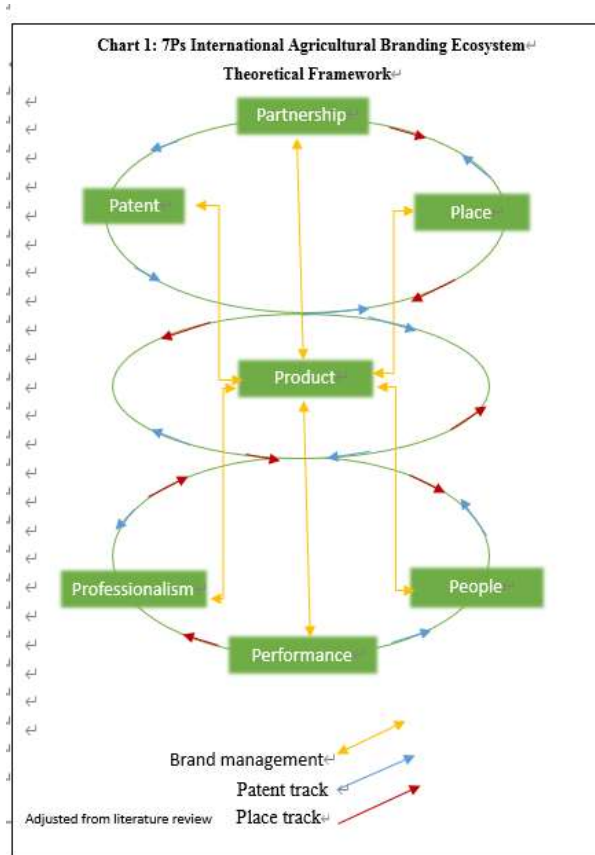
Introduction

Several Asian nations with rare land per capita - but high birth rates - have flourished by transferring individuals out of agriculture and towards non-agricultural productivity. Since 1970, China, Indonesia, Malaysia, and South Korea have prioritized urbanization by supporting structural renovation but have not yet transformed agriculture; however, advances in science and technology generate new methods and prospects to add to the development of agriculture (Laborde et al., 2019). Tea is one of the most significant “money plants” in East Asia (Chen, 2020). Record-keeping a CAGR of 6.6% from 2020 to 2027, whose green tea section was the chief contributor to the market, with \$16,362

million in 2019, and is projected to reach \$26,110 million by 2027, at a CAGR of 9.8% during the prediction period (Kumar and Deshmukh, 2020).

Branding Strategies of 7Ps (see Chart 1)

7Ps strategies were developed for the tea industry which emphasized the importance of product, professionalism, partnership, place, performance, patent and people while directing international branding activities as well as brand performance management (Chen et al., 2022).



To promote product sales, a healthy image of tea can be established by associating the major health concerns in East Asia with the functions and benefits of the tea. In addition, enterprises could promote value added teas through innovation and differentiation by upgrading its technology in the stages of planting, processing, preservation, and packaging which are primary to guarantee quality consistence, quality reliability, quality stability (Xue et al., 2017). In order to build resilience to climate change and to gain food security, enterprises could aim at adapting climate-smart agriculture technology to ensure tea quality as well as the cost reduction of tea production (FAO, 2017). Since consumer tastes are not identical around the world (Terpstra, 1983), the innovation of diverse tea products shall support the preferences of major customers in East Asia. The establishment of standard procedures in cultivation, growth, harvesting and processing is needed not merely to maintain product quality (Huang and Hsieh, 2011) that helps the brand products meet regional standard, national standard and international export standards, but also to strengthen

brand identities (Mano Raj, 2021). Therefore, it is assumed that the strategy of *product* branding is central to the brand performance of tea industry.

Employees, who's professional skills, and knowledge provide a sustainable competitive advantage for organizations (Punjaisri and Wilson, 2011), are also considered brand ambassadors and internal stakeholders, as they are pivotal for the execution of brand strategies (Pramod et al., 2018) and creating corporate brand equity (Balmer and Wilkinson, 1991). The human capital (i.e., internal branding) represents the organization's commitment to living the brand values and delivering on its brand promise (Mitchell, 2002). It is therefore crucial for tea enterprises to make every worker an expert of tea and the brand to better satisfy their customers internationally through the training and workshops on quality requirements of tea, health benefits, technologies adopted, history and culture of the tea origin, story of brand, and the tea culture of major international consumer groups. Furthermore, to bring consistency in tea quality, it is necessary to achieve standardization by providing training on the cultivation practices, pest management, nutritional management, and standard procedures in production (Mano Raj, 2021). Thus, the level of *professionalism* affects the brand performance of tea industry.

The mutual support of corporate partners is essential to sustain effective communication of the value chains and joint efforts of the chain members, so that partners can upgrade together over time to secure long-term collaboration (MacCormack et al., 2007). Traditional tea orchards, normally faced with the problem of unstable quality and quantity due to lack of capital, market information, technical knowledge, and standard production (Huang and Liang, 2018), might hinder the long-term partnership with the tea enterprises. There is a strong relationship between corporate branding strategy and international operations (Rodrigues et al., 2017) as branding stands out for firms operating in international markets (Chbosky et al., 2013). The strategy of *partnership* noteworthy to the brand performance of tea industry is significant for building the international branding ecosystem for agricultural products in East Asia.

As the work of branding place such as a country is different from that of branding a region or city (Caldwell and Freire, 2004), tea industry may benefit from adopting both national branding strategy and region/city strategy. Product-place co-branding, which is closely related to country of origin (COO) branding, was applied to market the "Swiss watches" by associating the products with the country Switzerland, where people are seen as professional, reliable, and demanding (Ranasinghe et al., 2017). The country image enables consumers to associate information with the people, products, and culture of a country (Rojas-Méndez, 2013), and represents quality that guides consumers behavior (Verlegh and Steenkamp, 1999). Moreover, it is evident that regional images make consumers gladly pay a price premium for regionally named products (Skuras and Vakrou, 2002) with the characteristics of a specification of production methods, raw materials, and possession for anti-imitation and to create public awareness (Dimara and Skuras, 2005). Therefore, it is predicted that the strategy of *place* branding is noteworthy to the brand performance of tea industry.

Patent protection is to promote inventions as it safeguards the legitimate rights and interests of creators and could become the core strategy for enterprises to seize the market(Liu and Lian, 2018) The issue for tea enterprises in East Asia, such as China, is that they only register trademarks and do not have patents on the formula, process, technology used in production, which make it harder to compete in the fierce market competition due to the ineffective management of the quality of patents(Liu and Lian, 2018) . Tea industries may apply a trademark, called Geographical Indicator (GI), which is used for intellectual property protection on products that have a specific geographical origin to differentiate the corporate brand from another by its distinctive identity and image(Roderick et al., 2016) and possess high qualities to lower consumers' search costs, therefore, firms may charge premium price(Loureiro and McCluskey, 2000), leading to higher profit, which is one of the indicators for effective brand performance. Beyond all the doubts, it is implicit that the strategy of *patent* protection is imperative to the brand performance of tea industry. A healthy ecosystem that integrates *people* such as all stakeholders and handles human resources properly helps sustain development of the industry. Similarly, promoting quality of life and welfare of vulnerable groups (e.g., workers, farmers, and consumers (Tselempis et al., 2020)) raises attention of the government authorities and human rights organizations whose objective is to eliminate hunger and poverty in the rural community (Pedro, 2019). The number of farmers has reduced due to low income, which poses serious challenges for the sustainable development of agriculture in China(Huang and Liang, 2018) Government policies and enterprises help improve the cultivation and processing of tea products(Huang and Liang, 2018) and workers through land circulation to earn fixed wages and rent, to gain professional training and qualification improvement that build internal branding which facilitates brand performance. Another way to increase farmers' auxiliary income is to have them participate in the tourism related services(Fleischer et al., 2018) so that farmers can obtain greater returns from tea production and diversified operations through the integration of the first, second, and third industries with the governmental provision of the proper training that helps farmers successfully switch career paths (such as become bakers, waiters of the restaurants). Enterprises' social activities signal product quality that spurs consumers purchasing behavior (Pankiw et al., 2021,) which generates profits and non-profit gains such as consumer satisfaction (Richard, 1987) reputation and brand image (Srivastava, 2019). Tea enterprises that commit to more eco-friendly production and biodegradable packaging, gain trust of consumers who care about environmental sustainability (Tom, 2019), which increases corporate reputation (Dowling, 2004) and profits (Srivastava, 2019).

Materials and Methods

This research recognizes the branding strategies that expand values of the agricultural products in East Asia, with focus on the branding strategies that are affecting the brand performance in the tea industry. It discusses the relationships among 7Ps in order to develop an international branding ecosystem for agricultural products in East Asia based on an analysis of tea industry.

The quantitative approach for this research includes the assumption whether the response variable, such as scores, product types, rating no. and ranking. The independent variable is price. This research will analysis the relationship between response variable and independent variables which are linear or not. the optimal linear regression to minimize

the error terms which can be calculated by response variables minor calculation of independent variables combination as below (see Figure 1). The reason to analyze the relationship between price and independent variables is to get insights which factors are significantly driving the price and tea business.

$$y_i = \beta_0 + \beta_1 x_{i1} + \cdots + \beta_p x_{ip} + \varepsilon_i = \mathbf{x}_i^T \boldsymbol{\beta} + \varepsilon_i, \quad i = 1, \dots, n,$$

$$\mathbf{y} = \begin{pmatrix} y_1 \\ y_2 \\ \vdots \\ y_n \end{pmatrix} \quad X = \begin{pmatrix} \mathbf{x}_1^T \\ \mathbf{x}_2^T \\ \vdots \\ \mathbf{x}_n^T \end{pmatrix} = \begin{pmatrix} 1 & x_{11} & \cdots & x_{1p} \\ 1 & x_{21} & \cdots & x_{2p} \\ \vdots & \vdots & \ddots & \vdots \\ 1 & x_{n1} & \cdots & x_{np} \end{pmatrix}, \quad \boldsymbol{\beta} = \begin{pmatrix} \beta_0 \\ \beta_1 \\ \beta_2 \\ \vdots \\ \beta_p \end{pmatrix}, \quad \boldsymbol{\varepsilon} = \begin{pmatrix} \varepsilon_1 \\ \varepsilon_2 \\ \vdots \\ \varepsilon_n \end{pmatrix}.$$

Fig. 1: Linear Regression Mathematical Expression

Variables

Price: price of the product, which is used to analyze the brand Performance;

Product Sort type: three types of sorting available through E-partnership, which is used to demonstrate how specifically e-partnership arrange the Product. Type1: Best Review; Type 2: highest price to lowest; Type3: means lowest price to highest.

rating No.: the website shows the number of people who have rated the product after purchase, which is used to analyze the dimension of People;

Scores: rating all products and services in the store, which is used to analyze the dimension of Professionalism;

Ranking: the ranking achieving in the department of grocery at Amazon, which is used to analyze the dimension of product;

The origin of tea: whether the website shows the origins of the tea product, which is used to analyze the dimension of Place;

Data Collection & Processing

Stage 1: types of tea available in East Asian country

Public data on types of tea available in diverse areas of each East Asian country such as China, Japan and South Korea are collected from the website RateTea.com. International tea brands working with local tea industries are explored in each province where produces tea. The partnership with international tea brands will be compared among East Asian regions.

Stage 2: Teas at Amazon

Through tracking the brand strategies of patent and place, this research examines the performance of tea available at Amazon (the strategy of E-partnership) sort by three product categories (highest to lowest price, lowest to highest price and customer review) by doing regression analysis on the relationship between the brand performance and the strategies of product, professionalism, people, place, patent and partnership after collecting public data related to consumers from Amazon USA such as tea price, rating etc. For international branding in agriculture to enhance the brand *performance* in the era of digitalization, this research looks at ways to strategize *partnership, patent, place, product, professionalism* and *people* (7Ps) of tea.

This research collects data of 94 products available at Amazon in USA for regression analysis on brand performance (price) and dimensions of rating no., scores, product type, origin, amazon price. The assumption of this model is whether the response variable and the independent variables are linear relationship. And the main idea of optimal linear regression is to minimize the error terms. The error terms can be calculated by response variables minor calculation of dependent variables combination.

Results

Types of Tea available in East Asian country

Internationally in the 19th and 20th centuries, tea production and alcohol drinking became more commercialized, especially with the introduction of abstinence (Tamizselvan et al., 2020). The changing aspects of tea manufacturing, importing, and exporting are recognized in terms of the chief players and producers of the national tea market, deviations in consumer favorites and the variety of this product group (Елисеев et al., 2020). The research find out in East Asia, both China and Japan imported more than \$160 million tea, which are over 6.5 times more than South Korea did, however, China exported \$1.75 billion tea which was 1000 times more than Japan did in 2020 (see table 1). South Korea exported 6 times more than Japan, showing that Japan is an import-oriented tea consumption country even though Japan has more places producing tea than South Korea (see table 2). Moreover, the research result from the first stage on types of tea available in East Asian country shows that most of the teas do not develop their E-partnership (see table 2).

Table 1: Tea Trading in East Asia (2020)

Country	Import (2020)	Export (2020)
China	\$176M	\$1.75B
South Korea	\$24.8M	\$7.35M
Japan	\$160M	\$1.59M

Source: The Observatory of Economic Complexity (OEC)

Table 2: Tea Industry in East Asia

Country	Region	Tea-producing Place No.	Tea Style No.	Tea Brand No.	Brand No. Available at Amazon	Brand No. Not Available at Amazon USA
South Korea	Hadong	1	3	6	1	5
South Korea	Jeju	1	4	6	2	4
South Korea	South Jeolla	1	3	2	0	2
Japan	Aichi	1	4	5	1	4
Japan	Gifu	1	1	1	1	0
Japan	Kanagawa	1	3	1	0	1
Japan	Kyoto	1	10	11	3	8
Japan	Miyazaki	1	4	3	1	2
Japan	Saga	1	4	5	2	3
Japan	Tokushima	1	1	1	0	1
Japan	Fukuoka	1	6	4	2	2
Japan	Kagoshima	1	11	15	7	8
Japan	Kumamoto	1	6	2	1	1
Japan	Nara	1	1	1	1	0
Japan	Shizuoka	1	14	13	4	9
Japan	Toyama	1	1	1	0	1
China	Guangdong	1	6	19	6	13
China	Guizhou	1	3	4	0	4
China	Heilongjiang	1	1	1	0	1
China	Henan	1	17	28	9	19
China	Jiangsu	1	5	10	3	7
China	Hebei	1	8	11	6	5
China	Jiangxi	1	7	14	5	9
China	Hunan	1	17	27	9	18
China	Guangxi	2	7	14	3	11
China	Shandong	3	6	3	0	3
China	Anhui	4	18	47	11	36
China	Sichuan	4	8	15	1	14
China	Zhejiang	5	18	47	12	35
China	Taiwan	7	14	11	2	9
China	Fujian	8	18	86	29	57
China	Yunnan	16	18	67	19	48

Source: Data summarized from RateTea.com

Moreover, the influence of national tea supply-demand is dependent upon the annual increase in price with additional revenue needed to encourage product competitiveness and spawn new ideas around manufacturing and commercial efforts via internet (Dou et al., 2021). These efforts are imperative for the future expansion of tea industry. Futures tea markets depend on an evolution in tea assessment from socially entrenched price stories to standardized price circumstance (Besky, 2016). It is proved in this research by tracking both *patents* /brands working with East Asia to

check these tea brand performances in USA and *place-oriented* tea branding strategies though *E-partnership* at Amazon in USA.

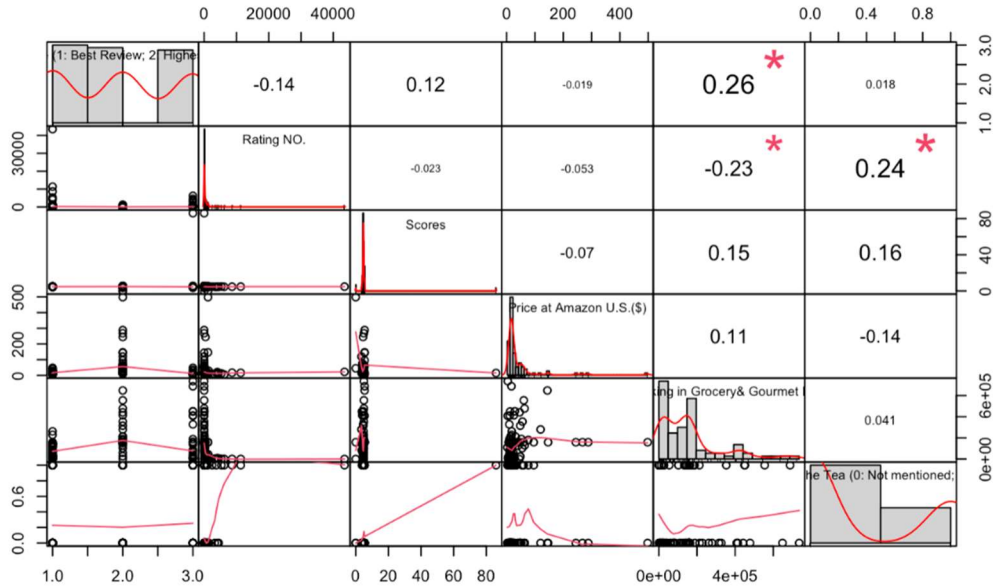
Teas Brand Analysis at Amazon

After collecting the data from Amazon, variables such as product type, rating no., scores, origins, and ranking are considered as the independent variables. Below (Figure 2) is the dataset on products tracking the tea patents/brands at Amazon. Before applying these data to the linear regression model, the steps such as omitting the outliers, supplementing blank cells with mean of that columns need to be completed, considering the correlation of each variables in order to prevent the highly correlated variables influencing the final linear regression. From the Figure 3, the result shows that the variables are not vary related which is useful to apply them to the linear regression model.

Fig.2: Products at Amazon Tracking Patents (USA)

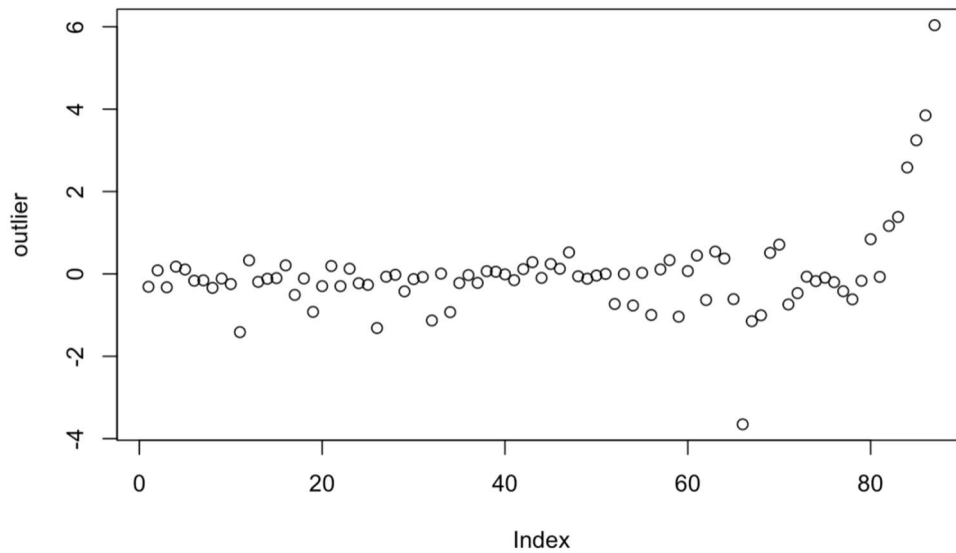
Product Name	Product Type (1: Best Review; 2: Highest; 3: Lowest)	Rating NO.	Scores	Price at Amazon U.S. (\$)	Ranking in Grocery& Gourmet Food	The Origin of the Tea (0: Not mentioned; 1: mentioned)
Ito En Oi Ocha Green Tea, Unsweetened, 16.9 Ounce Bottle	1.0	285.0	4.8	2.3	109534.0	0.0
Stash Tea Peppermint Herbal Tea, 20 ct	3.0	2478.0	4.7	3.0	83,119	1.0
Plum Dragon Herbs, Immortali-Tea, Herbal Loose Leaf Green Tea Blend (Camellia sinensis), Anti-aging properties, antioxidants and nutrients to help the mind, body and soul (1 oz)	3.0	0.0	5.5	3.8	408386.0	0.0
Bamboo Tea House Herbal Inspiration Mint Tea (2 Ounce Bag)	3.0	1.0	5.0	4.0	735899.0	0.0
The Tao of Tea, Pearl Green Tea, Loose Leaf, 4.0 Ounce Tin	3.0	1115.0	4.6	5.0	12557.0	1.0
Numi Organic Tea Rooibos Chai, 18 Count Box of Tea Bags, Herbal Teasan, Caffeine-Free (Packaging May Vary)	3.0	6214.0	4.6	5.2	983.0	1.0
Twinings of London "Fujian Chinese Pure White Tea" : Box of 20 Tea Bags	3.0	963.0	4.5	6.2	19838.0	0.0
Goji Herbal Tea by Health King - Nourishes Liver & Kidney - (1 Pack, 20 Count Teabags, with Non-GMO, Vegan, Goji Berry & Leaf, Polygonatum Root, Eleuthero Leaf, Perilla Leaf, Prunella Vulgaris)	3.0	105.0	4.6	7.0	158501.2	0.0
Uncle Lee's Tea Organic Tea, Bamboo Lemon Ginger, 18 Count	1.0	62.0	4.6	7.6	158501.2	0.0

Fig.3: Variables Correlation Check Tracking Patents (USA)



When using the r standard function, there are some outliers in this dataset (Figure 4). After deleting these data, the new dataset can be used to build the linear regression model.

Fig.4: Graph Identifying the Outliers Tracking Patents (USA)



After the clean and useful dataset has already been accomplished, the R language are used to do research analysis. From the summary of linear regression, the scale function needs to be used to minimize the error terms by

standardizing the data. The summary shows that product type and scores independent variables are significant which means that they are important to influence the price. When the product types are sorted from the highest to the lowest, the price level will increase, which is positive relationship. Regarding the scores, it will negatively influence the price (see Figure 5).

Fig.5: Tea Brand Performance Linear Regression Model by Tracking Patents (USA)

```
Call:
glm(formula = scale(dataset4$`Price at Amazon U.S.($)` ~ factor(dataset4$`Product Type (1: Best Review; 2: Highest; 3: Lowest)`) +
  scale(dataset4$`Rating NO.`) + scale(dataset4$`Scores`) + scale(dataset4$`Ranking in Grocery & Gourmet Food`) +
  factor(dataset4$`The Origin of the Tea (0: Not mentioned; 1: mentioned)`),
  data = dataset44)

Deviance Residuals:
    Min       1Q   Median       3Q      Max
-2.4312 -0.2492 -0.0813  0.0990  3.9889

Coefficients:
                    Estimate Std. Error t value Pr(>|t|)
(Intercept)          -0.51174    0.19419  -2.635 0.010094 *
factor(dataset4$`Product Type (1: Best Review; 2: Highest; 3: Lowest)`)2
                    0.89440    0.24677   3.624 0.000507 ***
factor(dataset4$`Product Type (1: Best Review; 2: Highest; 3: Lowest)`)3
                    -0.16293    0.24065  -0.677 0.500326
scale(dataset4$`Rating NO.`)
                    0.06153    0.09659   0.637 0.525915
scale(dataset4$`Scores`)
                   -3.41761    1.01198  -3.377 0.001133 **
scale(dataset4$`Ranking in Grocery & Gourmet Food`)
                    0.06754    0.10430   0.648 0.519155
factor(dataset4$`The Origin of the Tea (0: Not mentioned; 1: mentioned)`)1
                   -0.25828    0.20997  -1.230 0.222267
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

(Dispersion parameter for gaussian family taken to be 0.7379846)

Null deviance: 91.196  on 86  degrees of freedom
Residual deviance: 59.039  on 80  degrees of freedom
(6 observations deleted due to missingness)
AIC: 229.16

Number of Fisher Scoring iterations: 2
```

Below (Figure 6) is the dataset on products tracking the tea places at Amazon. Before applying these data to the linear regression model, the steps such as omitting the outliers, supplementing blank cells with mean of that columns need to be completed, considering the correlation of each variables in order to prevent the highly correlated variables influencing the final linear regression. From the Figure 7 the result shows that the variables are not vary related which is useful to apply them to the linear regression model.

Fig. 6: Products at Amazon Tracking Places (USA)

Country	Product Place	Product Type(1: Best Review; 2: Highest price; 3:Lowest price)	Product Unit Price(Count/\$)	Rating NO.	Scores	Price at Amazon U.S.(\$)	Ranking in Grocery& Gourmet Food	The Origin of the Tea (0: not mentioned; 1: mentioned)
China	Taiwan	2.0	27.8	0.0	4.5	332.0	0.0	0.0
China	Yunnan	1.0	0.5	63473.0	4.8	22.0	33.0	1.0
China	Heilongjian	1.0	0.5	63473.0	4.8	22.0	33.0	1.0
Japan	Tokushima	3.0	27.8	3754.0	4.5	16.0	652.0	1.0
China	Anhui	1.0	3.5	11689.0	4.8	20.9	741.0	1.0
China	Jiangsu	1.0	3.5	11689.0	4.8	20.9	741.0	1.0
China	Fujian	1.0	3.5	11689.0	4.8	20.9	741.0	1.0
China	Henan	1.0	0.3	8853.0	4.8	27.5	1019.0	1.0
China	Guangdong	1.0	0.2	9831.0	4.8	19.7	1122.0	1.0
China	Guangxi	1.0	0.2	9831.0	4.8	19.7	1122.0	1.0
China	Guizhou	1.0	0.2	9831.0	4.8	19.7	1122.0	1.0
China	Sichuan	1.0	0.2	9831.0	4.8	19.7	1122.0	1.0
China	Jiangxi	1.0	0.2	9831.0	4.8	19.7	1122.0	1.0
China	Hunan	1.0	0.2	9831.0	4.8	19.7	1122.0	1.0
China	Hunan	2.0	0.2	9831.0	4.8	19.7	1122.0	1.0
China	Hunan	3.0	0.2	9831.0	4.8	19.7	1122.0	1.0

When using the r standard function, there are some outliers in this dataset (Figure 8). After deleting these data, the new dataset can be used to build the linear regression model.

The summary shows that product type and scores as the independent variables are significant which means that they are important to influence the price while tracking places. When the product types are sorted from the highest to the lowest, the price level will increase, which is positive relationship. Regarding the scores, it will negatively influence the price (see Figure 9). While tracking the place, teas from Japan are positively significant for influencing price.

Fig. 7: Variables Correlation Check Tracking Places (USA)

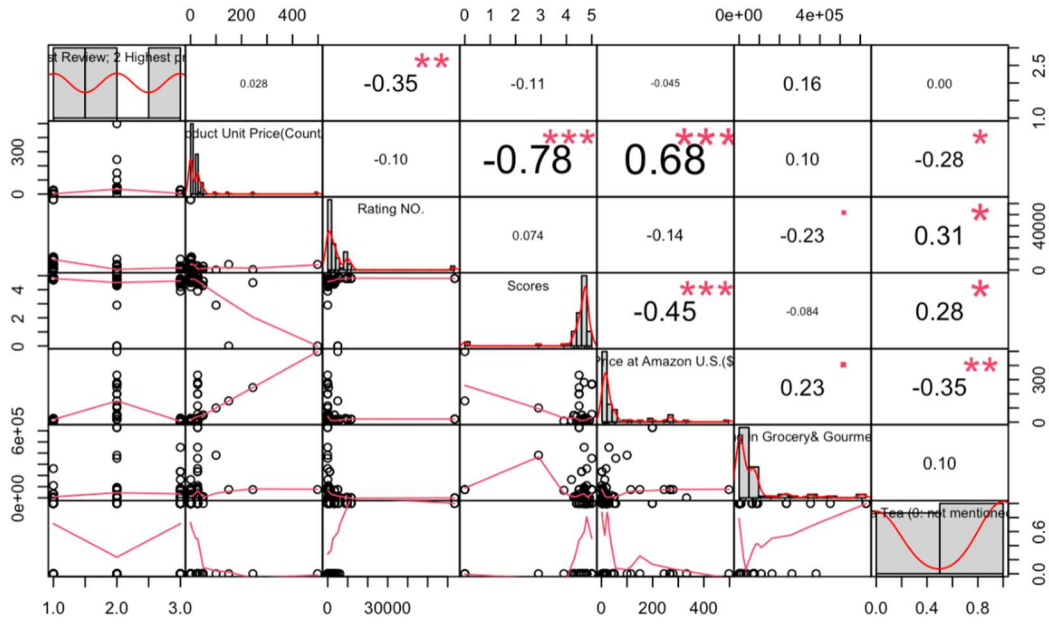


Fig.8: Graph Identifying the Outliers Tracking Places (USA)

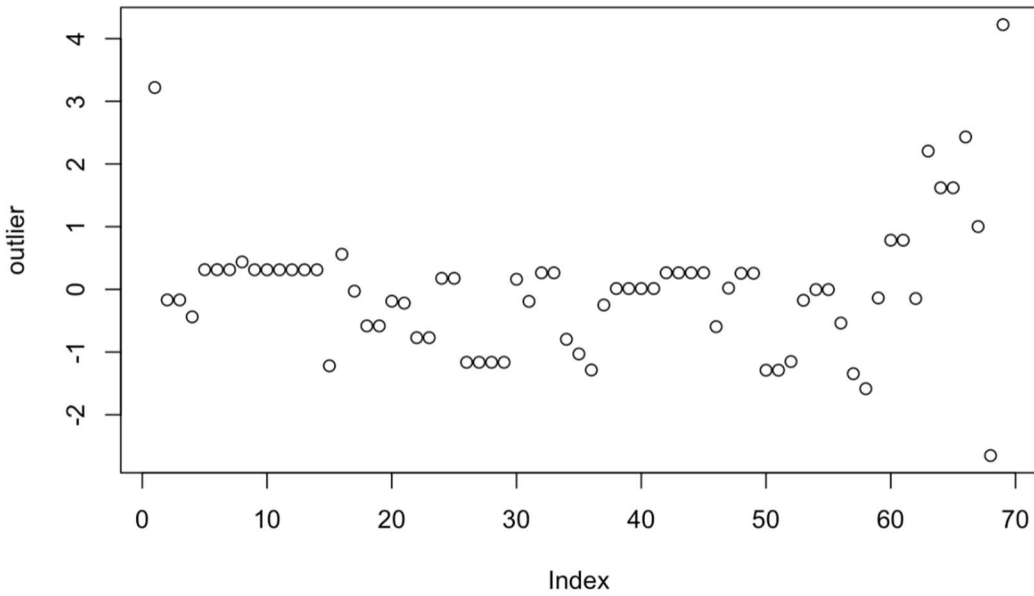


Fig. 9: Tea Brand Performance Linear Regression Model by Tracking Places (USA)

```

Call:
glm(formula = scale(dataset5$`Price at Amazon U.S.($)` ~ factor(dataset5$`Product Type(1: Best Review; 2 Highest price; 3:Lowest price)` +
  scale(dataset5$`Rating NO.`) + scale(dataset5$Scores) + scale(dataset5$`Ranking in Grocery& Gourmet Food`) +
  factor(dataset5$`The Origin of the Tea (0: not mentioned; 1: mentioned)` +
  factor(dataset5$Country), data = dataset55)

Deviance Residuals:
    Min       1Q   Median       3Q      Max
-1.38466  -0.37670   0.00884   0.21549   2.20548

Coefficients:
              Estimate Std. Error t value Pr(>|t|)
(Intercept)      -0.31064    0.23411  -1.327  0.18957
factor(dataset5$`Product Type(1: Best Review; 2 Highest price; 3:Lowest price)`2  1.03354    0.25884   3.993  0.00018 ***
factor(dataset5$`Product Type(1: Best Review; 2 Highest price; 3:Lowest price)`3 -0.16979    0.22988  -0.739  0.46303
scale(dataset5$`Rating NO.`)              0.06562    0.10169   0.645  0.52124
scale(dataset5$Scores)                    -0.25979    0.09902  -2.624  0.01102 *
scale(dataset5$`Ranking in Grocery& Gourmet Food`)  0.11243    0.09701   1.159  0.25109
factor(dataset5$`The Origin of the Tea (0: not mentioned; 1: mentioned)`1 -0.16749    0.21021  -0.797  0.42873
factor(dataset5$Country)Japan              0.57449    0.26752   2.147  0.03581 *
factor(dataset5$Country)South Korea       0.21621    0.25881   0.835  0.40681
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

(Dispersion parameter for gaussian family taken to be 0.5055194)

Null deviance: 68.000  on 68  degrees of freedom
Residual deviance: 30.331  on 60  degrees of freedom
AIC: 159.1

Number of Fisher Scoring iterations: 2

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Fig. 10: Tea Harvested Area and International Tourism (East Asia)

Year	Region	Tea Harvested Area (m)	International Tourism (number of arrivals)
2000	China	0.898012	31229000
2000	Japan	0.050400	4757000
2000	South Korea	0.001179	5322000
2001	China	0.905662	33167000
2001	Japan	0.050100	4772000
2001	South Korea	0.001825	5147000
2002	China	0.913100	36803000
2002	Japan	0.044800	5239000
2002	South Korea	0.001391	5347000
2003	China	0.943400	32970000
2003	Japan	0.049500	5212000
2003	South Korea	0.001400	4753000
2004	China	1.000162	41761000
2004	Japan	0.049100	6138000
2004	South Korea	0.001400	5818000

Above (Figure 10) is the dataset on tea harvested area and the number of arrivals of international tourism. Before applying these data to the linear regression model, the steps such as omitting the outliers, supplementing blank cells with mean of that columns are completed, considering the correlation of each variable in order to prevent the highly correlated variables influencing the final linear regression. For this linear regression analysis (Figure 11), the independent variables are year, region/place and international tourist number of arrivals, and the response variable is

tea harvested area. The result shows that the number of arrivals and regions/ places in the East Asia are positively significant variables that will influence the tea harvest area.

Fig. 11: Tea Harvested Area Linear Regression (East Asia)

```
Call:
glm(formula = scale(dataset3$`Tea Harvested Area (m)`) ~ scale(Year) +
    factor(Region) + scale(dataset3$`International Tourism ( number of arrivals)`),
    data = dataset3)

Deviance Residuals:
    Min       1Q   Median       3Q      Max
-0.61774 -0.17850  0.04124  0.14712  0.69761

Coefficients:
                    Estimate Std. Error t value Pr(>|t|)
(Intercept)          0.48166    0.27461   1.754  0.08568 .
scale(Year)           0.02601    0.07169   0.363  0.71833
factor(Region)Japan  -0.71148    0.40416  -1.760  0.08458 .
factor(Region)South Korea -0.73350    0.41679  -1.760  0.08467 .
scale(dataset3$`International Tourism ( number of arrivals)`) 0.62502    0.20291   3.080  0.00339 **
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

(Dispersion parameter for gaussian family taken to be 0.08513285)

Null deviance: 53.0000 on 53 degrees of freedom
Residual deviance: 4.1715 on 49 degrees of freedom
(2 observations deleted due to missingness)
AIC: 26.967

Number of Fisher Scoring iterations: 2
```

The tea industry plays a substantial role in improving remote regions by reducing poverty and securing food in many developing countries. Innovation in these regions can be encouraged by approving local policies that support manufacturers and dealers through financial venture, technology establishment, capacity construction, improvements to highway infrastructure and linking smaller farmers to other players along the tea supply chains (Chen, 2020). The above result (Figure 11) shows tea harvested areas in China play significant roles in affecting international tourism (number of arrivals) based on the data from 2007 to 2017 in a positive way. However, the tea harvested area plays a negative role in both Japan and South Korea in East Asia for international tourism.

Limitation and Conclusion

The weakness of this research is the limited sample size for the regression analysis due to the traditional manual way of data collections. The future research needs to focus on enlarging the data size and improving the analysis of the research by using Big Data method to maximumly avoid the mistakes in the process of data collection in a traditional manual way. Furthermore, Big Data method is better in providing a large picture of comparison among different teas, other agricultural products in different regions.

Exploring a new market, the new tea industry (such as cold brew tea, usage of tea bag) that is well-received by the youth born after year 1995, brings higher profits, as the higher market returns is expected with the adaption to the

future trends (Urde, 2016). According to the 2020 new tea white paper released by CBN data, the compound annual growth rate of the new tea market from 2017 to 2019 reached 48.75% (CBN Data, 2021). Developing new products such as product extensions (Liu, 2017) is a growth strategy for effective brand management for firms that seek high profitability (Balachander and Ghose, 2003), as it increases the consumption of existing customers and attracts new customers.

This is linked to increasing worldwide business since the growth of vigorous international branding and marketing proficiencies can empower the experts to exploit their inadequate capitals for ideal profits by concentrating on the core elements of their brand (Pyper et al., 2020). The more differentiating the agricultural product from competition, endorsing their qualities, and attracting long-standing loyal customers, the more increasing consumption of agricultural products is linked with a more sophisticated degree of brand appreciation and solid perceptions of its advantage to competitors (Baziana, 2019).

References

- Balachander, S. & Ghose, S. (2003). Reciprocal Spillover Effects: A Strategic Benefit of Brand Extensions, *Journal of Marketing*, 67(1), 4–13.
- Baziana, S. (2019). Branding Influence on Consumer Behavior Regarding Olive Oil. *Outlook on Agriculture*, 48(2), 152–156.
- Besky, S. (2016). THE FUTURE OF PRICE: Communicative Infrastructures and the Financialization of Indian Tea. *CULTURAL ANTHROPOLOGY*, 31(1), 4–29. doi : 10.14506/ca31.1.02
- Balmer, J. M. T. & Wilkinson. (1991). “Building Societies: Change, Strategy and Corporate Identity”, *Journal of General Management*, 17(2), 20–33.
- Caldwell, N. & Freire, J. R. (2004). The Differences Between Branding a Country, a Region and a City: Applying the Brand Box Model, *Journal of Brand Management*, 59, published online at: <https://www.researchgate.net/publication/233499373>.
- Chen, Y. (2020). A spatiotemporal analysis of comparative advantage in tea production in China. *Agricultural Economics*, 66(12), 550–561. doi:10.17221/85/2020-AGRICECON.
- CBN Data, the 2020 New Tea White Paper, published online at: <https://www.cbndata.com/report/2486/detail?isReading=report&page=1>.
- Chabowski, B.R., Samiee, S., & Hult, M.T.G. (2013). A Bibliometric Analysis of The Global Branding Literature and A Research Agenda. *Journal of International Business Studies*, 44(6), 622–634. Found online at <https://doi.org/10.1057/jibs.2013.20>
- Dowling, G. (2004). Corporate Reputations: Should You Compete on Yours? *California Management Review*, 46, 19–36.
- Laborde, D., McDougal, K., Smaller, C., Lallemand, T., & Traore, F. (2019). Transforming Agriculture in Africa & Asia: What are the policy priorities? *International Institute for Sustainable Development & International Food Policy Research Institute*.
- Dimara, E. & Skuras, D. (2005). Consumer Demand for Informative Labeling of Quality Food and Drink Products: A European Union Case Study, *Journal of Consumer Marketing*, 22(2), 91.
- Dou, Z.W., Ji, M.X., Shao, Y.N., & Wang, M. (2021). Research on the price impact mechanism of Pu'er tea under Internet + environment. *Acta Agriculturae Scandinavica, Section B — Soil & Plant Science*, 71(1), 17–27. doi : 10.1080/09064710.2020.1840619

- Eliseev, M.N., Alekseeva, O.M., & Kosareva, O.A. (2020). WORLD TEA MARKET: TRENDS IN PRODUCTION AND CONSUMPTION. *International Trade & Trade Policy*, 6(2), 131-145, doi : 10.21686/2410-7395-2020-2-131-145
- FAO. (2017). *The Future of Food and Agriculture – Trends and Challenges*. Rome.
- Fleischer, A., Tchetchik, A., Bar-Nahum, Z., & Talev, E. (2018). Is Agriculture Important to Agritourism? The Agritourism Attraction market in Israel, *European Review of Agricultural Economics*, 45 (2), 273-296.
- Huang, Z. & Liang, Q. (2018). Agricultural Organizations and the Role of Farmer Cooperatives in China Since 1978: Past and Future, *China Agricultural Economic Review*, 10(1), 58.
- Huang, Z.H. & Liang, Q. (2018). Agricultural Organizations and the Role of Farmer Cooperatives in China Since 1978: Past and Future, *China Agricultural Economic Review*, 10(1), 54.
- Huang, H.Y. & Hsieh, M.H. (2011). An International Branding Strategy Based on a Case Study of a Taiwanese Firm, *Marketing Intelligence & Planning*, 29(6), 611-623.
- Huang, Z.H. & Liang, Q. (2018). Agricultural Organizations and the Role of Farmer Cooperatives in China Since 1978: Past and Future, *China Agricultural Economic Review*, 10(1), 50.
- Liu, Y. (2017). *Industrial Marketing Management*, published online at: <https://doi.org/10.1016/j.indmarman.2017.12.016>
- Liu, Y. & Lian, C. (2018). Tentative Analysis of Tea Beverage Enterprise Patent Protection Strategy. International Conference of Computational Methods in Sciences and Engineering : AIP Conf. Proc. 2040, 130007-2. Found online at <https://doi.org/10.1063/1.5079189>.
- Liu, Y. & Lian, C. (2018). Tentative Analysis of Tea Beverage Enterprise Patent Protection Strategy. International Conference of Computational Methods in Sciences and Engineering: AIP Conf. Proc. 2040, 130007-1. Found online at <https://doi.org/10.1063/1.5079189>.
- Loureiro, M. & McCluskey, J. (2000). “Assessing Consumer Response to Protected Geographical Identification Labelling”, *Agribusiness*, 16(3), 309-320.
- McCormack, A., Forbath, T., Brooks, P., & Kalaher, P. (2007). Innovation through global collaboration: a new source of competitive advantage, *Harvard Business School Working Paper*, 07-079.
- Mano, R.S.J. (2021). Branding of Green Tea Leaf: A Disruptive Innovation for Building Market Competitiveness of Small Tea Growers in North East India, *Journal of Agribusiness in Developing and Emerging Economies*, 11(2), 98.
- Mano, R.S.J. (2021). Branding of Green Tea Leaf: A Disruptive Innovation for Building Market Competitiveness of Small Tea Growers in North East India, *Journal of Agribusiness in Developing and Emerging Economies*, 11(2), 88-104.
- Mitchell, C. (2002). Selling the Brand Inside. *Harvard Business Review*, (1), 99 – 105.
- Iyer, P., Davari, A., & Paswan, A. (2018). Determinants of Brand Performance: The Role of Internal Branding. *Journal of Brand Management*, 25, 203. Found online at <https://doi.org/10.1057/s41262-018-0097-1>.
- Pankiw, S.A., Philips, B.J., & Williams, D.E. (2021). Luxury Brands’ Use of CSR and Femvertising: The Case of Jewelry Advertising, *Qualitative Market Research: An International Journal*, 24(3), 302-325.
- Pedro, S. (2019). Family Farming, the Environment and the Global Food Chain, Environmental Impacts of Transnational Corporations in the Global South Research in Political Economy, 33, 189-214.
- Punjaisri, K. & Wilson, A. (2011). Internal Branding Process: Key Mechanisms, Outcomes and Moderating Factors. *European Journal of Marketing*, 45 (9/10), 1521–1537.
- Pyper, K., Doherty, A.M., Gounaris, S., & Wilson, A. (2020). Investigating International Strategic Brand Management and Export Performance Outcomes in the B2B Context, *International Marketing Review*, 37(1), 98-129.
- Rodrigues, J., Mazzola, B.G., Sutter, M.B., Miyahira, N.N., & Fleury, M.T.L. (2017). The Corporate Branding Approach in International Operations. *Internext - Revista Eletrônica de Negócios Internacionais*, 12 (1), 11.

- Brodie, R.J. & Benson-Rea, M. (2016). "Country of Origin Branding: An Integrative Perspective", *Journal of Product & Brand Management* Vol,25 (4),10.
- Richard, S.W. (1987). The Adolescence of Institutional Theory, *Administrative Science Quarterly* ,32 (4), 493-511.
- Ranasinghe, W.T., Thaichon, P.,& Ranasighe, M. (2017)." An Analysis of Product-place Co-branding: The Case of Ceylon Tea ", *Asia Pacific Journal of Marketing and Logistics*, 29(1),200 – 214.
- Rojas-Méndez, J. (2013). "The Nation Brand Molecule", *Journal of Product & Brand Management* ,22(7),462-472
- Srivastava,G. (2019) .Impact of CSR on Company's Reputation and Brand Image, *Journal of Enterprise Information System* ,11(1),9. Found online at [https:// doi.org/10.18311/gjeis/2019](https://doi.org/10.18311/gjeis/2019).
- Skuras, D. & Vakrou, A. (2002)."Consumer's Willingness to Pay for Origin Labelled Wine: A Case Study from Greece", *British Food Journal* ,104, 898-912.
- Srivastava,G.(2019). Impact of CSR on Company's Reputation and Brand Image, *Journal of Enterprise Information System* ,11(1), 12. Found online at [https:// doi.org/10.18311/gjeis/2019](https://doi.org/10.18311/gjeis/2019) .
- Sumesh,K.&Roshan,D.(2020). Tea Market by Type (Green Tea, Black Tea, Oolong Tea, Fruit/Herbal Tea, and Others), Packaging (Plastic Containers, Loose Tea, Paperboards, Aluminum Tins, and Tea Bags), Distribution Channel Sumesh K,Roshan D .2020. Tea Market by Type (Green Tea, Black Tea, Oolong Tea, Fruit/Herbal Tea, and Others), Packaging (Plastic Containers, Loose Tea, Paperboards, Aluminum Tins, and Tea Bags), Distribution Channel (Supermarkets/Hypermarkets, Specialty Stores, Convenience Stores, Online Stores, And Others) and Application (Residential and Commercial): Global Opportunity Analysis and Industry Forecast, 2020–2027. *Allied Market Research*. <https://www.alliedmarketresearch.com/tea-market>
- Tamizselvan, R.,Devanand,B.,Nanthini,S.S.,Thavasivamanikandan,T.,Varadha,V.P.B.,&Kirubakaran,V.(2020). Establishing Auto Gasification of Tea Waste. *AIP Conference Proceedings*, 2225(1), 050006(1-4). doi : 10.1063/5.0005573.
- Terpstra, V.(1983). International Marketing. (Japan: Dryden Press).
- Tom, E.(2019). Building Brand Loyalty and Labelling, *Tea & Coffee Trade Journal*.published online at <https://www.teaandcoffee.net/feature/22620/building-brand-loyalty-with-labelling>.
- Tselempis, D., Karipidis, P., Tzimas, D.,& Karypidou, I.(2020).Factors that Impact Farmers' Engagement in Local Food Brand Development, *EuroMed Journal of Business* ,15(1),86-101.
- Urde, M.(2016).The Brand Core and its Management over Time, *Journal of Product & Brand Management*, 25(1): 26-
- Verlegh, P.W.J. & Steenkamp, J.E.M.(1999). "A Review and Meta-analysis of Country of-origin research", *Journal of Economic Psychology* ,20, 521-546.
- Lin, X.J., Huang, J.,Li, X.H.,& Gong, Y.C.(2017). A study on Creating Agriculture International Brands by Industrialization: The Case of "Guanxi Pomelo" in China, *Journal of Management and Strategy*, 8(2), 15.
- YIHUI,C.(2020). A spatiotemporal analysis of comparative advantage in tea production in China. *Agricultural Economics*,66(12),550-561.doi : 0.17221/85/2020-AGRICECON.