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## Table of Content

<b>Consumers' purchase attitudes toward Shanzhai products: An empirical study of Chinese consumers</b> Xi Chen and Yun Wang	265
<b>A review of knowledge management and its application in the contemporary business environment</b> Japhet Imhanzenobe, Olaoluwa Adejumo and Olapeju Ikpesu	274
<b>A meta-synthesis of trade logistics influence on international trade</b> Yekini Ojenya Salawu and Seyed Mohammadreza Ghadiri	283
<b>Ownership structure, financing constraints and inefficient investment: empirical analyses of Chinese data</b> Hong-xing Tu	291
<b>Local economic development in Nelson Mandela Bay and Buffalo City Metropolitan Municipalities: An empirical investigation</b> Mativenga Ngatiane, Noluntu. S. Dyubhele and Hendrik Lloyd	299

*Full Length Research Paper*

# **Consumers' purchase attitudes toward Shanzhai products: An empirical study of Chinese consumers**

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**Shanzhai products have witnessed a huge growth China market. Although the shanzhai problem has been discussed in the literature, most of the studies are mainly literature review, practical report, or theoretical analysis. Empirical research remains scarce, especially the examination of underlying key purchase determinants of shanzhai purchase from consumer behavior perspective. This study embeds the shanzhai phenomenon into the consumer behavior literature by unveiling the underlying mechanism of drivers of its purchase, and identifying the relationship between the purchase determinant and its purchase attitude, besides, understanding the link between the attitude and the purchase behavior intention. Specifically, it conducts a quantitative survey with 200 undergraduate consumers in China market and uses the Structural Equation Modeling (SEM) technique to test the hypothesized relationships. The study unravels those consumers' intentions to buy shanzhai products are dependent on the attitudes they have toward shanzhai, which in turn are influenced by degree of satisfaction, product attributes and price preference, but not by social influence. The paper reinforces the mediator role of attitude in the relationship between the antecedents and behavioral intentions of shanzhai purchase, and it contributes to inform policy makers and product managers of the main predictors of consumer's attitudes toward shanzhai. Therefore, shanzhai should continue to offer good price and innovative features, interesting product design and improved product experience, and increase satisfaction of customers.**

**Key words:** Shanzhai, product attributes, price, degree of satisfaction, social influence, attitude, purchase intention.

## **INTRODUCTION**

In recent years, shanzhai has emerged to be a popular product typology, and is a significant and growing issue in Mainland China (Keane, 2016). Shanzhai is a unique Chinese term referring to product originating from an imitation of a focal product design, but with its own brand

name.

The contemporary use of the term shanzhai originates in the Cantonese dialect. Initially, it refers to unlicensed or fake brand cell phones, and hence has unofficial or illegal overtones. "Shanzhai" was the most popular

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internet slang since the year 2008, and it becomes popular overnight; nowadays it has extended from “shanzhai products” to “shanzhai phenomenon” and “shanzhai culture” (Yan, 2009, 2010), it has split over into everyday commerce, manifest in shanzhai mobile phones, cosmetics, handbags and watches—even shanzhai movie stars and blockbusters (Xi, 2009). What exactly is “shanzhai”? Its literal meaning, “mountain camp,” originates in ancient Chinese history. “Shanzhai” was roughly translated as “knockoff” or “underground” gala in New York Times (Jacobs and Anfield, 2009). From Wall Street Journal, “shanzhai” refers to imitations of well-known brands, products, and other popular items (Canaves et al., 2009). However, “shanzhai” is definitely not the core of fake and shoddy, nor is it simply the sense of a low level of copying and imitation, but innovation (Manhua, 2009; Daiyang, 2010; Chen and Zhou, 2012). Although disgruntled at the shanzhai onslaught, most people maintain an attitude of genial bemusement.

Most Shanzhai products are from industries like electronics, such as mobile phone and MP3, which are high profitable and are launched to the market very quickly. Shanzhai production has many advantages. First, it has cost advantage, for instance, it has no license fee, no 17 percent added-value tax, no 30 to 40% checking fee to the relevant government departments, and no sales and receipt tax (Xi, 2009). Also, its running cost is further minimized by the absence of marketing and after-sales service. Second, shanzhai operations respond instantly to market demand by producing new cell phone models every one or two months. While shanzhai products are no longer strictly low-end, that is to say, they are of equal or even better quality than those manufactured by international big names, as well as exported to foreign market; thus, they threaten both foreign and domestic manufacturers seriously.

Shanzhai in an emerging market is a unique phenomenon. Most shanzhai products are manufactured in China, and exported to India and some other countries. While copycat “shanzhai” culture takes on a life of its own in China, surprisingly, insufficient research has been dedicated to understanding the shanzhai phenomenon in China, especially from the perspective of consumer behavior.

While consumer demand for counterfeit products has been well-documented in the previous literature (Eisend and Schuchert-Guiler, 2006; Staake et al., 2009), Shanzhai has barely received any attention in the consumer study field; to the best of our knowledge, no research has been conducted to understand Chinese consumers’ attitudes and behavior toward shanzhai products. Most articles about shanzhai are report or newspaper, lacking empirical study. Besides, many people regard shanzhai as counterfeits or fake goods resulting in their misunderstanding of shanzhai.

The aim of this paper is to investigate the main antecedents of consumers’ attitudes toward shanzhai and

their purchase intention outcome. The findings not only provide managerial implications for shanzhai manufacturers, but more importantly, it is of great value to encourage innovation and development of shanzhai products in developing country like China. Our results also provide path for weak brands which are late entrance to develop strong brand.

The article is presented in five parts. First, a brief review of shanzhai and the aim of the study are stated. Second, the main antecedents and consequences of consumers’ attitudes toward shanzhai, as well as their meaning and origin are listed, resulting in a conceptual model to be tested. Third, the conceptual model was tested by means of the structural equation modeling. Fourth, a discussion of the main results is presented. Finally, the conclusions are presented, including the main contribution of the study and strategies managers can use in order to improve consumers’ attitudes toward shanzhai products.

## CONCEPTUAL FRAMEWORK

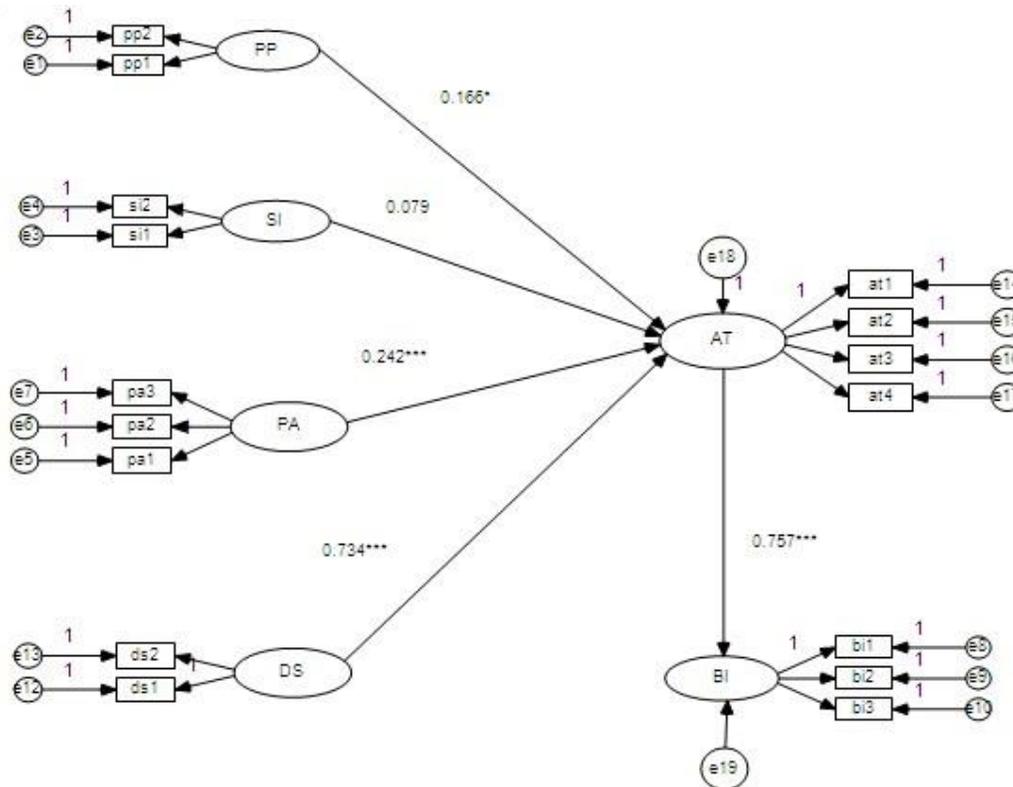
The model we propose in this paper is shown in Figure 1. It is similar with the model proposed in Ang et al. (2001). The model Ang et al. (2001) proposed examined five major antecedents of consumers. In this paper, we examined four integrated factors by including price preference, social influence, product attributes and degree of satisfaction into the predictors list.

As the major difference between shanzhai and an original focal product is mainly price factor, therefore the price construct is likely to be important factor related to attitude toward shanzhai (Huang et al., 2004; Leng and Zhang, 2011), Shanzhai products provide interesting additional features through imitation and local innovation (Leng and Zhang, 2011), and more importantly, shanzhai products are very inexpensive and offer very competitive low pricing, which makes shanzhai very attractive to consumers. As shanzhai products are usually sold with a lower price, consumers who are value-conscious may have positive attitude towards shanzhai. Hence, it is expected that:

### **H1. Price preference has a positive effect on consumers’ attitudes toward shanzhai products.**

Social influence concerns the social environment and culture, such as whether people purchase shanzhai because of other people’s influence on them. No studies in the previous literature have ever estimated that whether social influence and behavior intention toward shanzhai are relevant or not.

Developed initially from electronic industry, with a gradual process of development, Shanzhai industries have gone far beyond copying and have emerged as a



**Figure 1.** Conceptual model for attitude toward shanzhai products. Note: PP-Price Preference, SI-Social Influence, PA-Product Attributes, DS-Degree of Satisfaction, AT-Attitudes toward Shanzhai, BI-Behavioral Intentions; path coefficients are marked beside the path. Model fit:  $\chi^2=280.3$ ,  $df=99$ ,  $p=0.000$ , AGFI=0.797, GFI=0.852, NFI=0.846, IFI=0.894, CFI=0.893, RMSEA=0.096.

new marketing model by means of “copy, imitation, learning, innovation and improvement” in big brands (Yin et al., 2010). Shanzhai has moved beyond cloning and enabled a wealth of iterative innovations by providing interesting additional features (Deng and Li, 2010). Some Shanzhai products even successfully counterattack the leading brand (Deng and Li, 2010; Jiang and Shan, 2016). And we witness a growing number of consumers purchasing shanzhai product, and the market share of shanzhai, especially in electronic product industries has risen to great extent and has become a fashion trend among consumers and become a topic nationwide. For the above reason, it is expected that:

## H2. Social influence has a positive effect on consumers’ attitudes toward shanzhai products

With a gradual process of development, Shanzhai industries have gone far beyond copying; it continues to fill the product positioning gap by innovating new product function though the market size is limited, or to say the niche market. Shanzhai adopts a imitation-plus-innovation approach to manufacture customized products (Chubb,

2015). For instance, shanzhai cell phones offer more sim card within one phone, larger sound and more customized colors and package, in international market; it offers customized color and shape catering to different religious customers and customers under different cultures. Examples like “MI” in China begin by copying the look and designs of the Apple Iphone; “MI” quickly breaks technical barriers and makes improved cellphones by providing additional features such as being less power-hungry and availability at a lower price. Because of this, it is hypothesized that:

## H3. Product attribute has a positive effect on consumers’ attitudes toward shanzhai products

Degree of satisfaction concerns customers’ personal gratification, that is to say, a sense of accomplishment. Besides the attractive low price, shanzhai offers more innovative product with more interesting features, more attractive product design and caring service experience.

Shanzhai products can be seen as alternative sources of innovation and local adaptation, offering attractive prices, and additional functional appeal for consumers.

Shanzhai companies focus on offering practical functions with good value to meet local consumers' needs and manage their own brand building and recognition. Shanzhai producers may grow quickly to build their own original brands through continuous product feature improvement and innovation (Jiang and Shan, 2016). With this rationale, it is expected that:

#### **H4. Degree of satisfaction has a positive effect on consumers' attitudes toward shanzhai products**

Attitude as an intermediate variable is considered to be highly correlated with one's intentions, which in turn is a reasonable predictor of behavior (Ajzen and Fishbein, 1980). One definition of attitude is "... a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor" (Eagly and Chaiken, 1993).

The link of attitude-behavioral intentions has been extensively examined in the marketing literature (Jiang and Shan, 2016). According to the Theory of Reasoned Action, attitude is positively correlated with behavioral intentions, which in turn is an antecedent of the real behavior (Ajzen and Fishbein, 1980). The attitude to behavioral intention link is also tested in our study. In this sense, it is hypothesized that:

#### **H5. Consumers' attitudes toward Shanzhai products lead to their purchase intention**

Based on the above arguments, the study postulates a research model that investigates predictors of consumers' attitude toward shanzhai and its purchase intention outcome of the attitude as depicted in Figure 1.

### **RESEARCH METHODOLOGY**

#### **Structural equation model**

The studies of this paper are based on the application of the structural equation model. In order to obtain the best-fit behavior intention model, the Amos 17.0 (Analysis of Moment Structure 17.0) was used to construct a series of structural equations to confirm the relationship between four various constructs and attitudes toward shanzhai products through the confirmatory factor analysis (CFA) method.

The structural model is designed to test the causal path relationship between the latent variables, mainly aiming at analysis of the path of latent variables for testing the fit nature of the structural model (Wu, 2006; Chen, 2007). This study used Amos 17.0 (Analysis of Moment Structure 17.0) software package to conduct model fit test, to define the model strategy and the causal strength, causal direction, indirect relationship and direct relationship.

#### **Sample and data collection**

A survey was conducted among students. They filled out the

questionnaires online and forwarded the links to their friends. Owing to the average low income, students are important user group for shanzhai products, as well as university students will dominate future management positions; their attitudes are important for understanding the future prevalence of software piracy. Besides, filling out the online questionnaire can make up the geographical limitations of the paper questionnaire. The collected IP addresses include 32 cities such as Shenzhen, Beijing, Shanghai, Changchun, Urumqi, Canada, US, and UK. Data were collected from survey questionnaires from June 1 to 18, 2013; then a total of 200 individuals answered the survey instrument and were used for the data analysis.

#### **Measures**

Based on the literature, we built the questionnaire using scales that were already validated in previous research. Table 1 summarizes items including the final attitude and behavior intentions, along with price preference, social influence, product attributes and degree of satisfaction. All of the above constructs and items were measured using seven-point Likert scales, with 1 representing "disagree or not important," and 7 representing "agree or important."

#### **Data analysis**

In order to achieve the purpose of this study and to test the hypotheses, the SPSS 19.0 and AMOS 17 statistics package programs were used. With SPSS 19.0, descriptive analysis was adopted to find out demographic characteristics of the sample and Principle Axis Factoring was adopted to extract principle factors. Also, Cronbach's  $\alpha$  was adopted to test reliability. Using AMOS 17, confirmatory factor analysis was conducted to prove the validity of each instrument, while structural equation modeling was used to test the hypotheses (Table 4).

### **RESULTS**

A survey is conducted among shanzhai consumers in China. They are interviewed in the streets about their perception about shanzhai products; the data are collected on both weekdays and weekend. Researchers trained the interviewers before the survey; the interviewees include consumers with different demographic profile: age, gender, education and income level.

#### **Descriptive analysis**

A total of 200 questionnaires were completed and returned, representing a response rate of 100 percent. Of the respondents, 93(47 percent) were females, 106(53 percent) were males, with an average age of 24.26 years. Half of the participants (98 or 49%) affirmed that they had bought a counterfeit product before. From Table 1, the scale items presented means varying from 2.21 (item "I bought shanzhai product that satisfied me") to 6.08 (item "I prefer the product of high price quality inference"). In general, the scale means indicate that respondents manifested low satisfaction of shanzhai products and the

**Table 1.** Descriptive analysis results.

Scale	Mean	SD
<b>Price preference</b>		
pp1 I'm always a price-sensitive buyer	5.09	1.39
pp2 I prefer the product of high price quality inference	6.08	1.21
<b>Social influence</b>		
si1 Others will admire me	2.49	1.49
si2 Shanzhai prevail in our society	2.46	1.35
<b>Product attributes</b>		
pa1 I appreciate its novelty	3.67	1.56
pa2 I'm fond of its new function	3.70	1.58
pa3 The price of a product is a good indicator of its quality	3.84	1.64
<b>Degree of satisfaction</b>		
ds1 It has no need to spend high price to buy polity goods	2.47	1.36
ds2 I bought Shanzhai product makes great gratification	2.21	1.34
<b>Attitude toward Shanzhai products (Huang et al., 2004)</b>		
at1 Considering price, I prefer shanzhai	3.06	1.38
at2 I like shopping for shanzhai products	2.64	1.36
at3 There's nothing wrong with purchasing shanzhai products	3.59	1.53
at4 Shanzhai is good for consumers	3.51	1.51
at5 Generally speaking, buying shanzhai is a better choice	3.08	1.44
<b>Behavioral intentions (Zeithaml et al., 1996)</b>		
bi1 I think about a shanzhai product as a choice when buying something	2.79	1.54
bi2 Buying shanzhai product	2.51	1.41
bi3 I will recommend to friends and relatives that they buy a shanzhai product	2.42	1.51

widespread preference for high price quality inference. The other descriptive value is standard deviation varying from 1.211 (item "I prefer the product of high price quality inference") to 1.582 (item "I'm fond of its new function").

The above scale standard deviation shows that price quality inference preference is most stable and new function favorability of shanzhai products is most instable. Due to the data collection process, questionnaire did not present missing values because interviewers instructed and reviewed the surveys all through the process.

### Factor analysis

Since factor loadings were all higher than 0.5, Kaiser-Meyer-Olkin measure of sampling adequacy was 0.849; the significance level of Bartlett's Test ( $\chi^2=1759.105$ ,  $df=120$ ) is 0.000. Therefore, both indicators show that it is appropriate to use factor analysis to uncover the underlying dimensions of all items. But the result of dimensions is not clearly distinctive; confirmatory factor

analysis (CFA) was conducted. A CFA was performed using AMOS 17 on data to further confirm the structural model. Table 2 shows the factor loadings and the Cronbach's  $\alpha$ .

### Relationships between constructs and items

The first construct relates to price preference. Factor loading of each item was 0.649 and 0.761, with a relative low Cronbach's  $\alpha$  of 0.675, and the average variance extracted is 0.5002. The second construct related to items representing influences of other people's attitude and respective is named "social influence". Factor loading is 0.796 and 0.709, with a Cronbach's  $\alpha$  of 0.774, and the AVE is 0.568. The third construct represented objective factors of products. Therefore, the third factor is "product attributes". Factor loadings are 0.808, 0.956 and 0.618, and the Cronbach's  $\alpha$  is 0.832; AVE is 0.650. The fourth construct describes consumers' attitude toward shanzhai; factor loadings are 0.565, 0.664, 0.668 and 0.674, with a

**Table 2.** Factor analysis result.

Item	Price preference	Social influence	Product attributes	Degree of satisfaction	Attitude	Behavioral intentions
pp1	.649					
pp2	.761					
si1		.796				
si2		.709				
pa1			.808			
pa2			.956			
pa3			.618			
ds1				.589		
ds2				.570		
at1					.565	
at2					.664	
at3					.668	
at4					.674	
bi1						.884
bi2						.770
bi3						.825
Cronbach $\alpha$	0.675	0.774	0.832	0.852	0.855	0.886

Total variance explained = 59.03%.

Cronbach's  $\alpha$  of 0.855 and AVE of 0.415. The fifth construct represented the purchase gratification, which is defined as "degree of satisfaction". Factor loadings are 0.589 and 0.570, with a higher Cronbach's  $\alpha$  of 0.852, and AVE is 0.336. The factor loading of every item in the model is at a significant level ( $p < 0.05$ ). Results show that every item can explain every conduct well.

### Reliability and validity

The structural equation model includes price preference, social influence, product attributes, degree of satisfaction, attitude towards shanzhai products and behavior intention. Scales were analyzed in terms of their reliability, by means of the internal consistency (Cronbach's  $\alpha$ ). After computing the items of each scale, values ranged from 0.675 (price preference) to 0.886 (behavior intention). Discriminant validity was performed by data criteria to test the validity of the fitness with the data:  $\chi^2 = 280.3$ ,  $df = 99$ ,  $p = 0.000$ , AGFI = 0.797, GFI = 0.852, NFI = 0.846, IFI = 0.894, CFI = 0.893, RMSEA = 0.096 (results using the maximum likelihood). The six constructs were then generally verified.  $\chi^2$  parameter was significant ( $p = 0.000$ ), and since  $\chi^2$  is sensitive to sample size, relative  $\chi^2$  ( $\chi^2 / df$ ) is commonly suggested in the measurement literature. Using ML method, a value of 2.831 was found for the relative  $\chi^2$ , which is in the acceptable level of 2 or 3 to 1 (Arbuckle, 1997).

### Structural model

The conceptual model was tested according to Anderson and Gerbing (1988). With the results of the CFA in the prior section, the model was tested by standardized coefficients and other fit statistics. Figure 1 shows the findings. The overall model fit was satisfactory based on reliability and validity test. After overall model fit was approved, hypotheses were tested via structural equation modeling.

### Estimation of model parameters

There were five paths in this model. Among the paths, there were four paths between four antecedents and attitudes towards shanzhai products and one path between attitude and behavior intention.

Considering the antecedents of attitudes, significant paths were found for price preference ( $p < 0.089$ ), product attributes ( $p < 0.000$ ), degree of satisfaction ( $p < 0.000$ ) and attitudes towards shanzhai products, supporting H1, H3, H4, H5 respectively. Only social influence was a non-significant antecedent ( $p < 0.132$ ), failing to support H2. The result showed that there is no relationship between social influence and attitude toward shanzhai products.

Results also revealed that the attitude toward shanzhai is most significantly affected by the following constructs: degree of satisfaction ( $\beta = 0.734$ ), product attributes ( $\beta = 0.242$ ) and price preference ( $\beta = 0.166$ ). In this order,

**Table 3.** Parameter estimation.

Relation	Regression weights	Standard errors	Standardized weights( $\beta$ )	Critical ratio(t)	P
Attitude←Price preference	.132	.077	.166	1.699	.089
Attitude ← Social influence	.089	.059	.079	1.507	.132
Attitude←Product attributes	.182	.047	.242	3.886	.000
Attitude←Degree of satisfaction	.617	.070	.734	8.777	.000
Behavior intention←Attitude	1.014	.109	.757	9.311	.000

these variables are the most important for explaining consumers' attitude toward shanzhai products with regard to standardized weights ( $\beta$ ). With regard to the construct social influence, results show that only social influence cannot affect attitude significantly, but also the standardized weights ( $\beta=0.079$ ) is the lowest. As a result, it was found that most variables significantly affect attitudes but not social influence. The exogenous latent variable "social influence" including "Others will admire me" and "Shanzhai prevail in our society" did not affect attitude toward shanzhai products. A possible explanation for this non-significant result is 'whether others admire me or not had no influence on customers' decision of purchasing shanzhai product. This finding can also be interpreted as an indication of face issue in China. Since shanzhai might be perceived to be gray marketing or still might be related to counterfeit, people may tend to avoid it because they are afraid of being taken as buying low price products.

When assessing the variables influencing behavioral intentions, it was found that attitude was significant ( $p=0.000$ ;  $\beta=0.757$ ), supporting H5. This result shows the mediating effect of attitude in the relationship between a series of personal, product, social factors and intentions to buy a shanzhai product. In other words, experience and cognition influence attitude, which in turn influences behavior (Table 3).

## CONCLUSIONS AND SUGGESTIONS

Although gray market has grown worldwide, research on consumers' demand for counterfeit products has been well documented in previous literature. However, shanzhai has barely received any attention in the consumer study field due to misunderstanding and prejudice. Shanzhai product is different from counterfeit in the sense that shanzhai products provide similar products with its own brand name which is considered legal under trademark laws; nowadays shanzhai continues to innovate new features and interesting additional functions through imitation and innovation. Hence research on counterfeits consumption should not be directly applicable to shanzhai consumption.

The research targeting at the underlying mechanism

of the purchase of shanzhai product remains scarce. In order to fill this void, this paper tries to identify the antecedents and purchase intention consequence of consumers' attitude towards shanzhai products. Specifically, this study examines the effect of the price preference, social influence, product attributes, degree of satisfaction on attitude, and the influence of this attitude on the behavioral intentions of purchasing shanzhai products. The estimation results show that degree of satisfaction ( $\beta=0.734$ ), product attributes ( $\beta=0.242$ ) and price preference ( $\beta=0.166$ ) had positive effects on attitude at a significant level. However, social influence perceived by consumers was non-significantly efficacious to attitude toward shanzhai products which indirectly caused behavior intention.

One contribution of this research is that the findings reveal that consumers who prefer shanzhai are still the price conscious segment of consumers, who are price driven and seek to buy good deal products. With continuous innovation and local adaptation, shanzhai products attract consumers with its additional functional appeal, and even create new features way faster than branded products. This makes shanzhai very attractive to consumers who are price sensitive.

This paper investigates that social influence is not related to attitude. That is to say, shanzhai is not spokesperson of counterfeits, and it would carry on the independent innovation in the end through initial imitation. Another contribution is related to the practical implications of this paper: if shanzhai products want to further develop, they need further innovation and development, and more important is cost reduction; it should use low price strategy since shanzhai products' target consumers are mostly price sensitive consumers.

## Managerial implication

This study made several managerial suggestions and implications for the shanzhai manufacturers. First, for most small and rising manufacturers, lack of fund and excellent techniques are big barriers to brand building. In this period, shanzhai is an optional mode for their market penetration. Second, low-cost is one specific advantage of shanzhai, which is effective for Chinese consumers.

Table 4. Tests of hypotheses.

Hypothesis	Exogenous construct	Endogenous construct	Regression weight	Significance	Finding
1	Price preference	Attitude	0.166	*	Supported
2	Social influence	Attitude	0.079	Non-significant	Not supported
3	Product attribute	Attitude	0.242	*	Supported
4	Degree of satisfaction	Attitude	0.734	*	Supported
5	Attitude	Purchase intention	0.757	*	Supported

Thirdly, to achieve success in shanzhai market in China, many companies first need to hold an appropriate view of Chinese consumers. Chinese consumers in shanzhai prefer the function, low-price, and innovation, but shanzhai cannot bring admiration from other people because it differs from counterfeits. Consumers buy shanzhai not for their similar look like luxury brand, they buy shanzhai for its own shanzhai brand. Fourthly, after having a certain market share, they need further innovation and development of their features and functions. Shanzhai sometimes is a way that consumers try out new function and innovation, especially when shanzhai is accessible in China. At least, for young generation of consumers, product attribute is an important factor in using shanzhai. These companies need to build disruptive innovation and incremental innovation.

And lastly, Chinese shanzhai enterprises transforming to independent innovation brand in the socio-economic transition, as well as increasing shanzhai enterprises' ability of creation, are necessary and critical. Brand building for shanzhai is the sustainable way of management; manufacturers of a true brand should sign a license agreement, so as not to breach the intellectual property rights, create brand value, and generate greater economic benefits.

For the government, we raise suggestions that: (1) Government should relax criteria that companies get access to shanzhai industry, allow markets to play basic function in resource allocations, focus on quality control and after-sales service. (2) Government should support shanzhai companies to build their own brand and provide research and development capital, helping shanzhai industry to grow faster, hopefully to breed more famous national strong brands throughout shanzhai startups

## LIMITATIONS AND FUTURE RESEARCH

The limitations and future research directions are as follows. First, most of the studies involved student or young generation participants, who may be more inclined to purchase shanzhai products because of both their financial situation and their greater susceptibility to innovation. However, shanzhai products are not just attractive to low-income consumers. Future study should

improve the sample selection and choose broader consumer base.

Second, as an initial effort to evaluate effect of four constructs on behavior intention towards shanzhai, other more factors could also possibly be included and tried to be tested as predictors of the purchase attitude; future study should try other constructs or antecedent variables.

Lastly, this paper points out that the survey focused on general rather than specific shanzhai products and suggests that consideration of different product categories maybe informative. It can also compare shanzhai with counterfeits in regards to influence factors on behavior intention.

## CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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*Review*

# **A review of knowledge management and its application in the contemporary business environment**

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The quest for a better way of enhancing firm performance has led to the discovery of knowledge as a unique and firm-specific resource for achieving competitive advantage. Knowledge management has gained the attention of practitioners and scholars in recent times. Knowledge management involves obtaining the right set of information and making them available to the right people, at the right time. When an adequate knowledge management system is in place, employees can create, share and re-use knowledge. Existing literature shows that knowledge management is still evolving and factors like intellectual capital, innovation and knowledge application play a significant mediating role in its effect on firm performance. Also, knowledge management processes ought to be followed by effective knowledge management implementation strategies to avoid knowledge proliferation and structuration. Modern businesses are gradually evolving from document-based knowledge management systems towards people-based knowledge management systems as a result of higher capacity for improvement and alignment of knowledge management strategies. Modern businesses also try to foster the effectiveness of their knowledge management process through gamification. Several challenges and limitations to knowledge management like organizational culture, lack of knowledge sharing incentive, cultural differences, lack of proper information structures and change management issues were also identified.

**Key words:** Knowledge management, tacit knowledge, implied knowledge, knowledge management theory, knowledge management system, knowledge sharing.

## **INTRODUCTION**

In past years, organizations improve their effectiveness and efficiency by eliminating redundancy and minimizing manual labor through the introduction of automation or machines, however, the results of this process did not yield the expected outcome, especially in the new age of knowledge workers. Hence, renewed efforts have been channeled into seeking appropriate ways to manage the intangible assets (especially Knowledge) that diffuses

through the organization. The concept of knowledge management became popular in the late 1950s, although it has been around for several decades (Dalkir, 2005). Knowledge management covers almost every key aspect of a firm's operations. Past studies have shown that for an organization to be successful, the organization must have systematic knowledge management practices in place (Holm, 2001; Dalkir, 2005; Ganesh et al.,

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2014). Knowledge management refers to a systematic and deliberate approach of ensuring that organizations fully utilize their knowledge base, innovation, skills, competencies, and experience to create an effective and efficient organization. The concept of knowledge management has been closely linked with the Resource-Based View (RBV) theory with the rationale that knowledge is one of those unique and inimitable resources that can help an organization in achieving competitive advantage. This gave rise to the knowledge-Based theory of the firm (also referred to as Knowledge-Based View theory) as an extension of the Resource-Based View theory (Demsetz, 1991; Grant, 1996). The Knowledge-Based View theory considers firm-specific knowledge to be the most important strategic resource available to firms because of their uniqueness and inimitability, and thus recommends their significance in achieving competitive advantage.

The central aim of knowledge management include reducing the loss of firm's memory via retirement and attrition, ensuring a smooth transition from those retiring to those succeeding them, identifying key result areas, and ensuring that firms' operations are properly understood, building a tool kit approach that can be employed within groups, individual and entire organizations to prevent loss of intellectual capital (Wiig, 1997). This study is aimed at reviewing the different knowledge management definitions, concepts and application suggested by researchers as well as practitioners. To achieve this, we reviewed existing literature on knowledge management, its linkage to the framework of management theories, its application in contemporary businesses as well as some challenges in its implementation. When these definitions, concepts and application are part of the body of knowledge, they become more accessible to academics conducting research, to organizations considering knowledge management, and to other interested parties.

## **KNOWLEDGE MANAGEMENT**

Girard and Girard (2015) did a review study on the different definitions of knowledge management. They emphasized that knowledge management as a concept is not limited to any particular discipline. They reviewed definitions of authors from about 13 different countries and 23 different disciplines (thus, demonstrating the multidisciplinary nature of the concept). From the conducted review, they discovered that the four most common verbs used in describing the knowledge management process were 'use', 'create', 'share', and 'manage'. The most common nouns were 'knowledge', 'process', 'organization', and 'information'. According to Nonaka and Takeuchi (1996) and Pfeffer and Sutton (2000), knowledge management is regarded as a process of adopting a systematic approach to

management, structuring, and dissemination of knowledge within the organization to reduce cost, work faster, and re-use best practices. It is the process of creating, capturing, organizing and accessing an organization's intellectual assets in a collaborative and integrated manner (Grey, 1996). Gupta et al. (2000) documented that knowledge management is a firm-wide method that aids corporations to select, accept, organize and disseminate knowledge to enhance the firm's day to day operation. Holm (2001) on the other hand defined knowledge management as looking for ways to obtain the right set of information, to the right people, and at the right time so that employees can create, share and re-use knowledge. According to Bouthillier and Dalkir (2005), knowledge management is a systematic and deliberate coordination of people, technology, process and structure to enhance value via innovation and re-use. He noted that coordination is realized via sharing, creating, and applying knowledge and best practices as well as previously learned lessons.

From the various definitions, it can be inferred that knowledge management involves creating and maintaining a system for the storage, transfer and retrieval of current and previous knowledge and best practices that enables an organization to keep improving in its way of doing things. Hence, knowledge management is regarded as a holistic innovation that cuts across the organization. The basic feature of knowledge management is that it deals with information and knowledge. It also addresses every area of knowledge such as explicit, implicit and tacit knowledge (Polanyi, 1966). Explicit knowledge refers to knowledge that is recorded and fully documented. It is often expressed in formal language (such as a report from an assignment). Implicit knowledge is knowledge that is transferrable but difficult to fully capture in written or verbal form (typical example is the culture of an organization or skills on a job). Tacit knowledge is embedded in the mind/head of the organization. It is not communicated in written form and it is only implied and cannot be easily transferred outside the organization (such as gut feeling, facial recognition etc.). All three categories of knowledge need to be effectively integrated to achieve optimum organizational performance. Ganesh et al. (2014) noted that knowledge management can occur in three levels - individual, group, and the organizational levels, and that knowledge management will be more effective when the stored knowledge is re-used across the firm's business transactions. Knowledge management comprises a range of management practices to create, identify, store, diffuse, replicate and apply knowledge within organizations (Grant, 2016).

### **Knowledge management process**

The effective implementation of the knowledge

management process requires clear and objective capturing of knowledge and facilitating the dissemination of such knowledge throughout the organization. This process is often referred to as a knowledge mapping. The process of mapping ensures that the appropriate kind of knowledge is available to people within the organization that would require such knowledge in the discharge of their duties. In practice, organizations adopt the value chain model of knowledge management. According to Lloyd (1996), this model begins with ideas, technical know-how and other intangible assets and is later transformed into measurable intellectual assets through patents. Nonaka and Takeuchi (1996) identified four knowledge management stages that occur in the creation of intellectual capital. These are the socialization, capturing, dissemination and internalization stages (Figure 1). Socialization refers to the transfer or diffusion of knowledge that takes place through interaction with one another. Such interactions take place through interpersonal encounters (such as seminars, workshops, practice, lunch breaks, etc.). Capturing refers to the process of documenting and storing the knowledge gained at the socialization stage (often referred to as tacit knowledge) in an explicit form through organizations approved channels such as written reports, information systems and other means of information storage. At the capturing stage, tacit and implicit knowledge are often converted to explicit knowledge. Dissemination involves the distribution and accessibility of the captured knowledge to members of the organizations as well as updating employees of a discovered way(s) through which certain task(s) can be done more efficiently. Internalization refers to the process through which organizations implement and institute new knowledge as a requirement and best practice that employees should adopt in performing their duties.

### **Theoretical development of knowledge management**

Knowledge management has been a key aspect of management theory and practice. The origin of knowledge management can be traced to the classical management theories. The scientific management theory of Taylor (1911) was concerned with the application of organizational knowledge and experience to the operations of workers in order to improve labor productivity through optimization of worker-to-task mix (Grant, 2016). As the principles and practices of management developed, some neo-classical theories evolved. The management information systems branch of the management science theory was focused on the management of knowledge and information to meet several decision-making needs across the organization (Imhanzenobe, 2021; Jones and George, 2016). The more recent Resource-Based View theory attributes the ability of firms to attain and sustain competitive

advantage to the unique and inimitable resources that such firms possess (Barney, 1991; Penrose, 1956, Wernerfelt, 1984). Knowledge has been identified to constitute those unique resources and this has given rise to a theory that attributes the sustainability and competitive advantage of firms to their ability to collect, store, share and manage knowledge as a unique resource (Alavi and Leidner, 2001).

### **Knowledge-based theory of the firm**

In the new economy, knowledge has been frequently identified as the key factor of production, as opposed to other tangible resources (like machinery or money) in the old industrial economy (Torraco, 2000). The Knowledge-Based theory of the firm (also referred to as *Knowledge-Based View Theory*), proposed by Professor Robert Grant, is one of the widely accepted frameworks that explains the role of knowledge in the achievement of organizational goals which often times is to achieve and sustain competitive advantage (Grant, 1996). The Knowledge-Based View Theory is a spin-off from the Resource-Based View Theory (Figure 2). This spin-off was based on the recognition of knowledge as a key unique and inimitable resource that helps an organization to stand out among its competitors (Demsetz, 1991; Grant, 1996; Hoskisson et al., 1999). In recent times, productivity depends on the ability of employees and managers to create new knowledge, learn, adapt and generate “smart” action (Tzortzaki and Mihiotis, 2014). These new knowledge are collectively referred to as intellectual capital and are seen to belong exclusively to the firm that has generated them. These intellectual capital have been found by several studies to constitute a key ingredient in the overall success of every firm (Clarke et al., 2011; Wang et al., 2014; Inkinen, 2015). Thus, organization ought to strive to provide knowledge management structures in order to aid the acquisition and management of intellectual capital.

### **Branches of Knowledge management**

Knowledge management can be applied in several aspects of an organization. Regardless of which knowledge management practice is employed, knowledge management elements involve processes (structures), people, and technology on knowledge sharing. Accordingly, there are 3 main branches of knowledge management on the basis of the components of the organization's factors that they address. These branches include organizational knowledge management, ecological knowledge management and techno-centric knowledge management.

Organizational Knowledge Management is the branch of knowledge management that focuses on providing organizational structures and designing appropriate

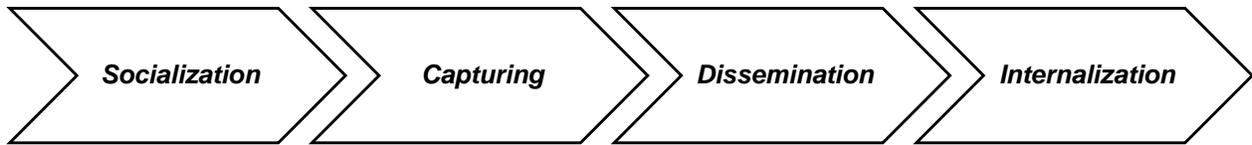


Figure 1. Stages in knowledge management process.

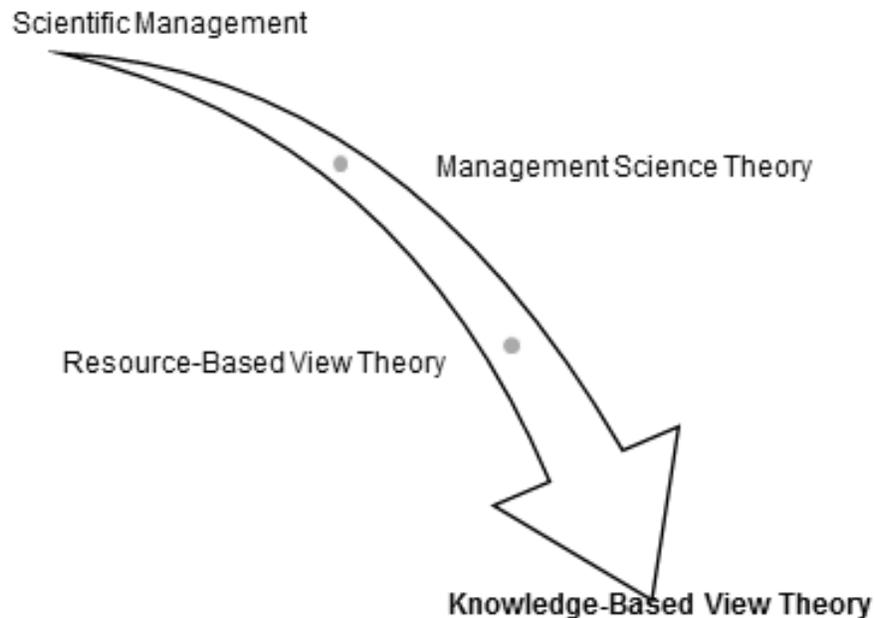


Figure 2. Theoretical development of the Knowledge management theory.

culture and hierarchy in a way that facilitates knowledge storage and sharing (Walczak, 2005). It focuses on creating the right environment for knowledge sharing by putting structures, procedures and promoting cultures that make flow of knowledge easier.

Ecological Knowledge Management is the branch of knowledge management focuses on persons, relationships, groups and other internal and external factors that draw people together with the aim of sharing knowledge (Chen et al., 2010). This aspect tries to manage the human factors in an organization that can influence the desire to discover, share and use knowledge in the operational and strategic processes of the firm. As the information needs of organizations expand there is a need for more complex structures that can store and retrieve information with speed and accuracy. The advent of modern day computer technology has brought about the Techno-centric knowledge management.

Techno-centric Knowledge Management is the branch of knowledge management focuses on the implementation of technology enablers to help facilitate the flow of knowledge and the storage of information.

One of the major contributions of information technology to knowledge management is the development of knowledge management system that help organization store large amount of data and information for retrieval and application in solving related problem in future.

### Knowledge management systems

Knowledge management systems can be described as the technological part of a knowledge management process or strategy that also comprises person-oriented and organizational instruments targeted at improving the productivity of knowledge (Maier and Hadrich, 2011). It is an information technology (IT) based system designed for the specific support of knowledge related activities (Magnusson et al., 2002). It is a kind of information system that stores and retrieves knowledge to improve understanding, collaboration, and process alignment. The primary goal of knowledge management systems is to store useful knowledge and experience that can be recalled and applied in solving current and future problems, thus resulting in increased organizational

effectiveness (Alavi and Leidner, 2001). Most knowledge management systems make use of database technology that stores data and information across the different departments of an organization in a common pool from which such information can be easily assessed and retrieved when needed. This technology maximizes storage capacity and reduces data duplication and redundancy.

## REVIEW OF RECENT EXISTING LITERATURE ON KNOWLEDGE MANAGEMENT

Several studies empirical studies have been done on knowledge management and its impact on organizations. Most of these researches on knowledge management tend to originate more from the US and the UK. But on a continental level, most knowledge management research in recent times, have originated in Europe (Gaviria-Marin et al., 2018). There is little research from emerging and developing markets in this area. Using a survey study and a system dynamics simulation, Chen and Fong (2015) conducted a study to illustrate the movement and transformation from a mechanistic to an organic perception of knowledge management strategy and performance evaluation. The system dynamic simulation was applied to predict the development of knowledge management strategy configurations and the evolution of knowledge management performance over-time. Survey study was also collected on a sample of 143 construction companies, and a confirmatory factor analysis was used to develop a knowledge management performance index for measuring the key elements that make up a firm's knowledge management strategy. The results showed that, compared to the mechanistic knowledge management strategy and performance evaluation method, the organic knowledge management strategy and performance evaluation method had a significantly higher capacity to improve the configuration and alignment of knowledge management strategies within a progressively dynamic business environment and had higher capacity for improvement.

Nowacki and Bashnik (2015) studied the scope of innovative knowledge management. The study considered the impact of knowledge management innovations on four aspects of organizational effectiveness, namely; business competitiveness, returns, consumer satisfaction, and satisfaction of the business partners. The results showed that companies' assessment of the impact of knowledge management innovations is correlated with the choice of direction of knowledge management innovations (that is whether organizational, techno-centric or social knowledge management innovation). The authors also collected data on company size (measured by number of employees) and discovered that the ratio of high to low knowledge management innovation increased as company size increases (that is big firms tend to have

high level of knowledge management innovation compared to small firms).

Kianto et al. (2016) did a study on the impact of knowledge management on job satisfaction. They argue that the existence of knowledge management systems may be significantly linked with job satisfaction in an individual's working environment. They used structural equation modelling to test the relationship of the five aspects of knowledge management (acquisition, sharing, creation, codification and retention of knowledge) with job satisfaction. Survey data was collected from about 824 respondent belonging to a Finnish municipal organization. They discovered knowledge sharing (especially within the organization) to be a critical knowledge management process that is significantly linked with job satisfaction.

Xue (2017) conducted a study on knowledge management and its significance to organizations. The outcome of the research showed that knowledge management constitutes a major driver for any organization to remain competitive in this contemporary time. The justification for this discovering lies in the fact that competitive advantage involves some level of uniqueness. For a strategy to be competitive, it ought to involve performing different activities or similar activities in a different way from competitors (Zerfass et al., 2018). Knowledge management helps to create ideas and brings about innovations that make organizations unique compare to others.

Shpakova et al. (2017), in their study, suggested gamification as a medium for enhancing knowledge sharing and interaction among workers in contemporary business environment. From review of existing literature on knowledge management and gamification, they discovered that the advantages of gamification goes beyond increased motivation and engagement but can also support flexibility, facilitate transparency (thus improving trust), visualization of skills and competences, and promote a collaborative environment among knowledge workers.

Given the dynamic nature of the business environment, knowledge management has been found to be useful to implement at the strategic management level in order to improve the competitive strength of businesses. Venkitachalam and Willmott (2017) did a study on the benefits and pitfalls of applying knowledge management at the strategic level. They described strategic knowledge management as the process of codifying and personalizing organizational knowledge by strategic managers. Codification refers to the process of capturing and documentation of valuable knowledge and skill and fostering individuals in the organization to refer to such documented knowledge. Personalization, on the other hand, relates to the process of fostering people-to-people form of knowledge sharing. They emphasized that strategic knowledge management, when carried out properly, will bring about harmonization of

conceptualization of strategic knowledge in their organizations. They also identified some challenges that could result from over-emphasis on codification and personalization. Where codification and personalization are given excess priority without proportional emphasis on implementation of the codified knowledge, such organization could suffer from knowledge proliferation problem (a case where stored knowledge multiplies but does not lead to any real innovation). Such firms could also face the problem of losing touch on what kind and how much knowledge to codify (this was referred to as knowledge structuration problem). They advised executives to develop standard criteria for identifying the kinds and volume of organizational knowledge that ought to be captured, stored and retrieved in a structured manner in order to sustain productivity and innovation capacity. This position is similar with that of Raudeliūnienė et al. (2018), who emphasized that the knowledge management process is incomplete without a knowledge implementation strategy and an evaluation of such strategy. They described the knowledge management cycle as consisting of knowledge acquisition, knowledge sharing, knowledge development, knowledge preservation and knowledge application or implementation.

Iqbal et al. (2019) carried out a study on the impact of knowledge management practices on organizational performance in higher education institutions. They examined the mediating role of intellectual capital and innovation in the relationship between knowledge management processes and performance of universities in Pakistan. Data were collected by distributing surveys to about 217 academic and administrative personnel. They used the partial least squares structural equation model. They discovered that the existence of knowledge management processes had positive and significant influence on the organizational performance of the sample universities. They also discovered that intellectual capital and innovation played a significant role in that relationship.

Ode and Ayavoo (2020) did a study on the impact of knowledge management practices on firm innovation. The authors tried to examine the role of knowledge application (implementation) in this relationship. A survey data collected for about 293 service companies in Nigeria. The data was analyzed using structural equation model. The results showed that knowledge generation, storage and application had significant and positive effect on firm innovation. The results also show that knowledge application played a significant mediating role in the relationship between the different knowledge management processes and firm innovation. Thus, they support the opinions of Venkitachalam and Willmott (2017) and Raudeliūnienė et al. (2018) that knowledge generation, diffusion, storage and sharing will only bring about substantial innovation if such stored knowledge is truly applied.

## **APPLICATION OF KNOWLEDGE MANAGEMENT PRACTICES IN THE CONTEMPORARY BUSINESS ENVIRONMENT**

Knowledge and information have been commonly proposed to constitute a key part of the unique resources for every organization and this has necessitated the practice of knowledge management in modern day businesses. Many companies are currently putting together methods that convert tacit and implicit knowledge into explicit knowledge, in forms that can be coded, stored and transmitted, that way the knowledge can be used by others in similar scenarios. Organizations want to act intelligently and knowledge management has presented a platform to achieve this by helping them deliver creative products and services which in time past was not achievable due to limited knowledge (Wiig, 1993). Managers now recognize that this knowledge needs to be diffused and shared within the organization, hence the need to create an enabling environment to achieve knowledge sharing and diffusion.

Several famous companies currently utilize knowledge management systems form which they retrieve information from previous transactions and customers as often as needed. Ford Motors Company (FMC) has been a long time practitioners of knowledge management in their product development process. They started by using web-based knowledge management system to regulate quality standard across all its product lines and this helped them maintain quality and avoid warranty costs. General Electric (GE) is another successful implementer of knowledge management. GE operates a people-based knowledge management system (Corporate Executive Council) which consists of council of management staff that meet for two days on a regular basis to share information and experience. Through this knowledge sharing process, information on the business success factors are made known to GE's management. Amazon has also successfully implemented a web-based knowledge management system. Amazon uses a single web interface to meet the needs of all its customers. This makes finding and sorting information on products easier. Also, information on previous purchases are used to predict customers' taste of products. This promotes repeat purchase and gives them some level of competitive advantage in the e-commerce industry. Pratt & Whitney is one of the most successful aerospace manufacturing companies. Their success has largely been attributed to the implementation of knowledge management. The company was able to save a lot of cost by using knowledge management systems to retain the vast experience and skills of some of its finest engineers who were already approaching retirement.

Although, many organizations have begun to adopt knowledge management, the review of existing literature shows that knowledge management is still evolving. The extent to which organizations adopt knowledge

management varies from one organization to another, though levels of adoption are higher in knowledge-based and skill-based organizations (such as Consultancy firms, IT solution providers etc.). The potential impact that knowledge management can have on organizational performance and employee job satisfaction has been confirmed by existing empirical studies. However, recent studies have identified some mediating factors like intellectual capital, innovation and knowledge application (Iqbal et al., 2019; Ode and Ayavoo, 2020). Recent studies suggest that for knowledge management to be effective in the contemporary business environment, it ought to be accompanied by effective knowledge management implementation strategies so as to avoid knowledge proliferation and structuration (Raudeliūnienė et al., 2018; Venkitachalam and Willmott, 2017). In recent times, organizations have also begun to apply the knowledge management model at the strategic level by way of codification and personalization (Venkitachalam and Willmott, 2017). However, most recent organizations are gradually evolving from codification (document-based knowledge management systems) towards personalization (people-based knowledge management systems). This may be due to the fact that some authors have identified organic knowledge management systems to have higher capacity to improve the configuration and alignment of knowledge management strategies (Chen and Fong, 2015). Modern businesses also try to foster the effectiveness of their organic (people-based) knowledge management process through gamification as this has been proven to improve the level of flexibility, motivation, collaboration and identification of relevant skill set among knowledge workers (Shpakova et al., 2017).

## **CHALLENGES OF ADOPTING KNOWLEDGE MANAGEMENT**

Although, the usefulness of knowledge management as a tool for organizational efficiency and effectiveness are glaring, organizations face challenges in the process of adopting knowledge management. Some of the challenges include organizational culture, lack of knowledge management incentive, poor information management structures, change management issues and cultural differences.

Organizational culture plays a significant role in facilitating information sharing. In an open culture, the flow of information is more fluid. Implicit knowledge can easily be shared among colleagues and other member of staff. However, in practice, it is observed that some organizational cultures do not encourage this free flow of information, adopting more formal structures of communication that do not support knowledge management.

Another challenge to the use of knowledge management is the poor incentives that accrues to employees who deploy the use of tacit knowledge (such

as intuition, gut feeling etc.) in the discharge of their duties, especially when it significantly improves organizational performance. As expected, organizations already have laid out processes and methodologies that they adopt in providing goods and services, yet appropriate recognition should be given to members of the company that deploy tacit knowledge to achieve goals.

Also, lack of proper structure that will link the structured and unstructured information is a challenge. In most cases, tacit information that will benefit the organizations are not shared in formal meetings for fear that the process will be viewed as unacceptable, though the individual achieves result through it. Organizations need to develop applications and technologies that will facilitate the capturing of unstructured information or tacit knowledge within the organization.

Another major challenge in implementing any novel structure or procedure is the ability to manage change. Once existing methods and processes have been regarded as generally acceptable, many may be reluctant to challenge status-quo. People often resist change because, more often than not, it will require the learning of new skills, a sacrifice that many are unwilling to make. Change agents are often disliked and criticized by others (at least at the initial stage). To avoid these negative reactions, many are unwilling to share tacit knowledge that the organization could benefit from.

The increasing impact of globalization in recent times has brought about multiple culture clashes in organizations. Organizations are made up of people from various backgrounds, with varying cultural beliefs. Some of these cultural inclinations impede information sharing at the socialization stage of knowledge management such as Informal face-to-face interactions with certain kinds of people may be discouraged in certain cultures (Basili et al., 1994). As a result, knowledge management is limited by cultural barriers to informal means of information diffusion.

## **LIMITATIONS OF THE KNOWLEDGE MANAGEMENT APPROACH**

The benefit of knowledge management has led to considerable improvement in many organizations; however, the concept has its own limitations. Researches over the years, along with practical observations in organizations have shown that excessively vast pool of knowledge exists. As a result, it becomes difficult for organizations to filter only relevant knowledge management practices (Dingsøyr and Conradi, 2002). Hence, knowledge management is limited to the extent to which managers are willing to explore relevant practices and tools. Limited knowledge practices in certain areas of decision making can limit the application of knowledge management in such areas. Knowledge management thrives on database available in organizations. Since it

deals with the extent to which each company has been able to capture, store and disseminate knowledge that has been converted from tacit to explicit forms, it implies that Knowledge management is limited to the level of information available on that particular field (Walsham, 2001). Wiiig (1997) posited that organization can easily capture, store and disseminate knowledge once it has been rendered explicit. On the other hand, the complexities involved in capturing tacit knowledge is a major problem that has made the application of knowledge management difficult in certain industries, especially industries where success is highly dependent on chance (such as gambling, insurance etc.). More recent authors have also suggested that knowledge capturing and sharing will only bring about substantial innovation if such stored knowledge are truly applied that is knowledge application plays a key role in the ability of knowledge management to lead to firm innovation (Ode and Ayavoo, 2020).

## SUMMARY AND CONCLUSION

The quest for a better way of enhancing firm performance has necessitated the use of knowledge management among practitioners and this has gained the attention of scholars in recent times. Many organizations in the past have tried to improve performance by manipulating resources like money and machinery and often downplayed the importance of their intangible assets. The knowledge-based view theory, a spin-off from the resource-based view theory proposes knowledge as the most significant resource that organizations have at their disposal to influence performance. Thus, most organization now make concerted efforts at mining and storing knowledge. Knowledge management comprises a range of management practices to create, identify, store, diffuse, replicate and apply knowledge within organizations. These processes include socialization, capturing, dissemination and internalization. Knowledge management elements involve people, process and technology on knowledge sharing. There three major branches of knowledge management according to the components of the organization's factors that they address (ecological, organizational and techno-centric knowledge management). Knowledge management systems are one of the major contributions of information technology to knowledge management. A knowledge management system is an information system that stores and retrieves knowledge to improve understanding, collaboration, and process alignment within an organization. Many companies are currently putting together methods that convert tacit and implicit knowledge into explicit knowledge, in forms that can be coded, stored and transmitted, in a way that can be used by others in similar scenarios. Industry leaders like Ford Motor Company, General Electric, Amazon and Pratt & Whitney has benefited substantially from implementing

effective knowledge management systems.

Existing literature shows that knowledge management is still evolving. Also, factors like intellectual capital, innovation and knowledge application play a significant mediating role in the relationship between knowledge management implementation and organizational performance. Knowledge management cycle is incomplete if it is not accompanied by effective knowledge management implementation strategies. When knowledge management processes do not place emphasis on implementation of the acquired knowledge, it could lead to knowledge proliferation and structuration. Modern businesses have also been found to be gradually evolving from document-based knowledge management systems (mechanical) towards people-based knowledge management systems (organic) as a result of higher capacity of the latter for improvement and alignment of knowledge management strategies within a progressively dynamic business environment. Modern businesses also try to foster this improvement and the overall effectiveness of their organic knowledge management process through gamification. Gamification helps improve learning environment by increasing the level of flexibility and collaboration. It also helps in identifying and fostering relevant skill set among knowledge workers.

Although, the usefulness of knowledge management as a tool for organizational efficiency and effectiveness are glaring, there are some challenges in its implementation. Factors like organizational culture, lack of knowledge sharing incentive, cultural differences, lack of proper information structures and change management issues. Also, the complexities involved in converting tacit knowledge to explicit form are a major limitation of the knowledge management process.

## CONFLICT OF INTERESTS

The authors have not declared any conflict of interest.

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*Full Length Research Paper*

# **A meta-synthesis of trade logistics influence on international trade**

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**Logistics systems are inexplicably linked to trade and investment, and their significance in describing a country's competitiveness in an increasingly globalized world is growing. Improved trade logistics, in conjunction by a way of more economic liberalization climate, increased volume and size of trade, as well as reach in distribution and production activities. With careful reviews, the study discussed a meta-synthesis of trade logistics influence on international trade where about twenty-two papers across publishers were analyzed to observe their findings. According to several reports, the availability and consistency of physical infrastructure for effective transportation and logistics services, regulations, poor implementation, procedures, corruption at ports, and cargo handling costs all got a significant influence on a trade and competitiveness performance of the Nation. In order to meet consumer demand, exporting companies could develop reverse logistics systems while focusing on sustainable development. However, to make the understanding of the level of logistics of trade impacts on international trade, the response of logistics growth in international trade requires more in-depth research.**

**Keywords:** Trade logistics, meta-synthesis, international trade, sustainable development, transportation, logistics performance.

## **INTRODUCTION**

Transport and logistics services promote foreign and contribute significantly to the local economy's growth and development. The quality and reliability of logistics services can have significant impact on international trade, as a lack of logistics infrastructure and operational processes can be a significant barrier to global trade integration (Devlin and Yee, 2005). Improved trade related logistics, in combination with a more liberalized economic climate, will boost trade volume and size and reach out in distribution and production activities. International trade has been increasing for decades and is growing at a faster rate than global GDP (Blonigen and

Wilson, 2013). This expansion has placed enormous strain on international transportation markets, which have responded with significant developments, the most notable of which was the introduction of containers in the late 1950s. Along with growing incomes, the resulting reduction in transportation costs between countries has fueled the growth of international trade and interest in developing models that connect trade and transportation. Although the contribution of logistics to a country's national production may not be as competitive as other industries, the role that logistics plays in supporting an economy's activities cannot be underestimated or ignored.

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The facilitation of foreign trade, which, in the right circumstances, delivers national growth and social outcomes, is a well-known connection between transportation and logistics and national development (OECD/WTO, 2013). The transportation and logistics sector is critical in promoting foreign trade because it helps businesses to efficiently complete imports and exports of goods and services, as well as related transactions.

The continued growth of global trade, as well as many countries' willingness to accelerate integration within the global trading system, would depend on more than just maintaining an open global trading system but enhancing the quantity and efficiency of the structures for instance logistics services that can be very supportive. Weak logistics services, such as limited cross-border coordination; inefficiency of customs clearance at ports; fragmented and poor quality transportation-related infrastructure; expensive and infrequent shipping (via long and indirect routes); delays in monitoring and tracing consignments; delays in terminal handling and clearance of goods; lack of cold storage facilities at ports, as well as the failure to certify product quality, are all factors that can stymie foreign trade.

Trade liberalization forces will continue to push countries around the world to increase their involvement in, and realize the rewards of, a globalizing world with expanding opportunities for commerce. The level of development of domestic as well as foreign logistics services can be a critical factor in allowing countries to trade with fewer restrictions and at lower costs. Although better overall logistics services can help shape long-term trade facilitation, the question of whether the level of logistics services encourages further trade is crucial. Infrastructure is vital to the growth of every logistics and supply chain, according to industry experts. The availability and efficiency of physical transportation infrastructure and logistics facilities, as well as cargo handling prices, legislation, and procedures, have a significant effect on a country's trade performance and competitiveness by directly affecting the cost of doing business (Hoekman and Nicita, 2011; Portugal-Perez and Wilson, 2012). Few studies have assessed the direct impact of logistics efficiency on trade and vice versa, to the best of the authors' knowledge. Similarly, the complex relationship between international trade and the logistics and transportation sectors has not received adequate attention. More specifically, there is a need to investigate the transportation sector's response to international growth in greater depth.

## **LITERATURE REVIEW: LOGISTICS PERFORMANCE ON INTERNATIONAL TRADE**

### **Definition**

International trade plays a vital role in any successful

economy. Logistics has become a common term in the world and is no longer the same as it was confined to international companies only, but logistical practices have extended to the level of the world as they can increase competitiveness and its impact on the international sector in demand and supply, and then in international trade. According to Hollweg and Wong (2009), logistics is the ability to transport goods quickly, reliably, and at low cost, ensuring that many problems are solved through its activities such as transport and storage, which contribute to increasing the competitiveness of companies and countries. Transportation is the most essential task in logistics which includes the movement of products facilitates for the territorial crossing of large distances as well as the crossing of boundaries. Cross-border transportation involves a large number of participants, leading to increase of organizational complexities and hence the largest cost considerations for the transnational movement of products are transportation and related control activities. This demonstrates the importance of implementing good transportation networks in order to keep those costs as low as possible (Schieck, 2008). A country's logistics infrastructure consists of its transportation network, which comprises of roads, trains, and canals. The government has a significant impact on such socioeconomic logistical processes and leads to the improvement of businesses that rely upon that quality of the logistics infrastructure. The state also maintains transportation networks and offers organizations for logistical services such as postal service. While considering logistics on a macroeconomic level, logistic services and information systems can also be included. A nation's logistic services, for instance, encompass the broad availability of local vendors and third - party logistics providers. Furthermore, information technologies are critical since they supply decision relevant data for planning and releasing the entire logistical process (Schieck, 2008).

Many researchers Marelli and Marcello (2011), Yanikkaya (2013), Edwards (2011), knew that international trade is a percentage of total trade imports plus exports to the country's national income GDP. Export expansion not only promotes aspect of economic but accelerates economic growth by creating positive externalities through specialization, efficient resource distribution, enhanced manufacturing methods, competitiveness, and economies of scale. The importance of international trade has increased over time due to the availability of surpluses in some countries and the shortage in other countries. Shepherd's (2011) study of logistics data from 45 countries found that the logistics sector accounts for around 5% of GDP on average, with a range of 2% to 12%. Given the rapid increase in global trade since 2000 (as seen below), the logistics sector's contribution to national production in many countries is likely to increase as trade liberalization accelerates and countries become increasingly outward-oriented.

Transport is the costliest aspect of trade logistics, and

sufficient infrastructure is needed to make it possible (Korinek and Sourdin, 2011). If the transportation and logistics sector is unreliable or even unstable, it is difficult for a producer to export or import at a reasonable price. High prices, poor quality, and a lack of confidence in transportation and logistics can effectively isolate a country from global markets.

In their study on air cargo in South Africa, Dettmer et al. (2014) concluded that a more liberal market for air cargo services could reduce transportation costs and encourage further integration. Despite the fact that ports have the greatest impact on trade (Nordas and Piermartini, 2004), port productivity may have a substantial impact on transportation costs. According to an OECD report from 2011, a one-day reduction in time spent at sea could increase trade by 4.5 percent. Shepherd (2011) discovered that in developed countries, pre-shipment delays were linked to a lower level of export diversification. For better trade, logistics governance is essential as the efficiency of logistics improves, public policies relating to trade logistics become increasingly important. Trade logistics policies are critical because the efficiency of logistics is dependent on well-designed government policies. Institutional elements of logistics, such as government legislation, firm-level administrative and operating processes, supply chains, and national trade procedures for inward and outward movement of goods, all play a role in effective trade logistics.

The rapid growth in foreign trade volumes seen over the last two decades necessitates the streamlining of operational bureaucracy such as time-consuming, expensive, and inefficient trade procedures. Complicated trade administrative procedures can build an atmosphere conducive to corruption, which can lead to even more inefficiencies. These behind-the-border barriers, according to Malik and Awadallah (2013), trigger costly frictions in transportation, communication, and services. In the case of the Middle East and North African countries, these writers have argued that the restricted movement of goods and services frequently defies economic logic.

In countries with bad governance and weak trade institutions, there is a risk of trade wars. Traders dealing with public sector employees such as customs officials will face major difficulties in countries with poor governance and weak institutions regulating trade transactions and procedures. They can make customs clearance more difficult by requiring time-consuming inspection procedures (which require needless signatures for clearing goods), customs officials' absence from work, and poor communication and coordination with numerous agencies of government. When bribery is requested by underpaid customs officers, the situation becomes much more complicated. Shepherd (2010) found that weaker trade facilitation (measured by longer lead times to export and import) was linked to higher recorded levels of trade-related corruption, as poor performance gave companies

an opportunity to break the rules by paying "speed money." Hummel (2001) observed similar results in an earlier survey, showing that shippers were willing to pay a premium for quicker delivery.

### **Empirical findings on trade logistics and international trade**

Several findings relating to logistics, supply chain, transportation/port facilities, and trade have been discussed in existing literature, primarily with the aim of exploring the impact of logistics on trade facilitation in a broader context, without examination or thoughtfulness of the direction of causality. For the period 1989-2000, Wilson et al. (2013) investigate the relationship between trade facilitation, trade flows, and GDP per capita in the Asia-Pacific region. They use an augmented gravity model to assess the key trade facilitators as part of their study. Improvements in logistics efficiency were found to result in only modest increases in trade volume. Based on a data set of more than 100 countries for the years 2004 to 2007, Portugal-Perez and Wilson (2012) estimate the effect of aggregate indicators of "soft" and "strong" infrastructure on developed country export results. Their findings indicate that both physical infrastructure and information and communication technology (ICT) have a significant effect, particularly on exports. Gani (2017) examines the overall logistics performance of a large number of countries as well as disaggregated indicators of logistics performance. He claims a strong positive correlation of logistics performance with imports and mostly exports by integrating variables of logistics performance in some conventional export and import equations. Martinez-Zarzoso and Márquez-Ramos (2008) analyze the effect of transportation costs on trade and estimate the elasticity of trade for different subsectors in relation to transportation costs. Their findings indicate that the quality of door-to-door facilities, transportation infrastructure, port performance, and the availability of various modes of transportation are among the most important determinants of transportation costs and international trade, especially in high-value-added industries. The importance of logistic efficiency in worldwide trade was explored by Gani (2017). The findings show that the overall output of logistics is associated significantly with imports and exports.

Martí and Luisa (2017) have studied, while using the gravity model, the importance of logistics in their export of those countries and their finding suggest an improvement in the region, the importance of logistics in international trade and its cost of trade. In addition to promoting their trade, the logistics infrastructure aims at increasing export competitiveness. The structural equation model was used in Munim and Schramm (2018) to empirically analyze the significant economic impact on the quality and performance of the port infrastructure. The results

show that port infrastructure can improve logistics, promote shipping and boost economic growth. Finding that higher charges lead to reductions in supply for established businesses, Lan et al. (2017) examined the association between stringency of environmental regulations and demand for goods and services. The relationship between port efficiency, transportation costs and bilateral trade volume was discussed at Sánchez et al. (2013). They found that improving port efficiency can reduce the cost of transport and increase the volume of bilateral trade.

According to a report conducted by a leading stakeholder in the Nigerian organized private sector (OPS) and the Lagos Chamber of Commerce and Industry (LCCI), the Nigerian economy loses N3.4 trillion in annual revenue due to weak infrastructure, poor execution, and corruption at the ports, with N2.4 trillion in corporate earnings losses across the economy. Profit margins of corporate entities using some of the country's main infrastructure, such as Apapa port, have steadily dwindled as logistics costs have increased significantly, according to the study. An empiric evidence of important economic impacts on port infrastructure quality and logistical performance is a study conducted by Munim and Scharam (2018) using a model of structural equations (SEM). In addition, multigraph SEM analysis is carried out by dividing countries into groups of economies which are both advanced and developing. The results show that the continued improvement of the quality of the harbor infrastructure is essential in developing countries, as it contributes to improved logistics performance, leads to increased trading at sea and increases economic growth. However, as the developing countries become richer, this association weakens.

## STUDY'S OBJECTIVE

A literature review on how to trade logistics and its effect on international trade was presented in the previous section. Some research finds a significant relationship between different aspects of trade logistics and foreign trade, according to this literature review. On the other hand, some studies have found no evidence of a connection between certain aspects of trade logistics and international trade. These outcomes suggest that the findings of the relationship between them are inconsistent. In other words, we cannot infer how trade logistics affects foreign trade by virtuously examining the literature. As a result, the aim of this study is to determine the proper relationship between them, which necessitates a systematic meta-synthesis of similarities between the constructs.

## RESEARCH METHODOLOGY: A META-SYNTHESIS APPROACHES

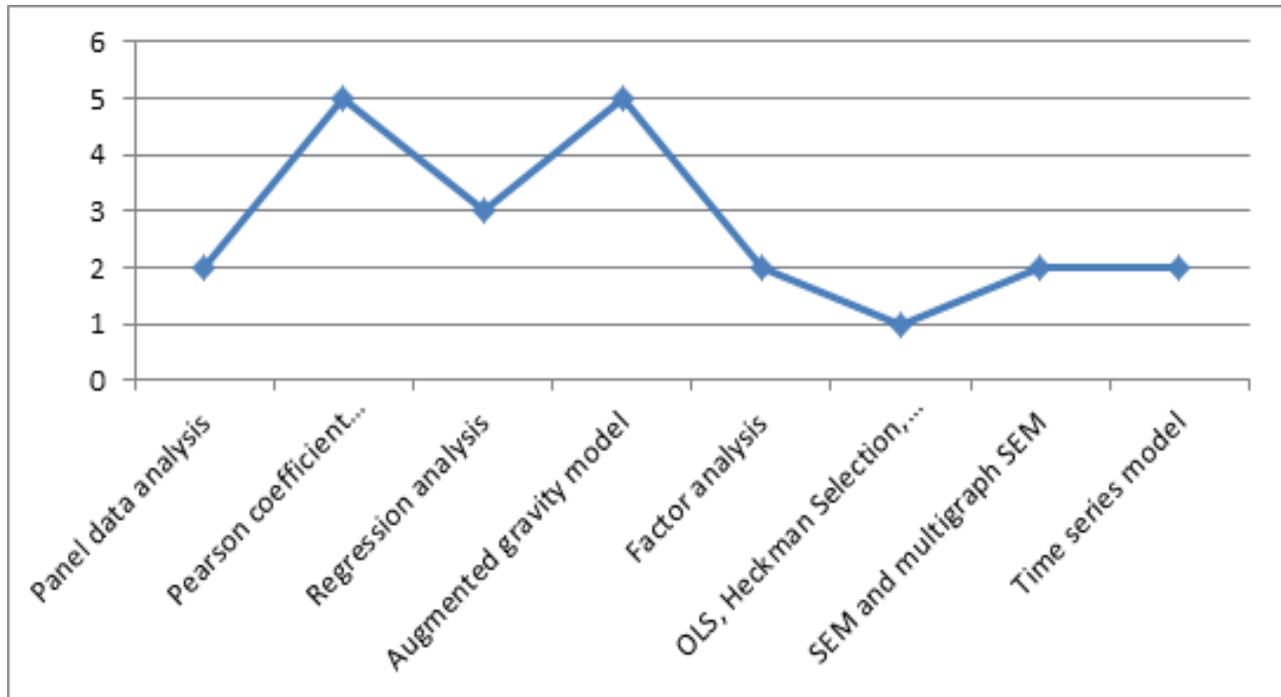
The ability to explore intervention programs and evaluate potential

effectiveness in trade logistics with international trade is enabled by a synthesis of such commonalities that can come out from findings of separate studies. Accordingly, Sherwood (1999) believes that the synthesis of the compound results serves to understand the state of the field based on the research analysis as the number of qualitative studies on a certain issue grows, while data from single qualitative investigations are becoming more relevant by comprehending as well as regarding further presenting the results of studies on a similar matter using meta-synthesis. The goal of a meta-synthesis would be to gather all available qualitative knowledge on a specific subject then combine that information into a single presentation that provides a more complete picture of the phenomena. The synthesis of qualitative studies is a growing field that had already attracted increased attention as a valuable form of evidence for enhancing health policies and practices (Mohammed et al., 2016). According to the author, there were multiple efforts throughout the previous decade to develop systems for gathering and synthesizing qualitative data. Although many empirically qualitative research methods on various parts of specific sectors' study have also been published, the compilation and syntheses among those data have not been reported widely, notably in trade logistics on international trade practices similar studies. However, the method of meta-synthesis could give a rich analytical context for analyzing any subject of research with no proof conclusions, according to Raimi and Uzodinma (2020). So application of meta-synthesis is used in this study to combine qualitative data in order to produce a renewed understanding of the topic of interest, which will aid in the development of novel concepts. It brings insights via comprehensive evaluations of descriptive and inferential investigations which integrate previous qualitative research using stringent qualitative approaches to generate deeper sense from an exploratory procedure.

Though the publications got picked between 2000 to the present since it is considered that additional statistical findings may be derived, that will also improve this paper's clarity. This research synthesized the influence of logistics on international trade using data of 22 previous researches which provided trade elasticity. Researchers are expected to form hypotheses regarding those elements if such meta-analysis revealed a positive bond within them. As a consequence, they convincingly argue how meta-analysis is a vital part of theoretical development. This meta-analysis would have to include both substantial and non-significant correlations. It's because of the noteworthy outcomes in sampling that could be related to elements with an insignificant connection (Nair, 2006). Consequently, insignificant correlations should be included in the meta-synthesis (Nair, 2006; Mackelprang and Nair, 2010). Essentially, meta-synthesis allowed scientists to aggregate findings across multiple studies to obtain a broad opinion.

## FINDINGS AND DISCUSSION

Papers were gathered simply utilizing keywords including such "Infrastructure," "Public Capital," "Trade," "Export," "Import," "Trade Facilitation," and "Trade Costs" in varying combinations mostly on scholarly browsers JSTOR, Econ Lit, Google Scholar, Springer Link, as well as Web of Science. Researchers remain convinced that perhaps the publications we have chosen represent the great majority of similar empirical investigations on this issue. The only apparent exclusion to this is research which has not been published in English. Many writers create index values which reflect logistics factors in the nations or areas that can be used in main analysis. The index might be defined as the fundamental concept of trade logistics or on sub-



**Figure 1.** Graph analysis of articles used.

categories including transport or communication infrastructure, export, import, and so on. Nonetheless, the assessment was conducted out by means of occurrence count and percentages.

Tables 1 and 2 as well as Figure 1 reveal several methods used by several authors. It can be deduced that most of the studies made use of the Pearson correlation coefficient and gravity model with (22.7%) respectively. Also, most of their finding revealed that trade logistics has a significant relationship or international trade impact in both developing and developed countries. Finally, most empirical studies have recognized that in international trade, the performance of logistics and international trade in general are important. Results show that logistics and transportation are increasingly important for business in various supply chains, and it is therefore necessary to study and understand how business patterns vary between different groups of countries in the context of economic integration, how the efficiency and the sub-indices of logistics affect trade in different product groups. Most of the studies centers around customs efficiency, infrastructure, international shipping, service quality, cargo tracking capability, and timeliness, which have all been discovered to have a significant impact on the expansion of international logistics on a national level. Secondly, they conclude that the continuous improvement in port infrastructure quality is critical for developing countries because it contributes to improved logistical performance, which leads to increased seaborne trade and economic growth. Therefore, port infrastructure

can help to improve logistics, enhance maritime trade, and stimulate economic growth.

## Conclusion

The study examined a meta-synthesis of logistics influence on international trade. Logistics are closely linked to trade and investment and has become increasingly important in describing countries' competitiveness in a globalized world. Increasing world trade requires progress in transport technologies at the same time and quality logistics is a prerequisite for investors to operate efficiently. In order to keep or promote their competitiveness in the global market, exporters should proactively adhere to logistical operations policies through technology innovation or operational optimization and implementation of best practices in logistical operations, such as transportation efficiency, packaging and the design of the supply chain. In addition, exporters could create a reverse logistics system to meet consumer demands and focus on its development. Trade logistics promote effective trade and commerce and assist companies in getting respective products to the consumers, both within including across international boundaries, as a vital part of value chains. As a result, the impact of trade logistics on competitiveness, economic expansion, and creating jobs via international commerce is the focus of this research. These activities can improve exporters' logistics

**Table 1.** Summary of the article used for meta-synthesis.

Paper	Methods	Trade Logistics and International Trade Variables	Findings
Luttermann, et al. (2017)	Panel data analysis.	For the years 2006-2014 annual information for 20 Asian countries. The Global Competitiveness Index and the Logistics Performance Indices illustrate the countries' logistics systems.	The findings indicate that the relationship between logistics and trade is statistically significant. The main factor affecting exports and imports is transport infrastructure, particularly the quality of roads and ports.
Dong-Fang Wang et al. (2018)	Pearson coefficient correlation	Variables in trade logistics between 2007-2014 for the data from 113 countries and regions	Considering this full sample under perspective, export countries' green logistics performance has a favorable impact on export likelihood or size. The results show that the exporting and importing countries' Logistic Performance Index (LPI) is positively related to the volume of trade and that the LPIs of exporting countries have a positive influence on the probability of commerce.
Limao and Venables. (2001)	Regression analysis	Relations between infrastructure levels of importers, exporters and transit countries	He concludes that each of these infrastructure dimensions has a positive impact on bilateral trade.
Wilson et al. (2013)	Augmented gravity model	relationships in Asia-Pacific over the period 1989-2000 between trade facilitation, trade flows and GDP per person.	Improvements in the performance of logistics have shown significant trade growth..
Portugal-Perez and Wilson (2012)	Factor analysis	Aggregated 'soft' and 'hard' infrastructure indicators for developing countries' export performance between 2004 and 2007	The results suggest that both physical infrastructure and ICT have a notable effect on exports, in particular
Gani (2017)	Pearson coefficient correlation	logistics performance of different countries	The logistics performance has an important positive correlation with imports and exports.
Francois and Manchin (2007)	OLS, Heckman Selection, Tobit	logistics and export trade	A strong positive link between the performance of logistics and the export trade.
Hausman et al. (2013)	Pearson coefficient correlation	SEM and Pearson coefficient	The results show that there is a significant relationship btw import/export activities and logistic performance
Marti and Puertas (2017)	Gravity model	International trade logistics performance and trading costs	The result showed that logistics promote trade but also enhance the competitiveness of exports.
Munim and Schramm (2018)	SEM and multigraph SEM	Quality and performance of port infrastructure	The continued improvement in the quality of port infrastructure is vital for developing countries, as it contributes to a better logistics performance, leading to greater seaborne trade and greater economic growth. Port infrastructure can contribute to improving logistics, promote maritime trade and boost economic growth.
Lan et al. (2017)	SEM	Strict environmental rules and demand for goods and services	Higher charges lead to lower supplies for established companies.
Sánchez et al. (2013)	Pearson coefficient correlation	Port Effectiveness, Transport and Bilateral Trade Volume Relationship	Improving port efficiency can reduce transport costs and increase the volume of bilateral trade.
Uca et al. (2016)	Regression analysis	Logistics Performance Index and trade volume	The LPI's impact on trade volume is significant and positive, with a statistically significant moderating effect between the index on corruption perceptions and trade volume.
Zhenyu and Yaohua (2017)	Time series model,	Shandong Province GDP data, total import and export value, port cargo traffic and volume of traffic between 1995 and 2014	The empirical results show a long-term, stable co-integration, and the one-way cause is between the cargo volume, the volume of traffic and the total import and export amount.
Petra et al. (2020).	Pseudo-maximum probability estimator for the structural gravity model and Poisson	In the 2010–2018 period LPI and its sub-indices are the major independent variables of interest, with the main logistics on bilateral international trade between EU 15 and CEMS and the rest of the world	The results show that differences in LPI values have heterogeneous effects on bilateral trade, particularly if trading between different types of goods and different country pair groups is considered.
Host et al. (2019)	Cross-country data and gravity model	Logistics performance on international trade	The statistically significant and positive effect of logistics on trade flows is especially export performance
Jouili and Khemissi (2019)	Time series analysis	Six sub-dimensions of logistics performance on international seaborne trade.	The conclusions reveal a significant correlation between total logistical performance and six sub-dimensions in Tunisia and the seaborne business..

Table 1. Cont'd

Tarek et al (2017)	Panel data	Logistics performance indicator on trade openness	The results show that the logistics performance indicator does not affect African countries, which shows that the countries are moving toward logistics development and investment as a key part of trade.
Celbis, Nijkamp and Poot (2014)	Multiple regression	International trade and infrastructure (exports and imports)	According to the research, infrastructure IS important for international trade.
Kong (2010)	VAR model Time Series	International trade and international logistics	The findings demonstrated that China's growth of international logistics has had a major confident impact on international trade.
Hoekman and Nicita's (2010)	Gravity Model Pearson Coefficient	Trade LPI Index	The study discovered a substantial confident relationship between logistical performance and trade strength.
Lee and Lee (2012)	Factor analysis Pearson Coefficient	Data on international trade and logistics from 108 nations was examined.	It was discovered that six major elements impact the growth of international logistics on a national level, that are customs efficiency, infrastructure, international shipping, service quality, cargo tracking capability, and timeliness. There is a definite confident relationship between international logistics and trade.

Table 2. Graph analysis of articles used.

Methods	Panel data analysis	Pearson coefficient correlation	Regression analysis	Augmented gravity model	Factor analysis	OLS, Heckman Selection, Tobit	SEM and multigraph SEM	Time series model
Frequency	2	5	3	5	2	1	2	2
Percentage	9.1	22.7	13.6	22.7	9.1	4.5	9.1	9.1

performance and meet the demands of domestic and international logistics regulations that can improve their competitiveness and increase their export volumes.

## CONFLICT OF INTERESTS

The authors have not declared any conflict of interest.

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*Full Length Research Paper*

# **Ownership structure, financing constraints and inefficient investment: empirical analyses of Chinese data**

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**Using the data of A-share listed companies in Shanghai and Shenzhen stock exchanges from 2008 to 2017, this paper empirically tests the moderating role of ownership structure between financing constraints and inefficient investment. The study found that rational use of the moderating effect of ownership structure is of great significance to improve the investment efficiency of enterprises. When there are financing constraints, managerial ownership is more sensitive to the improvement of inefficient investment. The concentration of equity strengthens the sensitivity of insufficient investment caused by financing constraints, intensifies the degree of insufficient investment of enterprises, and the state-owned holding enterprises are more affected. On this basis, the paper puts forward relevant policy suggestions to improve the inefficient investment of enterprises.**

**Key words:** Financing constraints, inefficient investment, ownership structure, adjustment effect.

## **INTRODUCTION**

As the driving force for the growth and development of enterprises and the source of future cash flow growth, investment is one of the important decisions faced by all enterprises. Under the condition of perfect market, enterprises are easy to realize the optimal investment. However, due to the existence of asymmetric information and principal-agent problems there will be financing constraints and inefficient investment problems in the business process. At present, most studies on the relationship between financing constraints and investment efficiency conclude that financing constraints have a "double-edged sword" effect, which can not only slow down over investment, but also aggravate under

investment. So, are there other factors that play a moderating role between financing constraints and investment efficiency? Based on this, this paper uses the data of A-share listed companies in Shanghai and Shenzhen stock exchanges to empirically test the moderating effect of ownership structure on financing constraints and inefficient investment.

## **RELATED LITERATURE AND CONTRIBUTIONS**

Information asymmetry will lead to financing constraints, and financing constraints will have an impact on

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investment efficiency (Brown et al., 2009). Most studies show that financing constraints can slow down over investment and promote investment efficiency, but at the same time, it will also aggravate the lack of investment and bring about inefficient investment. Enterprises with different property rights make use of their financing advantages and have different effects on investment efficiency. Private enterprises make use of their financing advantages to alleviate the lack of investment, while state-owned enterprises are more likely to make use of their financing advantages for over investment (Liu et al., 2014). Moreover, the introduction of local government industrial policies will also aggravate the degree of financing constraints of Listed Companies in the jurisdiction and reduce the investment efficiency of enterprises (Xinmin et al., 2017).

Ownership structure is the cornerstone of corporate governance, which not only determines the organizational form of the enterprise, but also affects the investment efficiency of the enterprise through a certain mechanism. The concentration of ownership produces the supervision function of managers, reduces the agency cost and improves the efficiency of investment decision-making. However, the absolute ownership concentration of "one share dominating" is more likely to breed the behavior of large shareholders infringing on the interests of small and medium shareholders and external investors, resulting in inefficient investment. Jianhui and Yunyun (2010) found that the increase of the shareholding ratio of the largest shareholder and institutional investors improved the investment efficiency, while the increase of the shareholding ratio of the top five shareholders reduced the investment efficiency (Yang and Zhang, 2017). Equity balance has a positive moderating effect on the relationship between separation of ownership and over investment, and a negative moderating effect on the relationship between pyramid level and under investment (Liang et al., 2021).

Ownership structure affects the efficiency of investment. The problem of over investment is serious in companies that lack equity checks and balances and companies that have inconsistent direct control and actual control rights. Executive shareholding is conducive to reducing over investment (Zhong, 2011). For growing enterprises, managerial ownership and ownership structure significantly aggravate the problem of over investment; for mature enterprises, managerial ownership will aggravate the problem of under investment (Xie and Wang, 2017). The introduction of non-state-owned shareholders in state-owned enterprises can strengthen the supervision of state-owned enterprises and improve the inefficient investment behavior of state-owned enterprises. In the appointment of senior members, non-state-owned shareholders can significantly inhibit the inefficient investment of state-owned enterprises (Sun et al., 2019). Research by Liu (2020) shows that debt financing can restrain the inefficient investment

behavior of private enterprises, while the restraining effect on state-owned enterprises is relatively weak, which is more prone to inefficient investment (Liu, 2020).

Through literature review, it is not difficult to find that the existing studies generally use the intermediary variable of financing constraints to test the direct effect of financing constraints on the investment efficiency of enterprises, and on the basis of further subdivision of the nature of property rights, explore the investment efficiency of state-owned and non-state-owned enterprises with financing constraints. Are there other factors that play a moderating role between financing constraints and investment efficiency? Existing studies have shown that different equity structure arrangements will produce different investment efficiency (Yu et al., 2020). Following this research idea, this paper further explores the regulatory role of equity structure on financing constraints and inefficient investment, and provides theoretical basis and practical path for enterprises to improve investment efficiency.

## THEORETICAL ANALYSIS AND HYPOTHESES

Under the perfect market conditions, enterprises will always get the investment funds through certain financing channels, that is, there are no financing constraints. In this case, there will be no problem of maximizing the return of investment according to the principal-agent efficiency. However, due to the existence of principal-agent relationship, on the one hand, in order to realize their own interests or avoid risks, managers may give up projects with positive net present value, resulting in underinvestment; on the other hand, managers prefer the construction of personal Empire, and may invest in projects with negative net present value, resulting in over investment. Information asymmetry will lead to financing constraints, increase the difficulty of obtaining funds, and further aggravate inefficient investment. Due to the special institutional background of state-owned holding enterprises, compared with non-state-owned holding enterprises, they have wider financing channels and easier access to investment funds, so they are less affected by financing constraints. Based on the above theories, the study proposes the following hypotheses.

### Hypothesis 1

Financing constraints not only aggravate the underinvestment of enterprises, but also alleviate the over investment behavior. Compared with the state-owned holding enterprises, the investment efficiency of non-state-owned holding enterprises is more sensitive to the impact of financing constraints. Management shareholding can reduce agency costs, promote the convergence of management's own interests and

shareholders' interests, and then reduce the risk of investment decision-making and financing costs. The higher the proportion of shares held by the management, the more efforts they make in investment decision-making, the higher the scientific level of decision-making and the stronger the ability to avoid risks. Through the positive signals to external investors, it helps to reduce investors' assessment of enterprise risk and uncertainty, reduce the financing constraints faced by enterprises (Gang, 2016), and improve investment efficiency. As the state-owned shares are "dominated by one share", the managers of enterprises are appointed by the competent government departments to manage the business activities of the enterprises on their behalf. Appropriately increasing the proportion of shares can encourage the management to make efforts to improve the investment efficiency. Based on the above analysis, we propose the following hypotheses.

**Hypothesis 2**

When there are financing constraints, managerial ownership will improve investment efficiency and reduce over investment and under investment. Compared with non-state-owned holding enterprises, state-owned holding enterprises have more influence on inefficient investment. The relatively centralized ownership structure can effectively restrict the management power of the enterprise. With the increase of ownership concentration, the possibility of large shareholders cashing out by selling shares becomes smaller. For the sake of long-term private benefits, the major shareholders will have to supervise the managers more rationally to improve the investment efficiency. Due to the natural financing advantages of state-owned holding enterprises and the "dominance of one share" of state-owned shares, it is not feasible to restrain inefficient investment by increasing the ownership concentration. Based on the above analysis, we propose the following hypotheses.

**Hypothesis 3**

When there are financing constraints, equity concentration has a certain role in promoting investment efficiency. With the increase of ownership concentration, compared with non-state-owned holding enterprises, state-owned holding enterprises aggravate the degree of

$$x/z = \alpha_0 + \alpha_1 \times c + \alpha_2 \times y_3 + \alpha_3 \times y_4 + \alpha_4 \times y_5 + \alpha_5 \times y_6 + \sum Year + \sum Ind + \varepsilon \tag{1}$$

$$x/z = \alpha_0 + \alpha_1 \times c + \alpha_2 \times c \times y_1 + \alpha_3 \times y_3 + \alpha_4 \times y_4 + \alpha_5 \times y_5 + \alpha_6 \times y_6 + \sum Year + \sum Ind + \varepsilon \tag{2}$$

$$x/z = \alpha_0 + \alpha_1 \times c + \alpha_2 \times c \times y_2 + \alpha_3 \times y_3 + \alpha_4 \times y_4 + \alpha_5 \times y_5 + \alpha_6 \times y_6 + \sum Year + \sum Ind + \varepsilon \tag{3}$$

**Data source description**

This paper selects A-share listed companies in Shanghai and

insufficient investment.

**RESEARCH DESIGN**

**Variable description**

*Explained variable*

Inefficient investment refers to the behavior that the enterprise's actual investment expenditure is inconsistent with the optimal investment level, mainly in the form of over investment and under investment. That is, when the enterprise has sufficient resources, the managers will invest the company's resources in the projects with negative NPV or abandon the projects with positive NPV. In this paper, we use Richardson residual model to measure the inefficient investment variables, judge the situation of over investment and under investment according to the residual term of the model, and use  $|\varepsilon|$  to express the degree of over investment and under investment.

*Explanatory variables and moderating variables*

Relevant studies show that there is a decreasing relationship between the external financing cost and the interest coverage ratio. The higher the interest protection ratio is, the stronger the enterprise's profitability and payment ability are, and the more guaranteed the creditor's repayment of principal and interest is. From the perspective of capital security, investors are more willing to choose such enterprises, so they are subject to lower financing constraints. This paper selects the interest cover ratio as an alternative variable to measure the external financing constraints of enterprises. In order to verify the effect of financing constraints on the ownership structure in the process of non-efficiency, this paper introduces the adjustment variables of ownership structure, and uses the management shareholding ratio and Herfindahl index as the proxy variables of ownership structure.

*Control variables*

There are many factors that affect the inefficient investment of enterprises. Based on previous studies (Yu et al., 2017), this paper selects asset liability ratio, return on net assets, growth opportunities and enterprise size as control variables. Year and industry are controlled by dummy variables. The symbols and definitions of variables are shown in Table 1.

In order to test hypotheses 1, 2 and 3, we establish a basic model(1) to study the relationship between financing constraints and inefficient investment. On this basis, the cross multiplication terms of financing constraints with management shareholding and ownership concentration are added to investigate the moderating effect of the above factors on financing constraints and inefficient investment, so that, model(2) and (3) are established.

Shenzhen stock exchanges from 2008 to 2017 as the original samples, and processes the original samples as follows: (1) remove the financial sector enterprises and ST enterprises in the sample

**Table 1.** Variable descriptions.

Variable type	Name	Symbol	Definition
Explained variable	Overinvestment	x	Richardson model residual value × 10000
	Underinvestment	z	Richardson model residual negative absolute value × 10000
Explanatory variable	Financing constraints	c	interest cover ratio EBIT / interest expense
Moderating variable	Management shareholding	y <sub>1</sub>	includes the shareholding ratio of the board of directors, the board of supervisors and senior executives
	Ownership concentration	y <sub>2</sub>	The sum of the square of the shareholding ratio of the top five shareholders
Control variable	Asset liability ratio	y <sub>3</sub>	total liabilities / total assets
	Return on equity	y <sub>4</sub>	net profit / average total assets
	Growth opportunities	y <sub>5</sub>	revenue growth rate
	Enterprise size	y <sub>6</sub>	logarithm of total assets book value
	Year	Year	dummy variable
	Industry	Ind	dummy variable

**Table 2.** Descriptive statistics.

Variable	N	Maximum	Minimum	Mean	Standard deviation
x	2225	77990.98	2.08	703.53	965.45
z	4132	11443.92	1.21	401.93	276.10
c	6357	1997.36	-12023.27	2096.77	6740.70
y <sub>1</sub>	6357	0.01	0.00	0.00	0.00
y <sub>2</sub>	6357	0.61	0.01	0.17	0.12
y <sub>3</sub>	6357	1.05	0.08	0.49	0.19
y <sub>4</sub>	6357	0.27	-0.28	0.04	0.06
y <sub>5</sub>	6357	6.42	-0.66	0.17	0.47
y <sub>6</sub>	6357	26.27	19.36	22.12	1.23

period; (2) delete the samples with missing data; (3) winsorize the samples by 1% to reduce the impact of outliers on the regression results. After screening, a total of 6357 valid observations were obtained, and all the data were from the wind database.

### Descriptive statistics

Table 2 shows the statistics of the main variables. In the sample period, there are 2225 enterprises with over investment, 4132 enterprises with under investment, and more than 64% of the enterprises have under investment. Compared with the sample of underinvested enterprises, the phenomenon of over investment is more obvious in over invested enterprises. The average value of financing constraints is 2096.77, and the standard deviation is as high as 6740.70, which indicates that financing constraints are widespread, and there are great differences among different sample enterprises, which is suitable for the analysis of the impact of financing constraints on inefficient investment. Other variables are basically consistent with the operation of normal health companies.

### ANALYSIS OF EMPIRICAL RESULTS

In order to eliminate the influence of multicollinearity

among variables on the estimation results, before regression analysis, the correlation coefficient test of variables is carried out, and it is found that the correlation between variables is small. In addition, we also use the variance expansion factor method to diagnose the collinearity of independent variables. The test results show that the tolerance of each variable is greater than 0.25, and the variance expansion factor VIF is less than 4. The collinearity problem between variables is not serious, which is suitable for regression analysis model.

### The impact of financing constraints on inefficient investment

Use model (1) to investigate the impact of financing constraints on inefficient investment. The regression results are shown in Table 3. From the regression results, both over investment and under investment samples passed the significance test. At the level of 1%, the coefficient of financing constraint(c) has a significant

**Table 3.** Impact of financing constraints on inefficient investment.

Variable	x	z
c	-0.0031 *** (-3.58)	0.0025 *** (3.55)
y <sub>3</sub>	419.4518 *** (4.51)	2.1073 (0.11)
y <sub>4</sub>	2092.6396 *** (5.57)	-291.5367 *** (-4.22)
y <sub>5</sub>	119.2994 *** (3.42)	18.1811 (1.29)
y <sub>6</sub>	-32.2979 ** (-2.05)	-68.8017 *** (-20.58)
Adjusted R <sup>2</sup>	0.146	0.185
F statistic	21.751	17.532
N	2225	4132

The T value of regression coefficient is in brackets. \* , \*\* and \*\*\* Significant at 90, 95, and 99% levels.

**Table 4.** Impact of financing constraints on inefficient investment of enterprises with different property rights.

Variable	x		z	
	State holding (1)	non state holding (2)	State holding (1)	non state holding (2)
c	-0.0017 ** (-2.05)	-0.0078 ** (-2.33)	0.0019 ** (2.09)	0.0028 *** (3.12)
y <sub>3</sub>	251.2733 * (1.71)	566.9662 *** (2.82)	-36.0208 (-1.11)	42.0938 (1.25)
y <sub>4</sub>	1711.0404 *** (3.10)	2061.6659 *** (2.64)	-343.7651 *** (-2.71)	-271.9212 ** (-2.19)
y <sub>5</sub>	160.9822 *** (3.75)	81.7733 ** (2.14)	39.4577 (1.56)	-1.0614 (-0.06)
y <sub>6</sub>	-16.9079 (-0.83)	-31.0638 (-0.93)	-53.4771 *** (-11.35)	-81.8955 *** (-12.77)
Adjusted R <sup>2</sup>	0.119	0.101	0.158	0.166
F statistic	19.254	16.221	23.638	20.482
N	1183	1042	2218	1914

The T value of regression coefficient is in brackets. \* , \*\* and \*\*\* Significant at 90, 95, and 99% levels.

negative effect on x and a significant positive effect on z, which indicates that financing constraint has a significant inhibitory effect on alleviating over investment, and at the same time, it also intensifies the underinvestment behavior of enterprises, which is consistent with the inference of Hypothesis 1. State owned holding enterprises have always played a special role in China's economic activities, which are different from non-state-owned holding enterprises in terms of resource acquisition, policy support and financing constraints. On the basis of Table 3, according to the nature of property rights, the samples of over investment and under investment are further divided into two categories and four groups for regression. From the results of Table 4, no matter x or z, the sensitivity of non-state-owned holding enterprises to financing constraints is much higher than that of state-owned holding enterprises, which indicates that the financing channels of non-state-owned holding enterprises are single and the security is not strong, and their investment behavior is more strongly affected by financing constraints (consistent with the inference of Hypothesis 1). There is a significant positive correlation between asset liability ratio y<sub>3</sub> and x, but no significant impact on z. the reason may be that enterprises raise capital holdings through a large amount of debt, which is

more prone to over investment. Compared with state-owned holding enterprises, the phenomenon of over investment in non-state-owned holding enterprises is more significant. Under the level of 1%, the return on equity y<sub>4</sub> has a significant positive effect on x and a significant negative effect on z. higher return on investment makes the enterprise obtain higher return on capital, and it is easier to stimulate the excessive investment behavior of enterprise managers. Whether state-owned or non-state-owned enterprises, growth opportunity, y<sub>5</sub>, is significantly positively correlated with x, while enterprise size y<sub>6</sub> is significantly negatively correlated with z. With the continuous growth of enterprises, there are more and more over investment, but the expansion of enterprise scale is conducive to the standardization of investment management, making investment decisions more effective.

#### **Moderating effect of ownership structure on financing constraints and inefficient investment**

##### ***Moderating role of managerial ownership***

In order to test the moderating effect of ownership

**Table 5.** Moderating effect of managerial ownership on financing constraints and inefficient investment.

Variable	x		z	
	State holding (1)	Non state holding (2)	State holding (1)	non state holding (2)
c	-0.0020 ** (-2.10)	-0.0080 ** (-2.35)	0.0019 ** (2.30)	0.0028 *** (3.13)
$c \times y_1$	4.2973 *** (3.81)	-1.5982 (-0.19)	-0.3656 *** (-6.67)	0.0008 ** (2.34)
$y_3$	248.5456 * (1.69)	564.5687 *** (2.81)	-38.9632 (-1.19)	37.7177 (1.11)
$y_4$	1617.49 *** (3.22)	2030.07 *** (2.61)	-387.03*** (-3.55)	-260.08 ** (-2.35)
$y_5$	161.0800 *** (3.75)	81.1267 ** (2.14)	39.4071 (1.54)	-3.0015 (-0.18)
$y_6$	-17.3278 (-0.86)	-29.8119 (-0.90)	-55.1321 *** (-11.66)	-80.2450 *** (-12.78)
Adjusted R <sup>2</sup>	0.119	0.102	0.159	0.165
F statistic	17.802	13.221	25.457	19.526
N	1183	1042	2218	1914

The T value of regression coefficient is in brackets. \*, \*\* and \*\*\* Significant at 90, 95, and 99% levels.

structure between financing constraints and inefficient investment, we add the cross product term of financing constraints and management Shareholding on the basis of model (1). According to the regression results in Table 5, the moderating effect of managerial ownership on financing constraints and inefficient investment is quite different between state-owned and non-state-owned enterprises. For the sample of state-owned holding enterprises, the financing constraints  $c$  and  $x$  are significantly negative at the 5% level, while the interaction coefficient ( $c \times y_1$ ) is positive and highly significant at the 1% level. This shows that when there are financing constraints, the management shareholding strengthens the sensitivity of financing constraints to restrain over investment, and promotes the state-owned holding enterprises to further reduce over investment. In the sample of non-state-owned enterprises, the moderating effect of managerial ownership is not significant. On the contrary, for the sample of non-state-owned holding enterprises, the financing constraint  $c$  is significantly positive at the level of 1%, the coefficients of  $z$  and  $c \times y_1$  are also significantly positive at the level of 5%, which indicates that the management shareholding of non-state-owned holding enterprises strengthens the sensitivity of financing constraint leading to underinvestment and aggravates the underinvestment of non-state-owned holding enterprises. The reason is that management shareholding can reduce agency costs, promote the convergence of private benefits of management and shareholders' interests, and reduce inefficient investment. However, in the face of severe external financing constraints and personal performance appraisal, the management of non-state-owned holding enterprises may reduce investment expenditure, aggravating the degree of underinvestment. However, the managers of state-owned holding enterprises are mainly appointed by government departments, and almost do not hold the shares of the enterprises. Increasing their shareholding ratio can encourage the managers to improve the investment efficiency and slow down the

degree of over investment and under investment. So far, the inference of Hypothesis 2 has been verified.

#### **Moderating effect of ownership concentration**

We use model (3) to examine the moderating effect of equity concentration on financing constraints and inefficient investment. From the regression results in Table 6, the ownership concentration only shows a significant positive correlation in the case of  $z$ , and does not have a moderating effect on  $x$ , which is not completely consistent with Hypothesis 3. Although the relative concentration of equity can have a supervisory and restrictive effect on managers, the excessive concentration of equity will also lead to the interest encroachment of major shareholders. When the capital is short and the investment is insufficient, as the direct stakeholders of the enterprise, the large shareholders will not significantly reduce the over investment to improve the investment efficiency, but further reduce the investment scale and aggravate the degree of underinvestment.

On the basis of further dividing the samples of state-owned and non-state-owned enterprises, we find that the moderating effect of equity concentration on financing constraints and inefficient investment has not changed (Table 7). Whether state-owned or non-state-owned enterprises, ownership concentration have no moderating effect on  $x$ , but have a significant positive moderating effect on  $z$ . In the case of underinvestment, the cross product coefficient ( $c \times y_2$ ) is significantly positive at the level of 1%. This shows that when there are financing constraints, the concentration of equity strengthens the sensitivity of insufficient investment caused by financing constraints, and intensifies the degree of insufficient investment. Compared with non-state-owned holding enterprises, state-owned holding enterprises are more affected. So far, the inference of Hypothesis 3 has been partially verified.

**Table 6.** Moderating effect of ownership concentration on financing constraints and inefficient investment.

Variable	x		z	
c	-0.0031 *** (-3.58)	-0.0030 (-1.07)	0.0025 *** (3.55)	-0.0056 *** (-2.67)
cxy <sub>2</sub>		-0.0004 (-0.07)		0.0285 *** (3.91)
y <sub>3</sub>	419.4518 *** (4.51)	419.2182 *** (4.50)	2.1073 (0.11)	4.8553(0.25)
y <sub>4</sub>	2092.6396 *** (5.57)	2090.3652 *** (5.50)	-291.5367 *** (-4.22)	-244.7152 *** (-3.50)
y <sub>5</sub>	119.2994 *** (3.42)	119.3120 *** (3.42)	18.1811 (1.29)	15.7906 (1.20)
y <sub>6</sub>	-32.2979 ** (-2.05)	-32.3966 ** (-2.04)	-68.8017 *** (-20.58)	-69.0216 ***(-20.57)
Adjusted R <sup>2</sup>	0.091	0.101	0.166	0.169
F statistic	18.652	14.125	25.684	17.181
N	1183	1042	2218	1914

The T value of regression coefficient is in brackets. \*, \*\* and \*\*\* Significant at 90, 95, and 99% levels.

**Table 7.** Moderating effect of financing constraints on financing constraints and inefficient investment of enterprises with different property rights.

Variable	x		z	
	State holding (1)	non state holding (2)	State holding (1)	non state holding (2)
c	0.0009 (0.23)	-0.0130 *** (-3.08)	-0.0072 ** (-2.41)	-0.0038 (-1.48)
cxy <sub>2</sub>	-0.0068 (-0.81)	0.0201 (1.15)	0.0315 *** (3.11)	0.0261 *** (3.20)
y <sub>3</sub>	237.7241* (1.72)	547.7968 *** (4.29)	9.3304 (0.33)	1.2386 (0.05)
y <sub>4</sub>	1344.4536 *** (3.03)	2555.6565 *** (4.48)	-254.4832 ** (-2.47)	-232.4812**(-2.40)
y <sub>5</sub>	178.9571 *** (3.98)	86.7696 ** (2.20)	21.7319 (1.07)	6.3182 (0.45)
y <sub>6</sub>	-13.6593 (-0.67)	1.1591 (0.04)	-62.6483 *** (-13.60)	-76.7012*** (-14.01)
Adjusted R <sup>2</sup>	0.126	0.950	0.172	0.169
F statistic	14.913	12.712	19.354	15.368
N	1183	1042	2218	1914

The T value of regression coefficient is in brackets. \*, \*\* and \*\*\* Significant at 90, 95, and 99% levels.

## Robustness checks

In order to enhance the reliability of research conclusions and avoid the impact of single index measurement, in this paper, KZ index method was used to reconstruct the financing constraint variables. The regression equation is established by using the net cash flow, Tobin Q value, asset liability ratio, cash holdings and dividend payment rate of sample enterprises, and the calculated financing constraint variables are substituted into the original model(1)(2)(3) for robustness test. The above research conclusions remain unchanged.

## DISCUSSION AND CONCLUSION

Based on the data of A-share listed companies in Shanghai and Shenzhen stock exchanges from 2008 to 2017, this paper empirically tests the moderating role of ownership structure between financing constraints and inefficient investment. The results show that: financing constraints have a "double-edged sword" effect, which

can not only restrain the over investment behavior of enterprises, but also bring about the underinvestment of enterprises. Moreover, financing constraints are more sensitive to the impact of inefficient investment of non-state-owned holding enterprises; when there are financing constraints, managerial ownership is more sensitive to the improvement of inefficient investment. On the contrary, the concentration of equity strengthens the sensitivity of insufficient investment caused by financing constraints, and intensifies the degree of insufficient investment. Compared with non-state-owned holding enterprises, state-owned holding enterprises are more affected.

The Enlightenment of this study is that it is of great significance to improve the investment efficiency of enterprises to make rational use of the regulatory role of ownership structure. No matter what kind of property rights enterprises, moderate decentralization of equity is beneficial to reduce inefficient investment behavior and improve the efficiency and effect of enterprise investment decision-making. For the state-owned holding enterprises, we should encourage the implementation of equity

incentive plan and increase the proportion of shares held by the management, so as to stimulate the managers to strive to improve the efficiency of enterprise investment. For non-state-owned holding enterprises, it is more conducive to reduce inefficient investment behavior to appropriately reduce the proportion of management shareholding.

## CONFLICT OF INTERESTS

The author has not declared any conflict of interest.

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*Full Length Research Paper*

# **Local economic development in Nelson Mandela Bay and Buffalo City Metropolitan Municipalities: An empirical investigation**

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**Albeit in its infancy, South Africa's LED practice is a benchmark of a large number of African countries in general and southern African countries in particular. The practice stand out for its massive and growing LED budgets, robust legal and a variety of LED governance structures, amongst others. This study seeks to answer three critical questions: What LED facets (particular aspects) are available in literature? Are these facets being implemented in Nelson Mandela Bay Municipality (NMBM) and Buffalo City Metropolitan Municipality (BCMM)? Besides the effort and monies invested in ingraining LED in South Africa, are the levels of LED practices of the two municipalities deeply embedded in literature? This paper utilises the purpose-built tool to measure the level at which LED practice in the two municipalities is embedded in LED theory. The analysis revealed presence of six key LED facets, namely, enterprise development, locality development, livelihoods development, workforce development, community development and LED Governance. Furthermore, the results show that NMBM's LED practice is embedded in literature across all the identified; while BCMM's LED practice is embedded across all the facets bar community development.**

**Key words:** Local Economic Development, embeddedness, Local Economic Development, Nelson Mandela Bay Municipality, Buffalo City Metropolitan Municipality.

## **INTRODUCTION**

Newly emerging evidences suggest that the days of conflicting conclusions on the usefulness of Local Economic Development (LED) concept and initiatives as drivers of economic development, employment creation, and poverty reduction among other developmental aims are over (Hani, 2014; Meyer; 2014; Ramafamba and Mears, 2012; Bogopane, 2012). However, beyond the usefulness or lack of LED thereof, the following are

some of the new challenges emanating in the South African LED discourse: (i) besides the buzzword "Local Economic Development", what does the concept entail? Is LED solely about enterprise development? Does it encompass other facets such as workforce development, livelihoods development or locality development, amongst others? (ii) Within each LED facet, what initiatives need to be driven in order to ensure

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realization of targeted developmental aims? (iii) What is the appropriate role of government in the bigger scheme of things? (iv) What are the policy and institutional arrangements governing international development agencies in local economic development? (v) Considering the cross cutting nature of the LED function, what skills do LED practitioners need to function effectively?

While efforts are being made by practitioners, academics and researchers to provide solutions to these and other pertinent challenges facing the discourse, a lot of that work has been on whether local economic development (LED) leads to economic development, employment creation and poverty reduction, amongst other developmental ends (Cunningham and Meyer-Stamer, 2005; Meyer, 2014; Hofisi et al., 2013). That as it may, little effort has been invested in measuring the level at which South African LED practice is embedded in LED theory, despite the general feeling among practitioners that a number of LED initiatives are being implemented on a piecemeal basis in general or not fully implemented according to the LED theory (Thina, 2007). Even in countries where such studies have been undertaken, findings have been inconclusive, at best. This research will contribute towards broadening the knowledge base of LED embeddedness and its facets in the study area. The study employs a comparison approach of the two metropolitan municipalities of the Eastern Cape Province, namely Buffalo City Metropolitan Municipality (BCMM) and Nelson Mandela Bay Municipality (NMBM). The lack or limited work on LED embeddedness in municipalities on one hand and the ever-changing LED facets (particular aspects) on the other has prompted this study to conduct a research on these two aspect using a comparison approach of the two municipalities.

## Overview of LED in South Africa

The definition of the term Local Economic Development (LED) has changed over the years. A large body of literature unanimously agrees that the concept of local economic development is both elusive and contested, and its definition changes from region to region (Pike et al., 2006; Nel and Rogerson, 2016). However, there is a consensus in literature that the LED concept originated in Europe in the early 1960s and later on spread to other parts of the world in various forms (Harvey, 1989; Valler and Wood, 2010). LED practice in developed nations and developing nations share similarities in aspects such as situational relevant, community driven and sustained. Large parts of LED from developed nations tend to focus mostly on issues of large-scale investments, corporate world support and utilisation of professional project management agencies, with both mighty financial powers and technical expertise (Judd and Parkinson, 1990; Rogerson and Rogerson, 2012).

In developing world, focus is mainly on small-scale,

mostly community based initiatives utilising indigenous knowledge and skills with the bias towards ensuring survival of participants while threatened by lack of both financial power and technical expertise (Taylor and Mackenzie, 1992). Most of the LED projects implemented in South Africa in general were pro-poor, the two metropolitan municipalities, Buffalo City Metropolitan Municipality and Nelson Mandela Bay Municipality, initiated LED interventions similar to those implemented in large parts of Europe and America. In general, the South African LED practice is a mix of both the developing and developed world LED, with large metropolitan municipalities resembling more of developed nations while the small rural municipalities resemble developing nations.

The South African LED practice stands out on the continent for, massive and growing LED budgets, robust legal frameworks varied LED governance structures, amongst others. All the 278 municipalities in South Africa, comprising of 8 metropolitan municipalities, 44-district municipality and 226 local municipalities have separate and funded LED directorates, whose mandate are to facilitate the implementation of LED initiatives by various LED stakeholders. While the sizes of municipalities vary, there are various LED governance structures in all municipalities, namely LED fora, District Support Teams, Provincial Working group, amongst others. These structures are used as LED practitioners learning, networking and information sharing platforms. In order to ensure coordinated implementation of LED, all the municipalities in South Africa have credible LED strategies, which are reviewed in 5-10 years. Even if a number of LED directorates in some municipalities are not sufficiently manned, there are efforts by the government to ensure full capacitation of these LED departments (COGTA, 2014).

## METHODOLOGY

The complex nature of the Local Economic Development (LED) concept necessitates that both quantitative and qualitative research methods be utilised, with the latter being employed in large parts. It is for this reason that the majority of work on LED made use of qualitative research methodology (Nel, 2001; Meyer-Stamer, 2008; Corona, 2012:123; Bogopane, 2012; Ramafamba and Mears, 2012). Ramafamba and Mears, (2012) suggest that main advantage of qualitative research is the depth that can be reached not only by answering descriptive research questions (that is what, when, which, where) but also analytical questions (that is how and why). The qualitative aspect of the research would be key in attempting to define the particular aspects (facets) of LED.

In an attempt to quantify the variation described by the qualitative research, this research made use of survey questionnaire to quantify (gauge) the level at which LED practice in the two metros is embedded in LED theory. The survey questionnaire built around the LED facets identified in literature was used to collect data on LED practice in the two metros and was used to gauge the level of embeddedness of these facets in LED theory. This argument resonates with academics who argued that the failure of LED practice in most developing countries was due to either lack of funds or lack of grounded implementation of LED as pronounced

by theory.

In measuring the level at which LED practice in the two metros is embedded in LED theory, the study made use of the purpose-built tool partly-similar to the one utilised by German Technical Co-operation (GTZ) to measure embeddedness of LED across a number of municipalities/councils world-wide. The purpose-built tool assigns a score or weight per each question in the questionnaire from the value of zero to a possible maximum of four. This method was chosen for its unique ability to measure an attribute (embeddedness) that has proved elusive to measure in contemporary LED literature. The scores or weight from all questions associated with a facet for instance general LED, enterprise development or locality development were added up. The total recorded scores or weights were then divided by the maximum achievable score or weight and then multiplied by 100, to convert the scores into percentages. For example if the recorded mark is 20 and the maximum achievable is 30, then, converting the mark into a percentage would yield  $\frac{20}{30} * 100 = 66.67\%$ .

According to the purpose-built tool, the score of less than 75% was considered not embedded enough and vice-versa. Conclusion of embeddedness was summed up under each facet for instance enterprise development or locality development. The data collected from the questionnaires was coded in excel and analysed using Statistical Package for Social Sciences (SPSS).

### Research design and data collection method

The survey questionnaire was used as the main data gathering tool for this research. Justification on the choice of the approach was based on the idea that the survey questionnaire captured the complexity of the subject under investigation relatively better and more so, the embeddedness of LED in theory in selected municipalities. The survey questionnaire made use of closed ended questions with a mix of both dichotomous questions and multiple answer questions. The survey questionnaire was composed of seventy-seven questions with forty-four questions dichotomous and thirty-three multiple-choice questions. The survey questionnaire has been the most frequently utilised data collection tool for studies on Local Economic Development (LED) and other related subjects nationally and internationally ((Meyer-Stamer, 2008; Nel, 2001; Bogopane, 2012; Ramafamba and Mears, 2012).

The development process of the survey questionnaire utilised in this study was influenced by research objectives and the reviewed literature on Local Economic Development. Other considerations made during the process were, the type of data to be collected; the method used to ask questions, for instance verbally, telephonically or email; the flow of the questions and their themes in order to guarantee that each respondent receive the same stimuli and ensure that respondents provide accurate; unbiased and complete information; and the length of the questionnaire as well as the response spaces for answers.

The survey questionnaire was used to elicit information from the Local Economic Development (LED) practitioners and or from other LED related sub-directorates like Small, Medium and Micro Enterprises (SMME) or Cooperatives etc. A purposive sampling technique utilising both maximum variation sampling and typical case sampling was used. The maximum variation sampling was considered to ensure a fair balance of information between top managers in LED and those in the middle echelons level of respective LED functions. The study did not only consider senior (by rank) LED practitioner but also middle management level employees who are involved in the day-to-day implementation of LED programmes and projects. This was done to enable the extraction of all relevant information that was likely to be withheld or tailored by senior LED practitioners for various reasons. Typical case sampling was used to ensure that the same sample or type of

personnel or practitioners interviewed in both the municipalities was identical in terms of positions or degree of knowledge on LED.

In order to complement the information collected by the survey questionnaire, this study also employed the use of the in-depth semi-structured interviews to elicit information from LED practitioners from sector departments mandated to drive LED in the province. These departments included Department of Economic Development, Environmental Affairs and Tourism (DEDEAT) and Department of Cooperative Governance and Traditional Affairs (COGTA). South African Local Government Association (SALGA), one of the key role players in driving LED across the province and has dedicated staff members assigned to the two metropolitan municipalities was also considered for the in-depth interviews. In order to gain better insight and understanding, open-ended question, grouped into themes (embeddedness and facets) were used and interviews conducted through face-to-face method.

### Empirical analysis and findings of local economic development in Buffalo City Metropolitan Municipality and Nelson Mandela Bay Municipality

The research findings revealed presence of 6 LED facets, namely, enterprise development, locality development, livelihoods development, workforce development, community development and LED Governance. However, this study discovered that the aforementioned facets fail to cover other general items like the availability or unavailability of LED strategy, functional location of LED within municipal directorates and availability of a budget to drive the LED functions.

In light of this, we decided to group all the other key LED functions that we felt were not finding expression under the 6 facets identified in LED literature. This, then, led to the introduction of "General LED" facets. This facet, besides presenting a pre-cursor to the 6 other facets, manages to capture some key factors that are equally behind the success or failure of LED for instance the LED strategy factor, a factor which a number of sources name "The heart" or "guiding compass" of successful LED implementation. The "General LED" facet contained other factors like other plans that aided LED, experience of LED practitioners, budget allocation of the LED function, amongst others. The research found that all the 7 facets were being implemented in both municipalities, albeit to varying degrees.

### Enterprise development facet

Evidence from the survey revealed that both municipalities prioritized enterprise development as one of their Local Economic Development (LED) facets, albeit to varying degrees. At the core of Enterprises Development of the two municipalities was the Business Development Services (BDS) function offering business training, assistance in sourcing of business opportunities and business information dissemination, business incubators amongst a host of other business development services. The embeddedness tool revealed that both municipalities' enterprise development

initiatives were fully embedded in local economic development theory with an 82% total score. The results showed that besides providing a number of business development services, both municipalities, fund the expenses of conducting market research studies through either internal or external finance, for selected key local products from their areas of jurisdiction. Although the results reveal that market research studies have not been conducted in Buffalo City Metropolitan Municipality since 2010, there is evidence of such studies having been conducted prior to that period. On the other hand, Nelson Mandela Bay Municipality outsourced the development of these studies, and funds are only made available on demand.<sup>1</sup> In order to ensure that local enterprises benefit fully from services offered by various (private and public) institutions, the two municipalities have a number of initiatives that seek to encourage institutions supporting SMMEs to locate within their areas of jurisdiction. These findings are consistent with the finding of Hani (2014) who argues that most municipalities interpreted LED as purely centered on enterprise development. Hani (2014) findings imply that the majority of municipalities in the Eastern Cape Province prioritized enterprise development above all other facets.

The need to grow the entrepreneurial capacity of locals has been mentioned in a large number of developmental literature. In Rostow and Rostow (1990) precondition for take-off stage is Harrod Domar's productivity of investment; Prebisch (1950) article advocates the need for countries to stop exporting raw materials but rather produce entrepreneurs capable of converting local raw materials into finished products and Lewis (1954) opines for structurally aligning the economy from traditional to industrial amongst other theories.

### Locality development

Locality development was identified as one of the focus areas of LED practice of the two municipalities. Evidence shows that the two municipalities were implementing various initiatives to create a conducive environment. These initiatives included (i) streamlining business processes through ensuring presence of conducive legal, regulatory and administrative frameworks, (ii) establishment of one-stop-shops (one-stop shops acting as "single entry windows" providing integrated business functions and the development or review of business regulatory by-laws), (iii) development of credible (council adopted) business expansion, attraction and retention strategies (which forms the basis of how businesses are attracted and retained within the two municipalities), (iv) the development of both point infrastructure (land and buildings) and network infrastructure. As part of the efforts to ensure the establishment of point infrastructure

in their respective municipalities, both municipalities have established special economic zones, namely, Coega and East London Industrial Zone (ELIDZ) in Nelson Mandela Bay Municipality and Buffalo City Metropolitan Municipality, respectively. These efforts also included the development of informal traders' vending stalls and sheds, with Buffalo City Metropolitan Municipality in the process of erecting such stalls in Fort Jackson, Berlin and Zwelitsha while Nelson Mandela Bay has successfully built such structures in Port Elizabeth Central and Motherwell.

Due to these efforts, the embeddedness score revealed that the respective LED practices (with respect to locality development) of both municipalities are deeply embedded in local economic development literature with scores of 80 and 75% for Nelson Mandela Bay Municipality and Buffalo City Metropolitan Municipality, respectively. The need to develop conducive localities came to the fore in the work of Rostow and Rostow (1990) in the precondition for take-off stage when articulating the need for good infrastructure. Prebisch (1950) challenged governments to create conducive environment for industrial production, rather than benefiting solely from natural endowments and neoclassical counterrevolutionary models, which advocated for government to provide a conducive environment for business to thrive through "non-selective" interventions like providing physical and social infrastructure, security and legal framework.

### Community development

From the locality development facet, certain trends and patterns linking into community development and livelihoods are beginning to emerge. Locality development is thus an important variable insofar as it determines the manner in which community and livelihoods facets benefit. When locality development provides a conducive environment for local economic development to take off, chances are high that communities benefit and livelihoods are provided. It then follows that there is an intricate level of interconnection between the identified LED facets. The results from both municipalities demonstrate that efforts are being made to foster the participation of marginalized groups (mostly women, youth and disabled) into the mainstream economy. These efforts included (i) helping members from identified marginalized groups to identify business opportunities, (ii) joint business plan development with interested locals, and (iii) offering business advice. The embeddedness score revealed that Nelson Mandela Bay Municipality performed well, in the community development facet with a score of 86%, while Buffalo City Metropolitan Municipality recorded a score of 71%, a mark that is considered poorly embedded in local economic development literature. Although there are a number of initiatives and programs to ingrain community

<sup>1</sup> The need to conduct any market research is an outcome of mainly the LED Forum.

development facets in Buffalo City Metropolitan Municipality, the embeddedness score reveals that the initiatives are not adequate.

### **Livelihoods development**

The livelihoods development facet seeks to gain an accurate understanding of the LED directorates endeavor to convert its capabilities and assets into creating positive (present and future) livelihoods outcomes for the inhabitants of their respective municipality and the globe at large (Chambers and Gordon, 1992). Our descriptive statistics showed that all the respondents agree to the availability of livelihoods development facets in their respective municipal LED offerings. In order to ensure that the livelihoods of local residents are improved, both municipalities have two similar programmes to enable participation of locals in the mainstream economy. These initiatives include (i) Promoting joint ventures and Public – Private Partnerships (PPP) - The two municipalities have policies and guidelines that are aligned to both the national treasury guidelines on municipal service delivery and public-private partnership and municipal services partnership. (ii) Conducting Value Chain Analyses for Local Products - respondents felt that beneficiation of locals on local resources was restricted due to limited participation by locals in value chain processes. As result, and where possible, both municipalities fund the development of value chain analyses that help inform locals on where to invest and take advantages of value chain opportunities.

The products to target in the two municipalities are informed by discussions in various LED governance forums. Due to the complexities<sup>2</sup> required to perform value chain analyses, this function is outsourced. As a result, these value chain analyses are conducted with less frequency due to budgetary constraints. The gathered demonstrate very high level of understanding and appreciation of the livelihoods facets. Respondents were willing to substantiate most of their responses with practical examples of where certain projects or initiatives are/were rolled out by their respective municipality. On the embeddedness scale, both municipalities recorded a 100% mark. When interpreted, the score represents the maximum level of LED embeddedness that any municipality can score. The LED embeddedness results proved that both municipalities had their LED practices, about livelihoods, highly embedded in LED literature.

The importance of livelihoods development, as an LED facet, resonates well with the work of Lewis (1954) -the model advocated for the need for government to ensure that during the envisaged growth development process, from traditional to industrial that the agricultural sector is not neglected, considering the huge numbers of people

who drew a living from it. The Prebisch (1950) model also highlighted the need for economic development to ensure that the living conditions of countries exporting raw material are improved through locals participating in manufacturing product developed from their raw materials.

### **Workforce development**

The need to develop particular workforce has been a key pronouncement in the Harrod-Domar model, Lewis model, balanced growth, Rostow model, Kramer model, amongst others. The models traced the importance of workforce development on the ability of individuals to secure decent jobs, increase productivity and to a lesser extent, catapult individuals into being entrepreneurs. Of which, all of these are important ingredients of both economic growth and economic development. There is a huge shortage of sought-after 'artisan and vocational' type of skill in South Africa (Department of Labour, 2014). This proves that in some instances, there are job opportunities that cannot be filled by available locals due to either mismatch of skill or sheer lack of skills. The survey results revealed that both municipalities are rolling out various workforce development programmes in partnership with a number of stakeholders. The results show that similar workforce development initiatives are rolled across the two municipalities; these initiatives included participating in Extended Public Works Programmed (EPWP) and Community Works Programme (CWP). A number of internal workforce development programmes, namely: internships, graduate placement, job shadowing, apprenticeship and various community training programmes (skilling cooperative members) are evident in the two municipalities.

In order to harness their workforce development efforts, the two municipalities developed unemployed people's databases, with a target of extracting personnel when recruiting for various development initiatives. However, results demonstrate a lack of uniform understanding of the regularity at which the unemployment databases are updated. About 44% of the respondents reveal that they were not aware of database-updating intervals. Nonetheless, there was significant evidence of a number of initiatives on the workforce development facet being rolled out in the two metropolitan municipalities. As a result, the LED practice in Buffalo City Metropolitan Municipality and Nelson Mandela Bay Municipality, with respect to the workforce development facet, was found to be highly embedded in LED theory across the two municipalities, with scores of 81.25 and 87.5%, respectively.

### **LED Governance**

The role of government differs on the extent of governance across a number of theories, namely: the

<sup>2</sup> The high degree of specialization required to perform value chain analysis dictates that the two municipalities source services of external service provider to perform this function.

Kramer model, Neo classical counterrevolution model, Baran model, Coordination failure theory, Prebisch hypothesis, Lewis model, Harrod-Domar etc. However, all these models agreed that government should play critical roles in development. The roles identified across the theories include but limited to ensuring coordination of developmental efforts and ensuring that a robust legal, institutional and political framework was in place, including its relations with the market and the community.

There is a huge presence of active LED governance structures in Nelson Mandela Bay Municipality and Buffalo City Metropolitan Municipality. What comes to the fore is that most of the Eastern Cape municipalities had the same LED governance structures harmonized during the Thina Sinako LED initiative<sup>3</sup>. Although the structures of LED governance in the two municipalities are not exactly the same, there are signs of similarities in a number of regards. The results show that the two municipalities have LED Action Teams (also known as LED Forum); the two municipalities participate in a District Support Team (although the Buffalo City Metropolitan Municipality's DST has been dysfunctional for close to two years), and both municipalities participate in Provincial Working Group. In order to ensure proper operationalisation of these structures, the structures have meeting schedules and enforced work plans.

The results revealed that matters of discussion across the two municipalities are, to a degree, the same, with the following prominent subjects: Continuous learning, Innovation, Cluster Enhancement, LED performance reporting and LED institutional memory issues. The two metropolitan municipalities have built Information Technology (IT) into their institutional memory management system in order to safeguard loss of valuable LED documents and knowledge. The results reveal that the level at which LED practice in Nelson Mandela Bay Municipality and Buffalo City Metropolitan Municipality (with respect to LED governance) is highly embedded in LED theory with scores of 100 and 84% respectively.

### General LED facet

As discussed earlier, the "General LED" facet was introduced out of the need to accommodate aspects we deemed vital but were not finding expression in the six already existing facets. Among these aspects were availability or unavailability of LED strategy in respective municipality, the inter-link between LED functions and other key municipal organs, amongst others. The results showed presence of credible LED strategies in the two

municipalities. Henceforth, literature on LED strategy emphasizes the need for periodic review of LED strategy/plan (World Bank, 2003).

During the research process, it emerged that the general LED facet of the two metropolitan municipalities had a number of sector-specific plans (for instance tourism master plan, SMME strategy, business retention, expansion, and attraction strategy and procurement policies). This is aimed at aiding their respective LED strategies and standalone LED budgets of approximately 25% of the total municipal budgets, set to fund LED initiatives. The spending patterns for the LED budgets for the 5-year period (2009/2010-2013/2014) were estimated to be greater than 75% for the two municipalities, while no cases of under expenditures were recorded during the same period. The results also revealed presence of highly varied and packaged general LED initiatives in the two metropolitan municipalities. As a result, the embeddedness score proved that the two municipalities have LED practices (with regard to general LED) that are well embedded in LED theory with scores of 94% each. Notable challenges across facets are shown in Table 1. Table 2 tabulates the level of respective LED practices embeddedness in LED theory.

### RECOMMENDATIONS

The following recommendations are germane:

#### General LED

i) Ensure that no LED initiatives fall outside the implementation plans and budgets of respective LED strategies.

Local economic development literature is littered with a number of LED initiatives that collapsed or went unimplemented due to falling outside the implementation plans of respective LED strategies. The majority of these initiatives or projects fail to secure funding outside the municipal coffers, as they seem to lack legitimacy in the eyes of funders. In instances, where these initiatives are funded, they [initiatives] tend to compete for other resources besides finance, with projects and programmes on the implementation plan, thereby compromising their and or others' implementation.

LED practitioners need to ensure that all LED initiatives are contained in the implementation plan of their strategies/plans for easy resource mobilization and management or they risk seeing those initiatives fail.

ii) Develop sector plans that are informed by the configuration of economic drivers.

Literature on LED strategies recommends that there should be relevant sector-specific plans complementing respective LED strategies/plans, for it is in these sector-specific plans that there is more detail on programmes, projects and other related interventions (See World Bank, UN-Habitat). The same literature emphasizes that the

<sup>3</sup> Thina Sinako was an LED initiative driven in partnership between the South African Government and the European Union. The partnership was meant to ingrain LED practice across municipalities in three beneficiary provinces of Eastern Cape, Kwazulu Natal and Limpopo.

**Table 1.** Challenges observed across facets.

Facet	Area	Comment
General LED	There is need for LED practitioners to understand the need to timely review respective LEDs.	There was an inconsistent understanding of LED strategy review timelines.
Enterprise Development	Conducting market research for key local product	Although the majority of respondents agreed that their municipalities conducted market research for certain “key” local products, most practitioners could not substantiate their responses with examples of where these researches were conducted.
Locality Development	General understanding to locality development facet.	There is a lack of a shared understanding of what locality development is and, consequently its offerings
Community development	General understanding of community development	A number of respondents felt that this function belonged to other municipal functions outside LED for instance Social Development or Community Services.

Source: Survey results.

**Table 2.** Level of LED practice embeddedness in LED Theory.

LED facet	MUNICIPALITIES		Top performer
	BCMM	NMBM	
General LED	Embedded	Embedded	Equal
Enterprise Development	Embedded	Embedded	Equal
Locality Development	Embedded	Embedded	Nelson Mandela Bay Municipality
Community Development	Not embedded	Embedded	Nelson Mandela Bay Municipality
Livelihood	Embedded	Embedded	Equal
Workforce	Embedded	Embedded	Nelson Mandela Bay Municipality
LED Governance	Embedded	Embedded	Nelson Mandela Bay Municipality

Source: Survey results.

available sector plans need to be informed by the configuration of economic drivers of respective municipalities. It is against this reason that we feel that Buffalo City Metropolitan Municipality, an industrial hub of the Eastern part of the province, needs to have an Industrial Development Plan/Strategy to inform how its industrial initiatives are rolled out.

iii) Ensure a shared and uniform understanding of LED, as well as planning and implementation by LED practitioners.

There was an apparent lack of uniform and shared understanding by respondents (most survey questionnaire respondents) on a number of aspects for instance LED strategy review timelines, the rationale behind reviewing respective LED strategies and frequency at which unemployment databases are updated, amongst others. The in-depth semi-structured interviews revealed that the displayed lack of uniform and shared understanding of the same concept by different practitioners in the same organization breeds a feeling of “dynamic policy inconsistency” among community members where none exists.

However, the same results revealed that the

aforementioned lack of uniform and shared understanding that exist among municipal LED practitioners also exist among some sector department officials assisting municipalities. We feel that that for maximum results, there is need for a uniform and shared understanding of how certain LED functions or initiatives are rolled out among practitioners, within municipalities LED directorates and across sector departments supporting implementation.

iv) Ensure availability of sufficient and full utilization of the budget on fruitful expenditures.

Limited funding has been likened to an Achilles heel of the local economic development concept in South Africa (Nel and Rogerson, 2005; Thina Sinako, 2007; Meyer, 2014). Similarly, Meyer (2014:10) contends that external funding requires skills and expertise on how to lobby for such funding. Meyer (2014) brings to the fore the importance of qualified LED practitioners, with the ability to raise funds. Therefore, it is also important for LED practitioners to be well capacitated in order for them to package proposals that bring funding to their respective municipalities.

Although the two municipalities have huge overall

budgets running into billions, their LED budgets are minute components of the overall budgets, with a number of LED initiatives remaining unfunded. It is against this background that this research recommends that sufficient budgets be made available for LED initiatives. Similarly, these budgets need to be spent on initiatives that have huge multiplier effects on the respective economies, while, fruitless and wasteful expenditures need to be curbed.

### **Enterprise development**

i) Develop Business Development Services (BDS) that comprehensively address the needs of existing business. Our results show that a number of business development services are being provided through one-stop-shops established in the two municipalities. While all the respondents labeled the one-stop-shop as a “single entry window” providing several integrated functions such as business information and issuing various licenses’, the research found that the one-stop-shops in the two municipalities failed to provide a number of services that are a characteristic of one-stop-shops worldwide. These services include business registration and other post-registration formalities such as issuing of relevant licenses, documents and permits, amongst others. The researcher feels that there is need for these one-stop-shops to expand their services in line with what the same establishments are offering globally.

### **Locality development**

i) Widely and regularly promote business attraction and retention strategy offerings.

The research findings show that the business attraction and retention strategies of the two municipalities, with their number of incentives, are known by mostly big businesses and a small group of Small, Medium and Micro Enterprises (SMMEs), with the latter being mostly members of the SMEE indaba. It is recommended that marketing efforts be improved to raise awareness of available business attraction and retention incentives. Investment conferences could be used to bring businesses to the attention of these incentives or distribute newsletters directly to business and investors via email or by simply posting on respective municipal websites.

ii) Establish a single economic development website. Rather than only relying on the established one-stop-shops, each municipality needs a web-based point of interaction where businesses, inter-governmental, international bodies, civil society and non-governmental organization can access the information they need in an expeditious manner. However, the usefulness of these websites resides on how regularly they are maintained and updated in order to provide real time information.

iii) Increase the number of point infrastructure – informal trading stalls.

While there are a number of informal vendors’ stalls or trading facilities in the two metropolitan municipalities, a huge number of respondents felt that there is need for these facilities to be constructed, especially in the townships where none exists. The researcher feels that there is need for the two municipalities to construct more of such facilities in the areas that are needy for Instance township and rural villages.

### **Community development**

There is proof from the results that efforts are being made by the two metropolitan municipalities to help members of marginalized communities to enter the mainstream economy through initiatives such as business plan development, joint opportunity identification, amongst others. However, sector department officials interviewed during the in-depth interviews felt that these noble efforts need to be intensified, considering the huge numbers of community members living outside the mainstream economy.

### **LED Governance**

i) Ensure fully functional LED Governance structures. Although the two municipalities have a number of operational LED governance structures in place, the researcher feels that these structures need to be kept fully functional if their benefits are to be maximized. Failure to maintain these structures will lead to the reversal of the benefits already accrued by these structures.

### **Workforce development**

i) Make concerted efforts to produce a workforce ready to participate in the mainstream economy.

The socio-economic profiling of the two municipalities show two municipalities besieged by high numbers of unemployed, regardless of the two metropolitan municipalities boasting sophisticated economies, built around the automotive industry and agro-processing. While this research perceives high levels of unemployment in the two metros from a number of factors, mismatch of skills has been identified as one of those. This research feels that it is important to create a workforce that is capable of meeting the evolving needs of the economy.

This task requires a multi-stakeholder approach involving economic development practitioners, champions of industry, politicians, leaders of basic education and tertiary institutions, non-governmental organizations as well as the government. It is important for LED practitioner to harness the efforts of various

stakeholders in order to provide their respective economies with a skilled workforce.

### Livelihood development

Results revealed that there was limited work being done by municipalities concerning formation of joint ventures and public-private partnerships. In light of the huge roles that these two initiatives can play in bringing the majority of individuals into the mainstream economy, this research recommends that, the two municipalities ensure formation of joint ventures and public-private partnership in most of their huge projects in order to safeguard the beneficiation of locals.

There is also need for developments of coherent value chain integration models that goes beyond tokenism and ensure participation of locals beyond extraction into production of final products.

### Conclusion

Although there are national policy imperatives directing municipalities to offer LED in a uniform manner, the way in which LED is being implemented in Buffalo City Metropolitan Municipality and Nelson Mandela Bay Municipality is not exactly the same. This research found out there are six LED facets in literature namely enterprise development, locality development, workforce development, community development, livelihoods development and LED governance (Hindson and Vicente, 2005; Meyer-Stamer, 2008; Rodriguez-Pose and Tijmstra, 2005; Arend, 2006; Lambert, 2008; Lambert and Schwieterman, 2012).

Furthermore, the study discovered that there is an array of “LED aspects” that lie outside the facets identified in literature. These include aspects such as: availability or unavailability of LED strategy, LED strategy review process, the inter-link between LED functions and other key municipal organs. The “General LED” facet was introduced to capture these aspects amongst others bringing the total number of LED facets to seven.

Equipped with the identified facets, the research proceeded to measure the level at which LED practice in Buffalo City Metropolitan Municipality and Nelson Mandela Bay Municipality was embedded in LED theory. The research results showed similarities in the LED facets being implemented by the two municipalities and to a certain degree, identical challenges and successes. However, the research findings revealed varying levels of LED practice embeddedness in theory across the identified facets in the two municipalities. Furthermore, the results showed that NMBM’s LED practice was embedded in literature across all the 7 facets; while, BCMM’s LED practice was embedded across all the facets bar community development.

### CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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